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Master thesis

DSLR VIDEO AND ITS IMPACT ON THE CONVENTIONS IN FILMMAKING

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1 Preface

“When it comes to the HDSLR cinema revolution, there’s been nothing like it in the history of cinema.”

(Lancaster 2011:44)

It was the autumn 2010 when I heard about the DSLR revolution for the first time. I was working on my first big film project (or at least I felt so as I was in my teens) when my camera operator and friend asked me, *“Have you already heard about DSLR revolution?”* And then he started telling me an incredible story about new feature of DSLR still cameras which turned into a great breakthrough and which might *“change everything in filmmaking.”* Not only I was sceptical, I simply did not believe him. *“You are telling me that DSLR moves its mirror 25 times per second in order to capture nice video? That must be pretty noisy,”* I mocked him (obviously, I had no clue about electronic shutters and did not know that it was me who was uninformed). Despite my scepticism, this information remained in my mind all that day. I did not realise then that it was *this* piece of information which would change many things in my life; not just my approach as a filmmaker but it also a great turnaround in my studies.

When I came home, I put the magic words *“DSLR video”* into a search engine. I realised in a second that I missed the beginning of a “great party.” In that year, Greg Yaitanes finished the 6th season of the popular American series *House* by using exclusively Canon 5D Mark II. I found an interview in which he mentioned the following: *“This was beyond a cinematic look. It gave a new level of being able to pull the actors out of the background and pull them ... right to your face, and give an intimacy that I haven’t seen in digital or film”* (Bloom 2010). Immediately, I started thinking of what this aspect of intimacy could create in the genre of documentary and ethnographic filmmaking as these were the genres for which I have always had a heart. There were other benefits to DSLR’s workflow which came to mind as relevant in the context of these genres. For instance, its *mobility*, which would allow filmmakers broaden where they film; its *affordability*, for low-budget film projects; or, last but not least, its *cinema aesthetic*, which might open up entirely new

possibilities of cinematic look for these genres of film. Thus, I started observing the DSLR revolution in the terms of documentary and ethnographic films out of curiosity, yet with great expectations.

My hunch that the DSLR technique would significantly enhance these genres of film was right. All the winners of the *International Documentary Film Festival Jihlava*, the biggest festival of documentary films in the Central and Eastern Europe, in 2011, 2012 and 2013, shot their film on DSLRs.¹ Regardless if this was the result of great coincidence or not, it was obvious that DSLRs, especially in the hands of talented documentary or ethnographic filmmakers, was an advantageous tool. Thus, I started wondering whether there is some academic piece of work on DSLR technique and its usage in documentary and ethnographic film. To my surprise, however, there was a great shortage of academic interest in this topic. After short consideration, I came up with two explanations why this is so.

Firstly, the situation in film-technique is changing so quickly these days that the academic world is not really capable of keeping pace with it. Metaphorically, *the object is not holding still to be portrayed*. The academic world needs time for proposal-formulating, fund-raising, researching, peer-reviewing and publishing. The world of film technique development is in a constant state of change and waits for no one. Thus, it is possible to find scholarly works which focus on the consequences of a technological advancement, such as those on 8mm film, contact sound or digital film, but nothing in “real time.”

Secondly, even if there were no obstacle in terms of time, it would be very hard to find an academic discipline which could cover all the aspects of DSLR filmmaking. DSLR revolution is a very complex issue in which many approaches from different fields must be taken into account in order to create a complete picture of the phenomenon.

Despite the lack of interest, it is relevant to talk about DSLRs in the context of academic research. A number of successful film projects, in which DSLR technique played a great part in their success, have been finished and no thorough account of the DSLRs' contribution to the industry has been written so far. Yet, these films exist as

¹ In particular, it was *Solar Eclipse [Pod sluncem tma]*, directed by Martin Mareček in 2011, *Fortress [Pevnost]*, directed by Klára Tasovská in 2012 and *The Great Night [Velká noc]*, directed by Petr Hátle. All three films were screened at Jihlava in the year of their releasing.

evidence of the presence of “*DSLR revolution*,” and they provide solid basis for scholarly work. Thus, I decided to address an aspect of DSLR filmmaking by doing research exclusively on involvement of DSLR technology in documentary and ethnographic films and publish my results as a scholarly work.

To accomplish this goal, I decided to pursue my research at the Department of New Media Studies, Charles University in Prague. As it has been noted, one of the reasons for which there has been very little interest in this topic might be the requirement for interdisciplinary insight. If scholars from a faculty of technology dealt with this issue, they would probably describe the technological pros and cons of DSLRs and made a synthesis based on their findings. Although this would be a valid contribution, it would omit an important fact – the DSLRs have not been involved in filmmaking *just* for their technological advantages. Similarly, film-studies-based scholars would discuss the aesthetical advantages for which DSLRs have been used in film. But again, this work would still only address one aspect among many. Only an interdisciplinary approach would be able to connect all the pieces of this complex puzzle together and to answer my research questions, which will be presented in the following chapter. As Mitchell (1995:540) wrote about the ideal scrutinising of phenomena within visual culture, I will treat this phenomenon as “*a site of convergence and conversation across disciplinary lines*.” Thus, I need to thank New Media Studies Department for their open-mindedness and the willingness to carry on the conversation across disciplinary lines, which allowed me to pursue my research in the only meaningful way.

As I close this preface, I need to make one ethical disclosure: I am an active user of DSLR video capacity, and I have involved DSLR in a number of video and film projects, including ethnographic and documentary films. Nevertheless, I will be drawing my conclusions exclusively from data I have collected from my research, not from my own experience. Although, I will be referring to particular models of DSLR designed by particular manufacturers, I do not have any intention of using this thesis to promote a particular product.

2 Introduction

This thesis deals with phenomenon of *DSLR filmmaking*² (i.e. filmmaking using a *digital single-lens reflex camera*, which was primarily designed for shooting still photos in the centre of its workflow) in the genres of ethnographic and documentary films. More precisely, it examines whether, and in which ways, so called *DSLR revolution* has influenced these genres of film. In this introductory chapter, I will shortly describe the history of the phenomenon and provide a very specific definition of the term “DSLR revolution” which will be used throughout the thesis. Then, I will present the reasons for which I have decided to make the focus of this thesis about the implications of DSLR for the genres of documentary and ethnographic films. After that, I will define the aim of my thesis by formulating the research questions for my thesis and present my approach to answering these questions in order to meet the objective of this thesis.

The SLR cameras (i.e. *Single-Lens Reflex*) have been used for more than 150 years in the world of still photography. At the beginning, the additional letter *D* (standing for *Digital*) was received with a great amount of scepticism. When Kodak DCS 100, priced around \$30,000 in 1991, appeared with 1.3-megapixel resolution (which is completely incapable of competing with classical film), it was regarded simply as a curiosity with a very uncertain future. Some people might have guessed that digital cameras would become standard and almost completely replace classical film for still photos. However, I doubt there was anyone who would have guessed that the letter *D* altogether with *SLR* would make a *revolution* in the field of motion pictures.

The beginning of this revolution was very inconspicuous. It started with Nikon D90, the first DSLR with video-capturing capability. This model was able of capturing “just” in the resolution 1280x720 pixels using MJPEG video standard. Both technical aspects were fine for shooting family reunions, but it was not *the* thing

² It should be noted that this thesis is focused exclusively on filmmaking (more particularly, two genres of filmmaking) but this does not mean that DSLR video has practical utilisation just in making *films*. It has been partly adopted for some TV broadcasting (such as the aforementioned *House* series); it is often used by vloggers for streaming video; and, it gained popularity among people who shoot themselves while doing extreme sports, etc. Later in thesis (chapter 5, especially section 5.1.2), the difference between video and film aesthetics will be discussed and it will be specified why DSLR video can be involved in making actual films as well as in various different projects.

which would cause a revolution.³ Similarly, Canon 500D or Pentax K-7 have appeared. However, their non-standard frame rate (20 fps for the former) or non-standard frame resolution (1536×1024px for the later), their usage for purposes of professional video making was very limited.

The real revolution started with the model Canon 5D Mark II, (hereafter 5D MkII) announced in 2008. There is a rumour saying that it began very accidentally: when a Canon-based video engineer visited Canon's still photo division and saw the upcoming 5D MkII, he supposedly said: "*If you like, I can add video to that camera.*" (Lancaster 2011:33). The camera offered *Full HD* resolution (i.e. 1920 x 1080px) encoding to *H.264* video standard. This was comparable with the best video cameras available in that time. Owners of the first 5Ds soon noticed the exceptional quality of outcoming video and, consequently, attempts to involve the camera in small film projects appeared. At the beginning, there were experimental short films made as ad hoc tests of DSLRs, such as *Reverie* shot by Vincent Laforet, *The Last 3 Minutes* directed by Po Chan or *The Chrysalis* directed by Jeremy Ian Thomas. Soon after that, the DSLRs began being used in many commercial films (e.g. movies *Iron man 2 [2010]*, *Black Swan [2010]*, *127 Hours [2010]*) or projects for TV broadcasting (series *24*, *Dexter* or *House*). Since the Canon 5D MkII was able to produce the same quality projects as professional film cameras for significantly less, shooting with DSLR spread like wildfire within the professional-filmmakers' community and soon even crossed its boundaries. People all around the world started experimenting with shooting film with their 5Ds (as well as other DSLRs for which the video function had become standard) and sharing the results on the Internet. As a result, an online community of *DSLR filmmakers* was formed.

³ There were also rumours about an attempt at serious filmmaking with this camera. Oregon-based indie filmmakers claimed to finish a feature-length film called *Reverie* (cf. Seibel 2009). However, there are some suspicious coincidences concerning this movie. Firstly, its name is the same as the famous short film created by Vincent Laforet which was connected with fame of Canon 5D MkII, i.e. the model which started the actual revolution. Secondly, authors of films stated in a press release incredible statements which were obviously not based on truth (e.g. "*The information I have gathered from studying the D90 and its competitors have proven to me that the D90 far surpasses the full frame Canon EOS 5D Mark II, the Panasonic Lumix DMC-GH1, and even Red's Scarlet [based on what information has been released], which sits outside of the Digital SLR camera type and is made specifically for Cinematography.*" (see Nikon Rumors 2009). And thirdly, I could not find many people who actually watched this movie (apart from 4 enthusiastic reviewers on IMDB who only wrote this one review their entire lives). Although official trailer for this film does exist, there are issues with its *rolling shutter* and *banding* (this will be discussed later) which points to the usage of Nikon D90. As far as I can tell, it was a rather well-made hoax which has not been fully revealed as of today.

Apart from the results of their work, the community shared with the world information and guidance about DSLR video-shooting, including news, reviews, tips and advice. A number of specialised weblogs (such as *Planet5D.com*, *Cinema5D.com*, *DSLRVideoShooter.com* etc.) about DSLR filmmaking emerged. Similarly, the “*celebrities of DSLR filmmaking*” had appeared. People like Phillip Bloom, Vincent Laforet, Dan Chung, Jon Fairhurst, Stu Machwitz or Shane Hurlbut had become personalities of DSLR filmmaking. One could say that it was nothing unusual, as specialised weblogs (with leading bloggers) do exist in all branches of human knowledge. What was a bit unusual, though, was the fact that Philip Bloom announced 10 millions views on his website on June 2010.⁴ This was something which was unprecedented (and also unexpected) in the field of film technique. Lancaster (2011:405) mentioned this milestone as an indicator of “*democratisation of the cinema look.*” It had become clear that the dimension of the movement around DSLR was much greater than it had been imagined at the beginning.

The extent of the movement, however, was not the only thing which set the community of DSLR filmmakers apart from casual Internet fans of a technology. The online community around DSLRs were not only sharing content passively, but also actively creating the course and the progress of the emerging *revolution*.

In 2009, Trammel Hudson created a firmware hack for Canon 5D called *Magic Lantern*, which was being further developed by community of filmmakers/hackers into a very complex tool providing features of high-end professional cameras (such as zebras, histogram, focus peaking etc.) for most of the Canon models (cf. Magic Lantern 2011). The firmware itself was open-source and available for free. Similarly, something which we can be tentatively called “hardware-hacking” had appeared; the community started sharing their tips for achieving cinematic look without a need of expensive additional equipment. A number of manuals dealing with, for instance, making of home-made rigs, steadicams, dollies or mounting old lenses into modern DSLR bodies etc., had emerged. DSLRs were regarded as a basic component of a kit, which can be modified (both in terms of hardware and firmware) in almost unlimited number of ways.

⁴ And this was by no means a peak. His blog reached 15 millions in November of the same year. Last time I accessed Philip Bloom’s blog (July 2015), the counter showed almost 66 million views.

At that point, the movement around DSLR stopped being just a casual movement of a technology fans. *The community had become active creator and developer.* This fact seems to be not so important for the flow of the revolution, and yet it is the key for understanding. The revolution has been shaped from its very beginning by principles of *New Media communication*, that is 1) the content was being delivered to potentially infinite number of people (via websites, weblogs, social media profiles of the leaders etc.) 2) everyone involved could have controlled and modified the content (i.e. to receive information according to his/her preferences and to contribute with his/her own experience) (cf. Digital Divergence 2004). These principles of New Media communication crucially formed the character of the revolution. Had DSLR video cameras emerged before the era of New Media, they would never reach their success. Though the major focus of this thesis is pointed to relationship between the DSLR (as shooting tool) and the filming workflow/the final product, this aspect of the revolution should be kept in mind. I will deeply discuss it in the closing chapter 7 *Conclusion: DSLR Revolution – New Technology in the World of New Media.*

As the wave of DSLRs was spreading around the world, filmmakers were gaining incredible freedom in both own way of achieving the cinematic look and independency on transnational corporations which had completely controlled prices for all film-industry up to that point. Jared Abrams, a Hollywood-based filmmakers stated: *“Anyone with a good story and a good eye can produce high-quality imagery with these [DSLR] cameras.”* (Lancaster 2011:34). A number of people, who could have called themselves *filmmakers*, had dramatically grown up. It was believed that appearance of DSLRs is a crucial step in the history of cinema. There should be no wonder that the term *DSLR revolution* appeared. Now, it should be specified in what way this term will be used in this thesis.

It should be outlined at the very beginning that my conception of the term is slightly different from the way the term was understood in around 2010. The exceptional quality, adaptability and affordability of DSLR video cameras led to a strong belief that all devices for video shooting (and even film shooting) would soon be *replaced* by DSLR cameras. Blog-posts from around 2010, predicted that this retooling was as unavoidable and as sure as tomorrow’s sunrise. Yet, this global replacement did *not* happen.

Some would argue that since this complete retooling of all devices did not occur, the impact of the DSLR cameras on the film industry should not be described as revolutionary. I would argue, however, that the fact that all video-capturing devices have not been replaced by DSLRs does not automatically say there has been no DSLR revolution whatsoever. Not only does the exceptional quality, adaptability and affordability of DSLR video cameras provide cinematographers an excellent tool that allows them to excel in their craft, it has irrevocably changed other aspects of the film industry as well. For instance, after the emergence of DSLR cameras, there was a pricing shift in the entire film equipment market. Radovan Šibrť, one of my participants, told me: “*Before the DSLRs appeared, we had to rent RED cameras for 20 000 crowns per day. And now? It is just 4 000 or so.*” From 2011 onwards, there have been several dramatic price drops in purchasing top-quality cinema cameras, such as RED cameras, as well (Marine 2012). This change in pricing has been attributed to market expansion and the availability of the comparable quality for much lower price in which the DSLRs played their role.

The size of DSLR cameras also inspired new camera designs and created access to a larger market. The development of cinema cameras with very non-standard dimensions (e.g. *Pocket Cinema Camera* manufactured by *Blackmagic Design*) occurred because manufacturers noticed that camera operators were willing and wanting to operate devices which were much smaller than standard cinema cameras. The smaller-sized cameras also grabbed the attention of non-professional video makers, who desired the flexibility and quality this new equipment afforded them. Thus, a new market was born.

Simply put, DSLRs have not changed *everything*, but they have changed *many things*. That is the reason for which I will keep using the term DSLR revolution and put it into the very centre of my thesis. Thus, in my conception, I define *DSLR revolution* as a set of changes in film conventions, in filmmaking-workflows and in the situation in the market with film equipment, which happened as a consequence of DSLR cameras appearance since 2010.

The original intent of this thesis was to map out the entire phenomenon throughout all genres and all potential usage, however, that intention was too

ambitious as the technology spread out both widely and wildly. Therefore, I have decided write an analysis of the usage of DSLRs in documentary and ethnographic films produced between the years of 2011–2014.⁵ The main reason for this choice was that these genres utilise most of the advantages provided by DSLRs (e.g. technical, aesthetical, economical, ergonomic, compactness, mobility, simplicity, intimacy, etc.).

The presupposition of this thesis is that involvement of DSLR technology has significant impact on the final product (i.e. film). The accuracy of this claim will be determined by examining three levels of filmmaking: 1) decision-making about shooting technique, 2) film workflow, and 3) final product. In this thesis, I will discuss whether or not the impact of DSLR on these three levels was significant enough to warrant speak about a *DSLR revolution* in documentary and ethnographic film, and in what ways, if any, DSLR cameras have influenced these levels of filmmaking.

According to my preliminary research, I have defined research questions for my thesis as follows:

- 1) What are the reasons for which filmmakers *make their decision in favour for using (or not using) the DSLR technique*?
- 2) How does DSLR *workflow* differ from other filming workflow?
- 3) What are the *technical advantages* of involving DSLR technique in documentary and ethnographic films?
- 4) What are their impacts on film *aesthetics*?
- 5) To what extent do DSLRs help with *budget saving*?
- 6) What role do the *other aspects* (such as *intimacy, mobility, simplicity* etc.) play in filmmakers' decision-making and what are the manifestations of these aspects in the final product?
- 7) What are the *disadvantages and limits* of involving DSLR technique in documentary and ethnographic films?
- 8) How do filmmakers evaluate *overall performance* of DSLRs in the field?

⁵ Assuming that before 2010, the DSLR filmmaking was considered rather experimental and taken rather as a curiosity than as serious film equipment. The upper limit of my focus is determined by beginning of my preliminary research when I was collecting filmmakers' contacts (autumn 2014).

- 9) What is the *future of DSLRs* in documentary and ethnographic filmmaking and what is the potential for their further development in these genres?
- 10) What role do the online communities of filmmakers and the principles of New Media communication play in shaping the DSLR revolution?

To answer these questions,

- A) I will shortly introduce the history of DSLR filmmaking and I will position my research within existing literature (Chapter 3).
- B) I will do a qualitative research among documentary and ethnographic filmmakers who involved DSLR technique in their film projects (Chapter 4).
- C) I will evaluate overall performance of DSLR in documentary and ethnographic filmmaking based upon data from my qualitative research, by juxtaposing pros and cons of DSLRs' involvement (Chapter 5).
- D) I will shortly describe a possible scenario of future involvement of DSLRs in documentary and ethnographic filmmaking based upon experience of my participants and trends in shooting-technique development (Chapter 6).
- E) I will discuss the specific role of online communities of DSLR filmmakers in enhancing DSLR revolution (Chapter 7).

3 Positioning of the Research

Despite of the fact that DSLR revolution in the social-science research could be opened from various angles, it has been shown there has been very little scholarly interest in this topic so far. In the following paragraphs, I will shortly discuss existing literature within which I am positioning my research.

One of the important characters of DSLR revolution is that it is ever-changing and quickly-developing. That is why main source of information for DSLR shooters lies in the online world, especially on weblogs (that is why weblogs represent a very important source for my thesis). Nevertheless, there were some attempts to bring some notion about DSLR filmmaking from online world to the world of print. I would say that the best attempt made so far is Kurt Lancaster's book *DSLR Cinema: Crafting the Film Look with Video* (2011, first published in 2010). Although it is one of the first printed guides, there are very useful pieces of practical information for filmmakers. At the beginning, it well describes the conditions during which the DSLR revolution thrived and explains the exceptionalities of DSLR video-shooting. Then, it provides very coherent and practical insight into filmmaking, beginning with writing screenplay up to post-production workflow, all in the context of low-budget filmmaking with a DSLR camera in the centre. The only drawback of this book is that it was published at the very beginning of the revolution, thus, a critical distance is somehow missing. The author, for example, is not at all discussing the main limits of DSLRs (rolling shutter, aliasing, banding etc.) Another disadvantage is that the guide is almost strictly dealing with products of one particular manufacturer, i.e. Canon (which is, again, caused by the fact that the other manufacturers had yet to catch Canon's camera in the time when the guide was being written).

Unlike Lancaster's guidebook, Koo's short cinematography guide called simply *The DSLR Cinematography Guide* (2010) is based on confrontation DSLRs' pros and cons and it is also dealing with other manufacturers' models. It was published under Creative Commons license and, thus, it is freely available in an electronic version. Comparing to Lancaster's guidebook, it is ways briefer, but still very useful with lots of practical information for DSLR filmmakers.

I have encountered some other guidebooks, either separate books (for instance, John Carucci's *Digital SLR Video and Filmmaking For Dummies [2013]*) or as a part

of more complex guides about cinematography (Sonja Schenk's *The Digital Filmmaking Handbook* (2011:211–238), however, none of these guides, in my opinion, reached the quality of the two previously mentioned. It is also worth-noting that there are many specialised guides which are published for specific DSLR models as kind of user-manual extensions, but I have not been dealing with these. It can be said, there are at least dozens of specialised books published for filmmakers' guidance.

However, as for the world of academics, there is significant lack of contributions dealing with this topic. In the English speaking world, I was able to find just one published article which can be labelled as academic. This was Gunjan Sharma's article (2013) published in an Indian-based journal of mass communication *Pragyaan*. This article deals with a potential usage of DSLRs among filmmakers in India. I have to say, though, that the methodology of this research is very dubious (structured qualitative questionnaire for 120 filmmakers collected online, where some questions sounds rather as if they were designed for market survey) and also the conclusions (e.g. "*An incredible 55% of filmmakers think that HDSLRs could be future of low budget filmmaking in India,*" p. 25) should definitely be treated with caution.

Nevertheless, it is obvious that there were at least several attempts to fill this gap by students in their unpublished BA and MA thesis. There is, for instance, interesting BA thesis written by Matias Koistinen (2014) conceptualised as a guide for beginning DSLR-shooters, another BA thesis written by Richard Pizey (2013) about DSLRs' position in the film industry, or Joey Bania's (2013) MA thesis on DSLR aesthetic. All these thesis were defended in different countries (Finland, UK, New Zealand) and all of them were tackled from very different perspective. This indicates that DSLRs are, indeed, worth-examining, even by scholarly methods in the field of academia. The first published academic contribution concerning DSLR filmmaking with appropriate quality, however, has yet to come.

4 Methodology

At the very beginning of my research, I decided to focus on *European* documentary and ethnographic films between 2011 and 2014, as it would be impossible to deal with worldwide production of documentary and ethnographic films in one thesis.

It was recommended that the best way of getting in touch with filmmakers was to send requests via the film festival representatives. Thus, I contacted 20 European festivals of ethnographic films and 21 European documentary festivals to compile the necessary information. I received answers from 23 of them.⁶ Fourteen festivals were willing to provide me information regarding authors of screened films, either in the form of electronic database or in the form of festival catalogues. Most of the festivals allowed me to contact the authors myself and cite them as a reference, which allowed me to have direct access to a number of vital sources for my thesis.

At that point, I realise that it is necessary to put the focus even narrower because I was about to deal with an amount of films, which was still greater than one could have effectively managed. Thus, I further narrowed my focus to the use of DSLR in documentary and ethnographic films screened at the *International Documentary Film Festival Jihlava* (for documentary films) and *Antropofest International Film Festival* (for ethnographic films), both of which are based in the Czech Republic. I chose these two festivals because I have attended them on many occasions and because they are international, which allowed me to be in touch with both Czech and foreign filmmakers.

From these resources, I created my own selective database consisting of films that were: 1) screened in the two aforementioned festivals between 2011 and 2014, 2) were finished between the same years and 3) were obviously created with digital camera.⁷ At the end, I had over 500 films from *Jihlava* and about 90 films from

⁶ Namely, it was *Antropofest*, *Days of Ethnographic Film (DEF)*, *Ethnocineca*, *ETNOFILm festival*, *Festival International Jean Rouch*, *Freiburger Film Forum*, *Göttingen International Ethnographic Film Festival*, *International Festival Of Ethnological Film*, *NAFA Film Festival*, *Viscult*, *Worldfilm* and *IFEFF Sofia* as for the festivals of ethnographic films and *Dokufest*, *Cinéma du reel*, *CPH:DOX*, *Doclisboa*, *Dok.fest*, *Dok Leipzig*, *International Documentary Film Festival Amsterdam*, *Punto de Vista*, *Sheffield Doc Fest*, *Vision du reel* and *Bel Docs* as for the documentary film festivals. Thanks to all for their time and willingness.

⁷ I intentionally excluded created in non-digital formats (i.e. VHS, Super8, 16 or 35mm film etc. were excluded).

Antropofest which fit my parameters.

I used a PHP script to send a mass e-mail to all the addressees. The script always modified salutation, names of filmmakers and films in order to maximise returnability of my request. The e-mail had approximately the following form:

Dear [name of the author],

I'm a student who is writing a master thesis on DSLR filmmaking (i.e. films shot by digital single lens camera such as Canon 5D, 7D, Panasonic GH2... simply the cameras that were a priori constructed for still photography), in particular on the impact of 'DSLR revolution' on ethnographic and documentary filmmaking.

[...]

I found your name listed as a producer of the film [name of the film] ([year of release]) which was screened in IDFF Jihlava Festival in [year of screening]. For my research, it would help a lot if you could simply respond to the following question:

'Did you involve DSLR video technique in making of your film [name of the film]?'

You can respond just in one word: YES/NO/PARTLY. It would be just perfect and despite it would be just one word it will give me important information for my thesis.

The response rate to these e-mails was almost 39%. I then tabulated the response to the “*Did you involve DSLR in making of your film project?*” according to their responses of “*Yes,*” “*Partly,*” or “*No.*” In the charts 1–4, you can see results in relative numbers (i.e. %) of DSLR-involvement in films screened at the *IDFF Jihlava* and the *Antropofest* festivals for the years in question. Chart 5 shows the trend in using DSLR technique throughout the years 2011–2014. I am also attaching a table with all responses I have obtained (see appendix, 9.2. *Preliminary Research – Involvement of DSLRs in the Films screened at IDFF Jihlava and Antropofest between 2011–2014*).

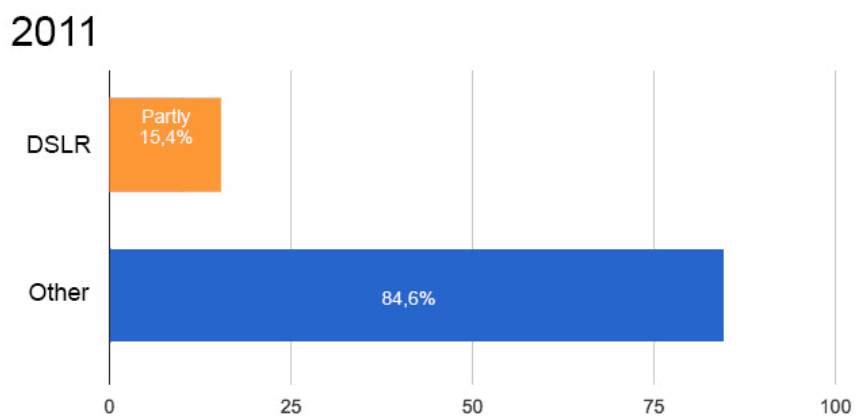


Chart 1 – Involvement of DSLRs in films screened at *IDFF Jihlava* and *Antropofest - 2011*

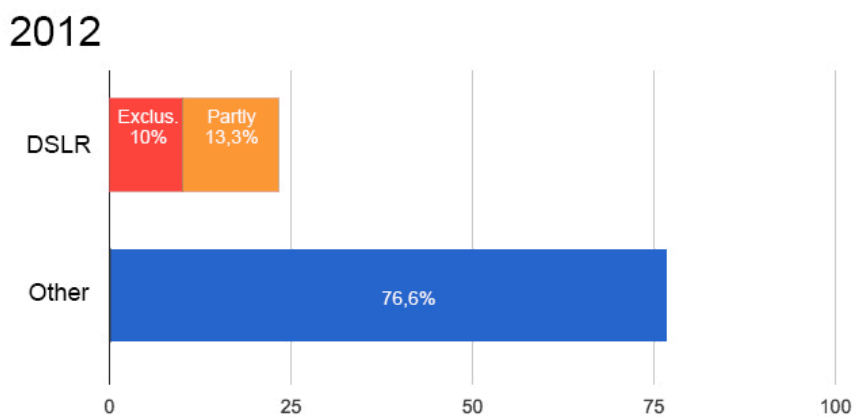


Chart 2 – Involvement of DSLRs in films screened at *IDFF Jihlava* and *Antropofest - 2012*

2013

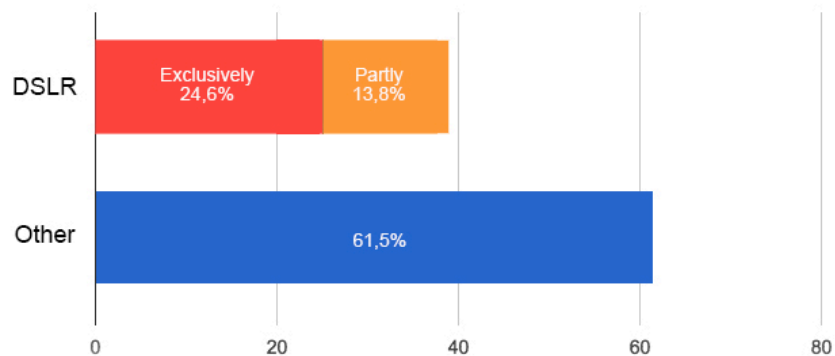


Chart 3 – Involvement of DSLRs in films screened at *IDFF Jihlava* and *Antropofest - 2013*

2014

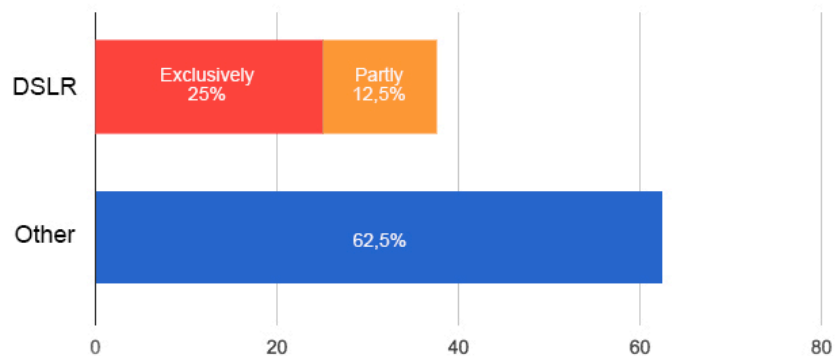


Chart 4 – Involvement of DSLRs in films screened at *IDFF Jihlava* and *Antropofest - 2014*

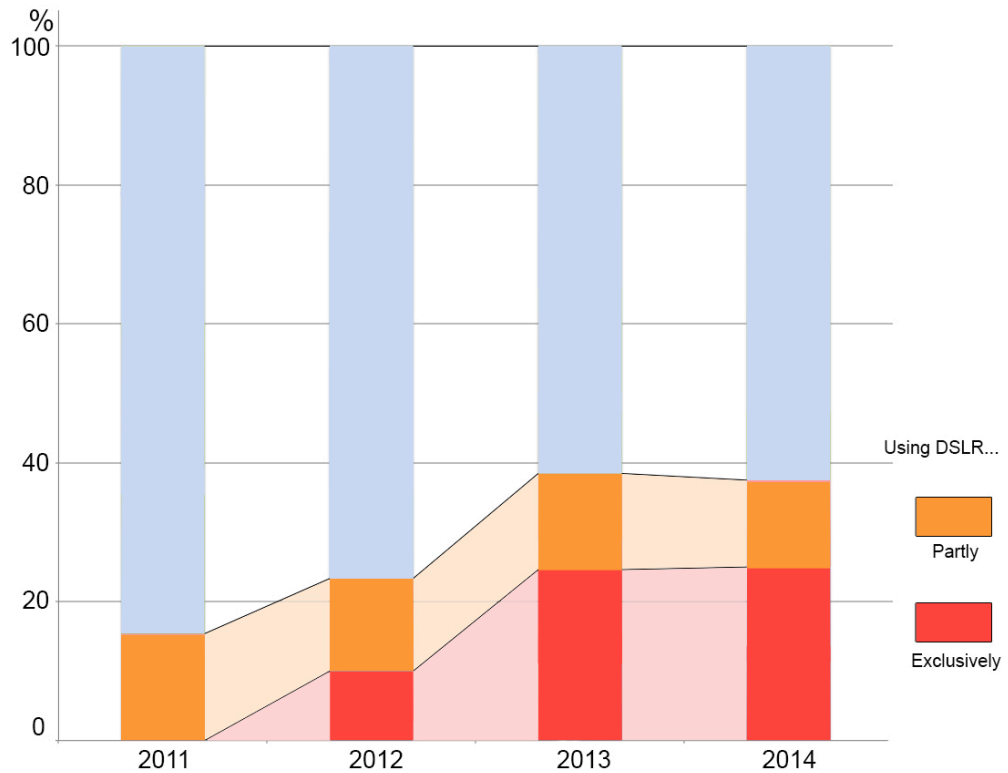


Chart 5 – Trends in involvement of DSLRs (*IDFF Jihlava* and *Antropofest 2011–2014*)

Even though some may question the significance of results based on such a small data pool, they do offer proof that DSLRs were used, at least in part, to create a significant number of films, and that there has been substantial growth in the percentage of projects using the DSLR technique from 2011 to 2014.

To those who responded they used DSLR in their filmmaking, I sent a second e-mail requesting further participation in my thesis process by granting me an interview. This e-mail had approximately the following form:

[...]

[m]any thanks for your e-mail from the previous week concerning involvement of DSLR in your film.

I would like to ask you, whether you would like to help me out with my research a bit more. I am now looking for participants among those who are familiar with DSLR filmmaking for a qualitative questionnaire which will deal with particular advantages and disadvantages of this technique in documentary and ethnographic filmmaking. The questionnaire could look like (according to your choice):

1) a semi-structured Skype interview (which will take approximately 30–45 minutes)

2) a structured questionnaire with open answers (basically the same as above but the written form)

3) a personal interview (if there is a chance that you could be in the Czech Republic or somewhere around, it would be great to meet you [...])

[...]

As anticipated, the response to this request was lower than that of the first request. Nevertheless, I had sufficient number of participants who were willing to cooperate further. At the end, I selected a sample size of N=10. This number represents roughly 14% of filmmakers who involved DSLR exclusively or partly. Their selection was based upon the principles for qualitative research per the *phenomenological approach* (cf. Nastasi n.d) and per *judgment sampling* (cf. Marshall 1996). I made sure to include within the sample size various kinds of film projects (differing in available budget, character of workflow, target audience etc.) to account for *maximum variation sampling* (cf. Patton 2001). As I reached saturation in many scrutinised aspects even in the sample based on maximum variation, the number of participants can be regarded as sufficient, yielding valid and meaningful results (cf. Nastasi n.d.).

Four of my participants agreed to a live interview while the remaining six completed a survey with open-ended questions. The method of information gathering was determined by my participants, according to their personal preference. I have attached an example of my questionnaire in appendix (see the chapter 9.3 *Qualitative Questionnaire For Documentary And Ethnographic Filmmakers*), which follows the structure of my interviews. Data collection took about 5 months to complete.

5 Involvement of DSLR in Documentary and Ethnographic Filmmaking

The usage of a particular technology in filmmaking is always a result of careful deliberation regarding the strengths and weaknesses of various filming workflows and the goal for the final product. Thus, I decided to form this chapter as a reconstruction of the filmmakers' mental processes, according to experience of those I interviewed, regarding the use of the DSLR technique. Sub-chapter *5.1 DSLR Pros* discusses the advantages and benefits of DSLR technology, which were considered as important by my participants. In sub-chapter *5.2 DSLR cons*, DSLRs' drawbacks will be discussed. Both pros and cons will concern all possible aspects (aesthetical, technical, economical etc.). By juxtaposing these two sides, the importance of DSLRs-impact on the final film products will be shown.

For my analysis, I have intentionally chosen film projects with various outputs, workflows and filmmaker's approach (see the previous chapter *3 Methodology*). Thus, my sample of participants consists of single filmmakers (e.g. Jana Panáková), visual anthropologists (e.g. Jari Kupiainen, Konstantina Bousmpoura), visual artists (e.g. Radovan Šibrť, Johann Lurf), "camera-technique geeks" (e.g. Jiří Stejskal, Aleš Suk, Marcell Gerő), filmmakers shooting in risky conditions (e.g. Liwaa Yazji), or film students (e.g. Adran Abramjan). Selected film projects had also various amount of available budget, and they targeted to various audience.

The pros and cons I am about to describe are based upon my preliminary findings about DSLR advantages and disadvantages in filmmaking in general. Then, these findings will be considered in the narrower context of documentary and ethnographic filmmaking.

The factors are clustered into thematic sections. The pros-subchapter begins with economical aspects (*5.1.1*) followed by a list of the greatest technical and aesthetical advantages (*5.1.2*). Next, I will discuss the benefits connected with compactness of DSLRs (*5.1.4*). Lastly, I will address their flexibility and simplicity of the workflows (*5.1.4*). As a counterpoint to this subchapter, there is subchapter dealing with DSLRs' drawbacks. This will include issues concerning their complicated ergonomics (*5.2.1*), image artifacts (*5.2.2*) and the limitations of their workflow (*5.2.3*).

5.1 DSLR Pros

5.1.1 *Affordability : the Economical Reasons for DSLR Involvement*

I decided to start the list of DSLR pros with the point which is obvious to anyone, not only to camera operators and film experts: the economical aspect of DSLRs. Simply put, considering the quality of DSLRs' image, the prices of DSLRs cameras are several times lower than film and video cameras with similar image quality. It is actually very hard to express the difference in absolute numbers as both camera development and the camera market are changing rapidly. But the price/quality ratio for DSLR cameras is exceptional.⁸

The attractive price/quality ratio of DSLR cameras made them very popular with Hollywood producers filming in risky conditions. A Hollywood-based cinematographer Jared Abrams stated:

“Here in Hollywood alone many major productions have adopted the Canon 5D MK II or Canon 7D as their A, B, or C cameras. It all started with the movie Iron Man 2. The 2nd Unit DOP was using the camera for stunt work. At \$2,500 it was better than risking a camera operator’s life and cheaper to have it destroyed during a stunt than any other camera available at the time.” (Lancaster 2011:33).

Replaceability was not the reason DSLRs were purchased in documentary and ethnographic filmmaking. Jari Kupiainen, a visual anthropologist who made his fieldwork for his film *Kastom Twelve* in Solomon Islands, told me: *“For me, the issue was, if I had a camera or not. I wasn’t planning to risk or lose anything, although I was in a high-risk environment.”* The motivation for these fields to purchase DSLRs is their affordability, which helps them stay within budget.

Jiří Stejskal, the director of the film *My Home*, told me that renting costs of an appropriate camera for 30 shooting days would be the same as buying a whole DSLR shooting kit. I have been told also by Aleš Suk, the camera operator of Željka Sukova's film *Marija's own*, about the similar experience: *“It was a great save [...]*

⁸ See, for example, the market-circumstances at the early stage of DSLR revolution, stated in the conclusion of popular DSLR cinematography guide, drawing from personal experience of its author (Lancaster 2011:404): *“When I consulted with reporters in Spring 2008 at The Christian Science Monitor, our budget allowed only for consumer HD cameras (a mix of Panasonic and JVC tapeless cameras), and they cost around \$1,200. I shot my last documentary on a Sony A1U HDV MiniDV camera, a \$2,200 camera, nearly the price of a Canon 5D Mark II body! And none of those cameras match the image quality of the Canon Rebel T2i for \$800!”* (Note: Rebel T2i is a low-end DSLR manufactured by Canon, in Europe known as 550D).

we simply bought the camera and there were no renting costs. Originally, we wanted to rent a camera with Zeiss lenses but the cost of the rental would be higher than the cost of the camera body itself.”

Filmmakers who purchase equipment rather than rent are afforded a more flexible production schedule. Adran Abramjan, a film student who used DSLR for making his graduation film *To Rule, To Work, To Earn, To Pray, To Collapse*, bought a low-end DSLR camera despite of the fact that he could use equipment from his school for free, in order to be mobile and not depended on a someone else’s timetable.

The functionality of the DSLR was a key factor in some choosing to use it in various projects. For one, the excellent cinematography produced by the DSLR technique allows projects to be very competitive.⁹ Aleš Suk mentioned following: *“At that time [2011] the look was very competitive and overall visual quality was very high considering the budget of the film project.”* Simply put, decision-making in favour of DSLR could be even returnable via festival awards thanks to its cinematic look.

None of my participants indicated that the budget-savings argument was the exclusive or crucial one, but many of them highly appreciated this aspect. However, there were also these participants, whose decision to use DSLR was not at all influenced by budget, but DSLR was simply a winner among other high-end cameras as the most suitable choice. Marcell Gerő, the director of the film *Cain’s Children*, described his decision-making process as follows:

“We started the project with an extended workflow test where – as a first step – we tested 5 cameras: C100 (internal recording), C100 (external NINJA recorder), RED Scarlet, Iconoscope, Canon 5D MarkIII. The decision was not a budget-driven. The RED seemed incapable to shoot 1.5–2 hours interviews continuously (overheating risks). The Iconoscope’s cards were not able to record long shots and its image was not persuasive. The C100 was on the same image level as the 5D and did not have more information in it – as the colourist said to us. On the other hand, the mobility and the “non-camera-character” of the 5D seemed to have physical and psychological advantages in the circumstances we were planning to shoot in.”

⁹ The issue of *cinematic look* will be a subject of the next section 5.1.2.

Another budget related issue is the matter of insurance of film equipment. Martin Mareček, the director of the film *Solar Eclipse* shot on DSLR, remarked in one TV interview: “*The first reason for which we used DSLR was its Full HD capturing capacity. The alternative cameras that were able to do so, such as XDCAM, would be very difficult to bring to Tanzania [...] among others there would be nobody who would provide insurance.*” None of my participants dealt with the insurance of their film equipment (which, I guess, is rather matter of a great coincidence), but in general, this is often another reason for documentary and ethnographic filmmakers for which to prefer DSLR cameras over others.

The last budget-related issue I will mention in this section is the DSLRs’ capacity to take still pictures. The DSLRs’ capacity to take still pictures (or, to precise, to take excellent still pictures as it is the function for which they were a priori designed)¹⁰ as well as videos allows producers a two-in-one functionality. Jari Kupiainen stated that “[b]oth [DSLR] cameras were used for stills, which were taken systematically on certain topics. Stills also appear in the film. I use photos also in exhibitions, publications and lecturing.” These stills for publication or exhibitions are needed by academic visual anthropologist, as they often support their film with additional publications.

5.1.2 Technical-Aesthetical Aspects of DSLR : The Secret of Cinematic Look

The technological/aesthetical aspects¹¹ discussed in this section is the second part of the formula “price/quality ratio.”

One of the reason the DSLRs made such a great upheaval was the quality of images, which were closer to a “film look” than a “video look.” It is not for no reason that one of the most popular DSLR cinematography guide (written by Kurt Lancaster) is called *Crafting the Film Look with Video*. In his book, Lancaster stated that video cameras have an “*uncinematic, flat, overly sharp look that make cinema-makers and*

¹⁰ The relationship of DSLR filmmaking with DSLR photography is quite interesting to study. My research has shown that many DSLR filmmakers have been actually recruited from the rank of still photographers. This trend has been remarked also elsewhere (cf., for instance, the story of Rii Schroer, a German photographer described in Lancaster 2011:254–265).

¹¹ Intentionally, I will be dealing with both technological and aesthetical aspects in one section, as both kinds are like joined vessels. They are indivisible one from another as one determines the other. It always depends on a person’s particular point of view whether we treat an aspect as an aesthetical or technical factor.

photographers cringe” (2011:20). From this quotation, it is obvious that the “video look” is something broadly considered as “less than perfect.” Video cameras originally designed for ENG¹² work have become the standard for all types of consumers. Whenever we are watching news, sports events or shooting a birthday party, we are witnessing the “video look” shaped by “video aesthetics.”

On the contrary, *film aesthetic* is different. It has been created from the very beginning of film history, and it has acquired its own specific means of artistic expression in order to distinguish itself from other fine art, such as theatre. Lancaster described film as “*soft, creamy, as well as smooth and sharp*” (2011:121). To develop this metaphorical description, we can summarise that “film look” differs from “video look” in following technical aspects: 1) *resolution* (higher than video), 2) *dynamic range* (higher than video), and 3) *depth of field* (can be various, unlike video) (Lancaster 2011:415). I would also add to this list 4) *progressive scan* and 6) *wide screen*. DSLRs have demonstrated their ability to outperform other video-cameras in several of these aspects; especially the aspects of resolution (this was highly relevant just around 2010 when the DSLRs first appeared¹³), dynamic range and various depth of field.

The aspects of *dynamic range* (hereafter *DR*) and various depth of field (hereafter *DOF*) have one common denominator contributing to the feeling of many filmmakers about DSLRs’ look on film: a *large CMOS*¹⁴ *sensor*. DSLR cameras had been using this type of sensor for still photos for years. Full-frame DSLRs use

¹² I.e. Electronic News Gathering.

¹³ At the beginning of DSLR revolution, the aspect of resolution was very important because just the top-class video cameras were able of capturing in *Full HD* resolution (1920 × 1080px) or higher. Nevertheless, the development of video-capturing devices made a quantum leap and, thus, Full HD resolution has become a standard which is available even for casual cell-phones. For DSLRs, the manufacturers are gradually trying to implement doubled resolution, i.e. 4K (4096 x 2160px) (for 2015, there is just Canon 1D C and Panasonic DMC-GH4, however, it is very likely that upcoming versions of high-end DSLRs will be equipped with 4K resolution). In the rank of film cameras, the standard for high-end devices is 6K resolution (Red Epic Dragon, Scarlet Dragon), or even 8K resolution (Red Weapon Dragon or Sony F65). It has been also shown that even some DSLRs (e.g. Nikon D800) are able of capturing 8K RAW video in the comparable quality with film high-end film cameras, with so-called *quicklapse technique* (see Marine 2015). It should be kept in mind that 8K resolution already overcome the resolution of classical 35mm film (which is estimated to 6K; cf. Lancaster 2011:410). Importantly, as the matter of resolution is not as unique, I will omit this aspect, which was considered as a crucial one at the beginning of DSLR revolution, in my list of DSLR advantages as it is no longer relevant.

¹⁴ I.e. sensor based on *Complementary metal–oxide–semiconductor* technology (cf. Active pixel sensor 2006).

dimensions around 36 x 24 mm and APS-C DSLRs around 22.3 x 14.9 mm.¹⁵ When their video potential had been discovered, their sensors were not only several times larger than high-end video cameras but also larger than top-class film cameras (such as RED or Arri) (cf. List of large sensor interchangeable-lens video cameras 2011).

A large sensor is a common preference for technical-aesthetical pros and will be discussed in the following sub-sections: *5.1.2.1 Shallow Depth of Field*, *5.1.2.2 Dynamic Range*, *5.1.2.3 Performing in Low-Light Conditions*.¹⁶ The very last sub-section is dedicated to capacity of *adapting various lenses (5.1.2.4)*, which is another technical-aesthetical advantage of DSLRs which impacts the character of its cinematic look.

5.1.2.1 Shallow Depth of Field

The capacity to depict shallow DOF is an important factor in producing a quality cinematic look. It is this capability that allows DSLRs to stand out from other cameras. Shallow DOF is a quality of the image stemming from the ability of a camera to put just specific parts of the image into focus while simultaneously blurring other parts which are not in focus. This can be used for portraits, close-ups and other shots where filmmakers intend to draw the attention of the audience to a particular object. The following pictures taken by my participants provide examples of the shallow DOF effect; see *Fig. 1* (shot by Aleš Suk, camera operator of the film *Marija's Own*), and *Fig. 2* (shot by György László for Radovan Šíbrt's film *The Art of Prison*).

¹⁵ These dimensions may vary according to certain manufacturer and certain type of camera. Nikon, for instance, uses APS-HD which is just slightly larger than Canon APS-C sensors. There is also Canon's APS-H option with dimensions somewhere between full frame and APS-C.

¹⁶ It is also fair to note that it is a common denominator of several cons as well (see *5.2.2.1 Rolling Shutter* and *5.2.3.1 Sensor Over-Heating*).



Fig. 1 – Shallow DOF - Marija's Own (2011) (shot by Aleš Suk)



Fig. 2 – Shallow DOF - The Art of Prison (2012) (shot by György László)

The powerful effect of shallow depth of field was established in the 1950's quite as a virtue of necessity, when filmmakers with insufficient budgets for additional lighting needed to widen the camera's aperture to record the scenes they were shooting (cf. Bordwell 1997). This quality of cinematic look was very hard to achieve in digital video cameras due to the size of their sensors, which were much smaller than the original 35mm film field. The only way to achieve this look was to involve 35mm DOF lens adapters, but this work-around would result in loss of light, colours and autofocus capabilities (cf. Resnick according to Sharma 2013:23). When DSLRs emerged, however, they were capable of achieving the desired shallow DOF without using the 35mm DOF lens adapters. Jared Abram, a Hollywood cinematographer, commented on this new ability:

"The use of depth of field to help tell the story had been missing from the video toolkit for some time. There was a short time of DOF lens adapters, but that was only a temporary solution. Now with the shallow DOF of the Canon HD SLRs, we have that tool, and it comes at a bargain price." (Lancaster 2011:34).

Simply put, DSLRs allowed cinematic look for affordable price and, therefore, it opened up the possibility for filmmakers on budget (including the documentary and ethnographic ones) and to create a piece of work which looks like a *film*. As I was told by my participants, many of them greatly enjoyed crafting this cinematic look by using various DOF, with the DSLR cameras being a favourite for artistic means of expression.

Marcell Gerő, the director of the film *Cain's Children*, told me about shallow DOF: *"I always wanted to concentrate on only a few things in the image. When two people were talking to each other, I often wanted to concentrate on the one who is momentarily silent and wanted to 'lose' the speaking one. This technique created an interesting 'inner monologue' effect which is an important tool of our storytelling."*

Similarly, Aleš Suk mentioned the importance of the picture in which some elements are isolated from another: *"Visual isolation of your subject is very important story telling tool. We always try to use as smaller aperture as possible using dynamic*

ND¹⁷ filters as an aperture in order to be able to capture 1/50 in f/4 in the soon during the summer. Also when making Marija's Own the highest aperture was 5.6."

To be fair, shallow DOF can be challenging to achieve with DSLR because of field conditions. Jana Panáková, a visual anthropologist who is producing a film about Chukotka in Russia (tentatively named *5 Lives and 1 Death*), complained about having to discard a relatively large amount of interview-shots because they were unfocused.¹⁸ Most of DSLRs have a relatively small display and, thus, it is very difficult to verify sharpness without a help of additional hardware (e.g. external displays or viewfinders) or software tools (e.g. *Peak Focus* function provided by Magic Lantern). Thus, the shallow DOF of DSLR was also not fully appreciated by filmmakers who were filming quickly moving objects or scenes as the shots could have gone out of focus. Jari Kupiainen told me: *"I usually did not want to go to extremes, here, because the objects were live and moving, and I'd risk sharpness."*

The solution for focusing issues is quite easy – the filmmaker just needs to shut the aperture a bit more in order to get more field into focus. This, however, might have an unpleasant side effect, especially for cameras with APS-C sensors, as this adjustment may increase the ISO which, in-turn, increases the capture of background noise. This issue was reported by Adran Abramjan, who always needed to think of this trade off between a secure focus with shut aperture at the expense of undesirable noise or noise-less image with wide-opened aperture, but risking unfocused shots.

To sum up, shallow DOF is a great tool for imitating a cinematic quality which can highly influence overall artistic expression of the film. For documentary and ethnographic filmmaking, however, it demands some extra care for focus operating, which can be sometimes very hard in the field conditions.

5.1.2.2 *Dynamic Range*

Another aspect, which plays an essential role in the cinematic look, is *dynamic range*. It is defined as the ratio between brightest and darkest parts in the picture and

¹⁷ I.e. *Neutral density filter*, intended for decreasing the intensity of light coming to the lens. The typical usage of ND filters in DSLR filmmaking is to help with keeping aperture wide-open to create shallow DOF effect.

¹⁸ This problem is related to a DSLRs' lack of autofocus capability and will be discussed in the section 5.2.1.3 *Absence of Autofocus*.

it can be expressed in stops.¹⁹ The DR of classical film, for instance, is estimated to 14 stops, Digital Video just somewhere between 5 to 6 stops.

DR of DSLRs was, again, an important quality, which caused a great upheaval among filmmakers at the very beginning of DSLR revolution. One of the first DSLR films, *The Chrysalis*, directed by Jeremy Ian Thomas in 2010, was shot in extremely challenging conditions in terms of DR. This 6-minutes-long film shows an Afro-American actor in the middle of sunlit desert. And the DSLR (Canon 7D) performed very well. The director commented the shooting as follows: “*We couldn’t have pushed it any more than we did—all white with a black actor. Between the sky and the ice, it was probably a nine stop difference.*” (Lancaster 2011:287)

Dynamic range of current DSLR varies approximately from 9 to 15 stops (see Sudhakaran 2013). This range is simply too high to generalise that DSLRs have usually high DR than other cameras; it varies from manufacturer to manufacturer and from model to model. At the very beginning of the revolution, however, the dynamic range of DSLRs (though closer to lower number of today’s range) was spectacular in the comparison to then video cameras, which were ways more expensive.

When I was asking, my participants for how they would summarise the performance of DSLR as for the dynamic range, I did not get a consistent answer. Aleš Suk, for instance, was pleasantly surprise by DR performance of his DSLR (i.e. Canon 1Dx with about 8.8 stops of DR): “*DR was a big discovery during the colour corrections. We shot Marija’s Own in July on the costal town in Croatia where there is very strong light. Almost the whole film is happening in the interior with a southern sea view... and the sea works as a reflector of the sun... Thanks to great DR we were able to find some details in lots of contra light scenes working with curves and levels of the footage in postproduction.*” But it was actually the only positive answer I have got as for the matter of DR. Otherwise, two of my participants considered DSLR technique as comparable to other film technique they had been using and another three filmmakers even claimed that the DR performance of DSLR is even mediocre.²⁰ Marcell Gerő (using Canon 5D Mark III with around 8.7 stops of DR) told me

¹⁹ See Lancaster 2011:418–421 for more information.

²⁰ The rest of my participants did not feel competent to answer this question. After all, it is very complex issue which just filmmakers with lots of experience with other technique, moreover, familiar with post-productional correction, would be able to reply.

following: “For me this is the only real handicap of the DSLR. It has quite enough information in the shadows but it gets holey in the highlights very rapidly.”

To sum up, even though the dynamic range is considered by early DSLR cinematographic guides as a general advantage of DSLRs over video cameras, nowadays, there are too many types and manufacturers with so many different values of dynamic range, that it cannot be generalised that easily; neither in the genres of documentary and ethnographic filmmaking, nor anywhere else.

5.1.2.3 Performing in Low-Light Conditions

As all good things come in threes, I will mention the last technological-aesthetical advantage of DSLR which is a consequence of large CMOS sensor: its great *performance in low-light conditions*. The DSLRs, in combination with fast lenses²¹ are quite literally able of “seeing in dark.” One of the first DSLR films I have ever seen was Martin Mareček’s *Solar Eclipse* (2011). Lighting conditions for this film was very challenging and I was very impressed by how well the DSLR perform in scenes where candles, headlamps or cell-phones were the only sources of light (see *Fig 3*).



Fig. 3 – Performing in low-light conditions – *Solar Eclipse* (2011) (dir. by Martin Mareček)

²¹ The fast lenses in the terminology of DSLR filmmakers means lenses with wide aperture (such as f 2.0, 1.8, 1.4 or 1.2). The lower number, the faster lens.

I immediately thought that this must be a breakthrough for documentary and ethnographic filmmaking, where any additional lighting is not simple to set in many cases. And this assumption was, indeed, confirmed by most of my participants. Though the experience slightly differ according to particular model of DSLR (especially APS-C models used by Jari Kupiainen, Jiří Stejskal or Adran Abramjan were not as miraculous as their full-frame peers), overall performance for documentary and ethnographic filmmaking was regarded as excellent.

The main advantage of this DSLRs' feature is that filmmakers are allowed of shooting in any daytime without necessity of carrying equipment for additional lighting along with them. Liwaa Yazji, the director of the film *Haunted* filmed under difficult conditions in Syria oppressed by war, told me: *"Working in these conditions, it was very hard to have light equipment with me, so it was very important to have a camera that can work in low light conditions."* Being freed from necessity to have additional lighting equipment, my participants could have shot in the unusual places where it would be impossible to shoot with different cameras. Konstantina Bousmpoura, the director of the film *Working Dancers*, expressed her experience with shooting in low light conditions as follows: *"In my project, we had to film a lot under low-light conditions and the DSLR cameras performed very well. We used this aspect in order to show for example the preparation of the dancers a few moments before they go out to the stage, the last minutes before a premiere and the last words of the choreographer beside the scenes rehearsal footage."*

I was told by Aleš Suk about another interesting experience:

"On few projects including Marija's Own, we were able to make a discreet shooting with no extra scene / subject lighting. In case of Marija's Own, we broke in one locked little chapel where we wanted to shoot a little prayer of one of the characters. We had asked local church for permission but with any answer and since we had the protagonist only for one day, we, as a guerrilla team, broke in and shot the scene in 5 minutes in very dark environment, which would be impossible with other cameras we had available for the production."

Another participant, who very appreciated this feature, was Johann Lurf, the director of the film *Reconnaissance*, which is entirely set at night. He noted that performance of DSLR was only comparable to classical film.

The capacity of shooting under extremely low light condition is simply one of the most important aspects which documentary and ethnographic filmmakers highly appreciate. Until today, there are not many cameras performing so well under these conditions and, thus, we can assume that DSLRs might remain popular among these filmmakers, who are expected to shoot in various daytimes and who cannot carry lighting gear into the field.

5.1.2.4 *Interchangeable Lenses*

Last advantage given in this section lies in the fact that DSLRs have a plentiful supply of lenses which can be mounted on their bodies. Before the DSLR revolution appeared, the possibility of lens-changing was domain of the top-class film cameras. For the purpose of still photos, every single DSLRs' manufacturers have their own series of lenses covering a focal range from 8 to 1000 (or more) mm with various maximum apertures, technology of stabilization, means of focusing and other features. Moreover, thanks to photography enthusiasts, there are adapters, speedboosters, extension rings and other accessories, which allow mounting almost *any* lens to *any* camera, regardless of manufacturer, mount-type or the year of lens-manufacturing. And, of course, these lenses are available for photo-taking as well as video-shooting. This can give endless range of possibilities of how the final feeling will look like.

This aspect was greatly appreciated by filmmakers for whom the final look was the most important aspect of their film. Johann Lurf, the director of a short film called *Reconnaissance*, based his film upon highly artistic observation of night industrial area. He considered the aspect of lens-interchangeability as "*essential*," giving him possibility to create the picture he really wanted. For some film production, this capacity was even regarded as the main reason for involvement of DSLR. Aleš Suk confirmed: "*Interchangeable lens system is definitely one of the biggest pro and of the reason why we decided to go for the DSLR use in our film making process. We are owners of some lenses from our still photography life. Not to mention the fact we like to use (and unfortunately rent) the great primes of Mr Zeiss.*"

The Zeiss prime²² lenses, which are broadly considered as top-classed, were also used by Jiří Stejskal. He used rather their old version, enjoying their original look (though sometimes missing a system of lens stabilization). He told me that working with these lenses was like working with old 16mm cameras, when he had three primes available. *“It is somehow limiting, but the filmmaker is forced to think what’s he actually shooting,”* said Jiří.

Nevertheless, some downsides of this aspect could also be found. Frequent exchange of lenses can endanger camera sensor with dust or moist, which can be fatal in some risky environment. That was the reason for which Jari Kupiainen, working in risky environment, tried to avoid switching lenses as much as he could. Also, due to lens-changing, some of the great shot might be missed. Konstantina Bousmpoura described her issue with it in following words: *“In my project, I didn’t consider the lens mobility as a pro. Actually, I did miss a lot of shots because of loosing time to change lens and because it was hard for the director of photography to choose always the right lens. For that reason, several times we had to have a cameraman assistant.”*

Issues related to this will be discussed in the section *5.2.1 Ergonomics: the Smaller the More Complicated*. I would argue, nevertheless, that possibility of lens-changing is a great advantage of DSLRs. In any case, this feature is just a *possibility*. If filmmakers rather prefer film without changing lens whatsoever, s/he can buy some of the universal zoom lenses which will provide focal range wide enough not to miss a shot due to lens-changing. But if they prefer to experiment with the character of cinematic look, they can (quite literally) get a look that none in the world has. It contributes to the great freedom of filmmakers, which is significant for DSLR revolution as such.

²² I.e. the lenses with fixed focal range.

5.1.3 Compactness: Cinematic Look in a Small Body

In this section, I will be dealing with the factors of non-technical character and yet closely related to their physical determination. Considering the cinema-like look, the DSLRs cameras are ways smaller than cameras which can achieve similar image-quality.²³ This simple fact give DSLR camera operators several advantages which will be subjected in this section. Firstly, it allows to bring camera equipment into hardly accessible areas and to shoot in challenging conditions where other shooting equipment may not succeed (5.1.3.1 *Mobility*). It also allows to operate in very little space and, thus, to shoot from very *unusual angles* which contributes to its original aesthetic (5.1.3.2 *Unusual Angles*). As a consequence of DSLRs' dimension, there is also aspect of potential *intimacy* between filmmakers and protagonists (5.1.3.3 *Intimacy*). This intimacy can be gained not only as a result of DSLRs' dimension but also a result of the fact that DSLR camera operator might be mistaken for still photographer (5.1.3.4 *Being Perceived as a Still Photographer*).

It should also noted that there is one drawback resulting from the size of the camera: for some filmmakers it can be simply *too small*. Jana Panáková told me, that for her the aspects of compactness were very important as she did her fieldwork alone, carrying all the gear on her back. She noted, nevertheless, that the matter of compactness is not the only think one should care of. For her, the DSLR camera was too light. She is well used to 8mm cameras, which were well-storable but heavy enough to be *well-handled*. For her, DSLR was not the best camera in terms of *ergonomics*. “*I couldn't hold it properly,*” she said. The matter of ergonomics is the reverse side of DSLRs' compactness and mobility and it will be subjected in the cons sub-chapter, more particularly in 5.2.1 *Ergonomics: the Smaller the More Complicated*.

5.1.3.1 Mobility

Tiny DSLRs' dimensions have one obvious advantage: they can be taken to places where it would be very hard to shoot. During my preliminary research, I got an answer from Canadian cinematographer Peter Mettler, where he said: “*I did use a*

²³ This was unique especially at the early stages of DSLR revolution. Nowadays, however, cameras with body even smaller than DSLR are available on the market. I will discuss this fact in the *sub-section 5.1.3.3 Intimacy*.

DSLR for small parts of the film where I needed to go climbing and couldn't carry a lot of gear."

Similarly, these benefits were also described by most of my participants. For instance, Marcell Gerő noted: *"It was great that it let us not to bring a camera assistant with us and (as we were able to carry all the gear on our body and one not-too-huge bag) to change position (interior-exterior as well) in no time."*

The dimensions do not play the only part in this aspect of mobility; the high-end DSLR models used magnesium alloy for body-construction, which makes them resistant and, therefore, ideal for working in conditions which may unexpectedly change. Aleš Suk mentioned that his camera is *"superb weather resistant"* comparing to the other digital cameras he has been using so far.

Many others of my participants reported that they shot on the board of the plane or boat, which are also places where shooting with a huge camera would be very hard to pursue. Some of my participants have also experiences with using DSLR for aerial footage made by drones.

5.1.3.2 Unusual Angles

One of the pioneer of DSLR films *Last 3 Minutes* (2010) directed by Po Chan, draw the attention to another great feature of DSLR camera: its capacity of shooting cinema-like picture from very unusual angles. One of the shot, for instance, was being taken from a helmet on the actor's head. This would be unthinkable with any film cameras and most of the video cameras in that time. Shane Hurlbut, the director of photography, stated: *"Never before have we been able to cinematically do a helmet cam, do something that really puts the viewer in a first person perspective [...] [a]nd that's what this camera really has enabled me to do."* (Lancaster 2011:308).

The director Radovan Sibrt told me that this was the essential aspect of his film *The Prison of Art*. His crew was working in a prison where space was extremely limited. This would not allow much gear to be worked with. Marcell Gerő summed up that wherever the director of photography found a nice place for shooting, it automatically meant there was enough space for camera-operating as well.

Marcell also described the artistic usage of this aspect in one particular scene of his film: *"We were able to enter to a small chicken-house with [a] girl. The door was*

60cm tall but we were able to 'walk in' with her.”

To sum up, it has been shown that small dimensions of camera are good not only for being easy to carry, but it gives other advantages such as shooting from unusual places and on unusual angles. This could be helpful for aesthetical dimension of film as well as capturing this part of reality, which would be hard to capture with different technique.

5.1.3.3 *Intimacy*

Intimacy is a dimension of film technique which is highly relevant for genres of documentary and ethnographic filmmaking. For feature films, it does not really matter whether camera pointed to the actor is rather small or rather big,²⁴ in documentary, however, the camera-choice can have a huge influence on the process of observation and, consequently, the final product.

The technological inventions in film techniques in sixties are considered as a key for formation of new approaches in documentary, such as *Cinema verité* in France, *Direct Cinema* in Canada or the movement led by Richard Leacock, Robert Drew and D. A. Pennebaker in the USA. Nichols (2010:32) summarised this great change in documentary and ethnographic filmmaking in the 60s as follows.

“The 1960s, [...] filmmakers acquired the mobility and responsiveness that allowed them to follow social actors in their everyday routines. The options to observe intimate or crisis-laden behaviour at a distance or to interact in a more directly participatory manner with their subjects both became highly possible. The 1960s were thus a period in which the ideas of a rigorously observational and of a far more participatory cinema predominated.”

This changed, was caused by several technical inventions: light 8mm cameras contact sound and sensitive film-material, which allowed to film without a need of additional lighting (cf. Gauthier 2011:83–117). Between 1960s to 1990s, the trend to

²⁴ Though some directors appreciated this aspect even for feature filming. See for instance the quotation of Greg Yaitanes, the director of 6th season series *House*, in the introduction (cf. Bloom 2010). Another positive evaluation of this aspect in the field of feature film was made by Rii Shroer, the director of the film *16 Teeth*: “[W]ith the camera being less intimidating, the director was able to build the intimacy with her subjects, helping to provide that cinematic feel – especially with the use of close-ups” (Lancaster 2011:261).

make camera smaller and the workflow simpler had continued, which led to the emergence of *camcorders* (especially the standard Hi-8 was predominated). These cameras “increased sense of intimacy [...], because they were unobtrusive, unintimidating, and easily operated by non-professionals.” (Barker 1998:352). This step was important not only in the history of documentary and ethnographic filmmaking, but it was also a step in democratisation of video-making in the rank of general public. Some authors refer to the beginning of *camcorder culture*²⁵ (cf. *ibid*).

As DSLRs are smaller comparing not only to film cameras but also to hand-held camcorders, I asked my participants how did they work with this attribute and whether they felt a difference from other shooting film technique in terms of intimacy. As no surprise, all of my participant worked with this aspect with a great appreciation, for some of them it was even one of the main reasons for DSLR involvement.

Marcell Geró noted: “*All of the film’s key interviews and discussions have an intimate character and I’m persuaded that one of the reasons how we succeeded to create this intimacy is the camera.*” Similarly, Liwaa Yazji regarded using DSLR as “*protagonists-friendly,*” especially for her sensitive topic of Syrian war.

It should be noted, however, that the dimensions of the camera is not at all the only aspect which creates the sense of intimacy. Nowadays, even smaller devices exist. In the rank of cinematic cameras, there is a popular *Pocket Cinema* series manufactured by *Blackmagic Design*. Moreover, during the time when the thesis is being written, there is on-going crowd-funding campaign for mass manufacturing *EI Camera*, which will hide cinematic look with 4K resolution and interchangeable lenses into a device with the dimensions smaller than a cigarette packet (see Zhang 2015). Occasionally, even other video-capturing devices are involved in filmmaking process. Many successful films with outdoor topics have been shot on *GoPro Hero* cameras and there have been some attempts to use them in the serious feature filmmaking (for example, Oscar-nominated *Captain Phillips* [2013]). For documentary films, sometimes the cell-phones’ integrated camera can do a good job

²⁵ It should be noted that this term is also connected with slightly negative connotation as a decay of documentary cinema: “*Unfortunately, television commissioning editors were all too keen to see camcorder documentaries as a cheap way of filling screen time, with the result that the form rapidly became debased. Without long shooting and editing periods, tight editorial control and most of all a really good story to tell and the skill to tell it, films will not be any good, no matter on what format they are originally shot.*” (Barker 1998:352).

in case of emergency. As an emblematic example, there is the Oscar-winning *Searching for Sugar Man* (2013). When the director Malik Bendjelloul ran out of money he used his iPhone with a two-dollars app *8mm Vintage Camera* with quite a good results (at least good enough to win Oscar) (see Prigg 2013).

To sum up, today is no longer problem to shoot with *anything* as the Full HD output, sufficient for even big screens, has become a standard for the most of the video-capturing devices, including these *smaller* cameras than DSLR. From this point of view, it seems that regarding the dimension of intimacy as something unique in the context of DSLR is no longer relevant. However, there is another interesting point. The aspect of intimacy is not determined just by the *size* of camera but also by its *form*, i.e. the form which most of the people recognise as *still photo cameras*. Consequently, in some cases DSLR camera operators might be perceived as *still photographers*, not as cinematographers. It has been shown during my research that this aspect has played a bigger role than expected, therefore, I decided to dedicate an extra sub-section for this factor.

5.1.3.4 *Being Perceived as a Still Photographer*

Still photography has been part of ethnographic fieldwork from almost the beginning of anthropology. At the early stages, it was regarded rather as an auxiliary activity, later on it has acquired its own methodological principles and it started being perceived as a serious research method under the umbrella of *visual anthropology* (cf. Collier 1986). Similarly, we can talk about genre of *documentary photography* as about established genre, related to *photojournalism* (cf. Abbott 2010).

No matter how we call the man with camera, whether an *ethnographic photographer*, a *documentary photographer* or a *photojournalist*, we know what people with still cameras in the field are actually doing and we are somehow aware of how their work looks like. And, similarly, we have an idea what a man with video or film camera actually does. In my research, it has been shown that people with DSLR are very often regarded as *still photographers*, no matter whether they are taking stills or shooting film. This can turn into a great advantage for documentary and ethnographic filmmakers. There are two genres of this advantage. Firstly, filmmakers might be allowed to approach restricted area where a camera operator would be seen

as too intrusive but a still photographer as acceptable. And secondly, people, who are being filmed, might behave differently in front of still photo camera than video/film camera. I will dedicate several paragraphs to each of these aspects.

The fact, that DSLRs might be very suitable for filming in areas with limited access, was obvious from the very beginning of the DSLR revolution. Rodney Charters, a Hollywood-based cinematographer, was once secretly shooting White House for a pilot study, obtaining nice cinematic results. Neil Smith, his colleague, commented his success as follows: *“You try to film out in the streets of Washington, DC, anywhere near the White House with a RED camera and see what happens when an SUV with dark windows pulls up and six beefy chaps get out and beat the crap out of you [...] He [...] went outside, and took some background shots of the White House. He pretended to be a museum tourist. He got a shot where a cop car goes right in front of him, and nobody is stopping him.* (Lancaster 2011:27).

Among my participants, this aspect was, indeed, highly appreciated. Some of the participants would not be able to film important scenes of their film, or would not be able to film at all. Johann Lurf, for instance, whose film is based upon observation of decommissioned military torpedo-testing area in California, noted: *“I was able to film restricted areas and police didn’t intervene although recognising me using a camera.”* (see Fig. 4.) Similarly, Adran Abramjan shot a building reconstruction through a storefront of a shopping centre in Prague. *“Had I had a bigger camera I’d be probably asked very quickly to leave,”* Adran said. (see Fig. 5.)



Fig. 4 – Shooting in restricted areas – *Reconnaissance* (2012) (dir. by Johann Lurf)



Fig. 5 – Shooting in restricted areas – *To Rule, To Work, To Earn, To Pray, To Collapse* (2013) (dir. by Andran Abramjan)

He developed the idea of DSLRs' unpretentiousness a little bit further: *"It always depends on particular context. For instance, we shot a lot on demonstrations. I think that a bigger camera put on shoulder is more suitable here because it legitimizes the role of an official observer. People with smaller cameras or with DSLRs might be suspected for being undercover cops."*

Another advantage lies in the difference in behaviour of people in front of DSLR camera. Marcell Gerő told me: *"It does not look like a camera, people, even if they know that it is, act differently – not just around but in front of the camera as well."* People (as some of my participants said) seemed to be somehow less nervous. Jiří Stejskal told me that shooting with DSLR was similar to *face-to-face* communication. As if the big cameras would establish asymmetric relationship between filmmaker and protagonists while the relationship established by DSLRs was somehow "more equal."

Jana Panáková told me, that people in Chukotka, where her fieldwork took place, conceptualise both devices differently. *"They know well how film cameras look like as there have been recently a German crew with a huge camera [...] they immediately recognised these people as professionals. I, on the other hand, was regarded rather as a sociologist with a camera. They knew: 'This is Jana who's taking some picture for her keepsake.'"*

Some of my participants even stated that some of their key shots of their films were done as a consequence of unawareness of filmed people that are being shot. For some film projects, it was even the main idea of the film. Aleš Suk told me: *"This was the concept of shooting Marija's Own – all the participants of the project were not aware they are actually protagonists, they were thinking that me, as a cameraman, is just taking some stills."*

This approach might be discussed in the context of ethics, but I am not in a relevant position to question these issues. It has been shown that DSLRs, thanks to their shape of still photo cameras, might be often perceived as still photo cameras, which can completely change relationship between filmmaker and protagonists.

5.1.4 *Simplicity : Gaining Filmmakers' Freedom*

Another reason, for which the DSLRs are broadly appreciated, is a potential simplicity of their workflow on the one hand and their great flexibility to customise this workflow according to the needs on the other.

Mason Resnick claimed that if someone wanted to achieve a cinematic video before DSLR revolution, s/he had to *“use a large camcorder and attach an equally large and clumsy lens adapter, then mount this monster upon a massive tripod.”* (Resnick according to Sharma 2013:23). Lancaster would probably add some more items, such as *“a big black tent with tons of wires running out of it, with waveform monitors, computers, and large HD monitors inside.”* (2011:25). Simply put, the DSLRs are able to achieve great cinematic quality without much fuss around and are manageable by a small team, or even by a single person.

I asked my participant Aleš Suk, who have experienced with various film technique, including 16 or 35mm film workflow, for evaluation of DSLR workflow:

“This is a big thing. Comparing to very complex workflow of film stock production (either film negative or positive reel) that is taking very much time and transport to get the cameraman to see his rushes, through my experiences with tapes which you have to capture into your editing system in real time as one take, situation with DSLR is heavenly comfortable. I often take a voice note with my IDX after a good take so I spare time even for a script person taking notes on small productions. Clips of the footage can be easily accessible and viewable from the DSLR body itself, it is easy to watch on any computer and you do not need any special hardware or software to edit it.”

Factor of simplicity connect many aspects that has been already mentioned (affordability, intimacy, compactness, mobility etc.). It is also related to several drawbacks which will be discussed in the next sub-chapter (5.2 *DSLR Cons*) and which must appear as trade-off. But most importantly, DSLRs in the question of simplicity versus complexity might be *both*. As Konstantina Bousmpoura stated: *“The good thing with DSLR technology is that it can be either simple or complex depending on the project.”* Jari Kupiainen added: *“The workflow is in your own hands, so you can make it fit your style of working.”*

DSLR means neither complexity, nor simplicity. It means *freedom*. This is, after all, a significant trait of entire DSLR revolution. And it also something what filmmakers will always look for.

5.2 DSLR Cons

5.2.1 Ergonomics : the Smaller the More Complicated

It has been shown in the previous sub-chapter that many DSLRs' benefits lies in their physical appearance, i.e. their dimension and shape (5.1.3 *Compactness: Cinematic Look in a Small Body*). However, there is a reverse side of these benefits: due to the tiny dimension of DSLR body, it is obvious that DSLRs cannot be equipped with every single feature provided by big film/video cameras. Similarly, it is evident that way of handling and controlling of DSLR camera is completely different (and often less comfortable) from other cameras. This is trade-off between advantages presented in the previous sub-chapter and the drawbacks concerning *ergonomics*, which will be subjected in this section. I will describe three biggest issues related to ergonomics: necessity to use *dual system of audio recording* (5.2.1.1), *non-standard way of camera handling and controlling* (5.2.1.2) and the *absence of autofocusing capacity* (5.2.1.3).

5.2.1.1 Issues with Sound Recording

First significant difference between DSLR cameras and other video cameras in documentary practise is DSLRs' absence of capacity to shoot *synchronised sound* of appropriate quality with one device. This fact almost automatically demands using of *dual-system sound*, i.e. having a sound recordist with an external tool for audio-capturing in the field. Especially for the documentary and ethnographic filmmakers, this might be regarded as a great drawback. Synchronised sound (altogether with 8mm film and handheld cameras) was *the* aspect which caused a little revolution at the end of which styles like *Cinema vérité* or *Direct Cinema* emerged and which contributes to emancipation of documentary film as such (cf. Nichols 2010:32).

Every single DSLR with video-capturing capacity is equipped with incorporated monaural microphone which can be well used for creating a *sound reference*, i.e. a track according to which the sound track is synchronised later in the postproduction. Moreover, most of the models also have a 3.5 mm jack input for an external stereo microphone²⁶ and, from one point on, manually controllable audio

²⁶ Basically all DSLRs, beginning with Canon 5D Mark II. Panasonics have 2.5 mm jack instead.

levels.²⁷ This feature allows connecting a microphone on the top of the camera into the mounting point known as *hot shoe* (usually serving for connection of an external flash). Some filmmakers do use this feature and connect a light directional microphone (see *Fig. 6*).



Fig. 6 – A DSLR with a mounted external microphone

However, jack connector is not really suitable for professional sound recording as it is not able of providing *balanced audio*.²⁸ It means that it does not

²⁷ At the very beginning the, Canon 5D Mark II and its Canon peers (such as 7D, 550D etc.), had a big issue with automatic audio metering. Although Canon incorporated external audio output, which might be viewed as a professional feature, they somehow forgot to equip it with *manual control*, which is a detail that no professional could live without. For 5D Mark II, it was fixed by update firmware 2.0.4 available after almost a year when the camera was released, for other cameras even later (7D with v2.0 firmware release in summer 2012, for 550D, this issue has even never been fixed and it was eventually added to its successor 600D). Even though it looks like bagatelle, it caused lots of disappointment among filmmakers and even some spoiled work. One of my participants, Jari Kupiainen, who used his 7D for his fieldwork in 2012, told me: “Yes, this was a problem. [...] Manual audio levels would have been really important for me. We had to work extra in the post to clean up the audio track.” It should be noted that *Magic Lantern* provided manual audio levels for 7D and other cameras before Canon official firmware release.

²⁸ Unlike XLR cables which use three-conductor connectors. Cf. *Balanced Audio* 2003.

prevent from signal interferences and it produces undesirable amount of noise. For high-quality sound-recording, it is necessary to use three-conductor connectors, i.e. (in the vast majority of cases) XLR cables. Unfortunately, a XLR output would demand much more space than a tiny DSLR body can provide, so it would probably not be possible at any point to equip DSLRs with XLR output.²⁹ Thus, an external sound recording seems to be the only solution of this issue. Phillip Bloom, when he was summarising suitability of DSLRs for filmmaking in 2014, noted that DSLRs are suitable for “*documentary filmmakers who are well versed and confident with dual audio*” (Bloom 2014).

For some of my participants, the issue of sound-recording was not a problem at all as they were used to dual audio system and they planned to make external recording from the very beginning of the project (with a special man who will be present and paid as a sound operator). For some of them, however, it was rather a complication. Konstantina Bousmpoura, told me: “*I consider it as a drawback for the documentary work because it demands presence of a soundman and that means more budget and bigger crew. And, of course, less mobility.*” This basically summarise all what can be said about this issue. From this point of view, DSLRs seems not to be the best option for one-man-crew documentary filmmakers or film projects on budget for which the presence of soundman could be a financial burden.

Jana Panáková, managed to be both camera and sound operator, but in her case, she was very well used to it as she always used dual system even with her previous fieldwork with non-DSLR cameras. Simply put, this drawback of DSLR could be compensated either by a soundman in the field or great amount of practise with dual system of recording altogether with camera-operating managed by one person.

5.2.1.2 Camera Handling and Controlling

Another significant difference between DSLRs and, for instance, hand-held cameras, lies in the way of handling and the way of controlling. As it has been

²⁹ It should be noted that Sony for their DSLRs has developed an adapter for this issue (*Sony XLRK1M XLR-K1M Balanced Audio Adapter*). This extension not only provides balanced audio, but also preamp for microphones demanding phantom power. Though it should be regarded rather as workaround, it could serve well for obtaining high-quality sound without a need to have an additional sound recorder.

mentioned several times, DSLRs are a priori designed for taking still photos and not for video shooting, which makes camera-operating more complicated. As soon as the cinematic potential of DSLRs was uncovered, plethora of additional tools, which would compensate this drawback, has appeared. Apart from traditional tripods or monopods, there were shoulder rigs, chest rigs, hand grips, handy steadicams, run-and-gun adapters and more. Some kits reached prices over 5,000 USD (i.e. were much more expensive than DSLR itself) and so the market was soon flooded with cheap imitations from Asia. Consequently, homemade versions of these products showed up. Thus, every single filmmaker could have his or her own way of handling and controlling DSLR camera. I am giving a few illustrations to indicate that this play for “better ergonomic” could sometimes reach even ridiculous dimension (*Fig 7, Fig 8, Fig 9*).



Fig. 7 – An illustration of additional tools for ergonomics improvement



photo by Brandon Peterson ©2013

Fig. 8 – An illustration of additional tools for ergonomics improvement



Fig. 9 – An illustration of additional tools for ergonomics improvement

All these rigs remind me words of Radovan Sibrť, who told me: “*When I first heard about DSLR revolution, we were sitting in a caf  in Prague and we were laughing that the egos of camera operators would go to hell as they would have to shoot their films with so little cameras.*”

Surprisingly, not many compensational tools for better ergonomics have been used by my participants. Some of them did report troubles with controlling of focus or zoom, which almost always resulted in shaky takes. However, very few of them compensated these issues with additional tools. Apart from standard tripod or monopod, it was just Marcell Ger , who was additionally using a simple shoulder rig or a small steadicam and Jari Kupiainen, who was using a gorillapod and a strip. Some of the filmmakers improvised with available stabilization-equipment (for instance, Jiřı Stejskal told me about his technique when he carried a tripod with camera on his shoulder). Nevertheless, many filmmakers preferred taking shots in the simplest way, i.e. *shooting from their hands*.

Radovan Sibrť told me that the production company for his film *The Prison of Art* secured number of additional tools for better ergonomics. But during the actual work, they started making the workflow more and more simple and at the end there was just a DSLR without any additional tool, simply *in the hands of camera operators*. Radovan mentioned that though the ergonomics of DSLR is not ideal, it is all just matter of habit. And at the end, this might be considered as a virtue of necessity, because (as Radovan said) the camera movement with DSLR is different from one taken by big video cameras, therefore, it contributes to specifics of DSLRs’ film look. Similarly, Liwaa Yazji described this unique “*dynamic*” of DSLR image: “*Since I was shooting sometimes even without a tripod, [...] the shots ‘enjoyed’ more dynamics [...]*”

Specific of cinema look, however, is not the only reason for which documentary and ethnographic filmmakers do not use great amount of additional tools for ergonomics. When I was interviewing Jana Pan kov , a visual anthropologist who always works single, she was complaining about her issues with camera-handling (cf. 5.1.3) Thus, I was depicting her all possible DSLRs’ extensions for better ergonomics which have been established over time. After enumerating an extensive list, she simply said: “*If I used some of these, would I still be an ethnographic filmmaker?*” This very good point was also well-summarised by Aleř Suk, who told me that he is

willing to sacrifice some ergonomic comfort in order to gain intimacy and discreetness (which has been discussed in the section 5.1.2).

Thus, even though the ergonomics of DSLRs is often mentioned as a crucial drawback in the comparison to other cameras, for many documentary and ethnographic filmmakers, it represents an important part of overall cinema look which is specific just for DSLRs. They also appreciate their simple and not-extensive shooting-workflow which can preserve the dimension of *intimacy*; the crucial aspect for these genres of film, as it has been shown.

5.2.1.3 Absence of Autofocus

The drawback introduced in this sub-section is also related to ergonomics as it demands some extra care in terms of camera controlling. DSLRs, especially their first generations, are not able of autofocus, or to be precise, of *continuous autofocus*.³⁰ Though DSLRs are equipped with perfect AF systems for still photos with up to 61 AF points based upon passive phase detection,³¹ there is no way of using it while filming. This sophisticated system is simply out of operation because the hardware responsible for phase detection is placed between the DSLR's mirror and the sensor, thus, the light cannot reach the sensor because the mirror is cast down for recording.³²

Nevertheless, most of my participants did not consider this as a problem. Many of them even stated that if their DSLRs had autofocus function they would have definitely turned it off.

³⁰ That is automatic continual change of focal length according to movement of the object.

³¹ This principle works with dividing of the light incoming to the sensor into two pairs of image and consequential mutual comparing (cf. Autofocus 2004).

³² Obviously manufacturers were working hard on this drawback and thus, nowadays (i.e. 2015), it is very hard to find a new camera which would completely lack the feature of autofocus while shooting video. There are basically two major ways of dealing with this issue – the software solutions and hardware solutions. As an example of software, there is a method of *contrast detection*. This method is based upon measurement of contrast on the sensor, thus, it is relatively slow and unreliable. As for the hardware solutions, there is a smart DSLT solution, developed by Sony. They developed the semipermeable mirrors that are able to transmit some part of light to autofocus sensor and, thus, the DSLT camera can use full-time phase detection while filming. It is also fair to note that mirrorless cameras using, micro 4/3rds system, (mainly developed by Panasonic and Olympus but recently becoming more popular among other manufacturers) have never had problem with lacking autofocus as they simply lack the mirror.

I have noticed three minor problems with autofocus. Firstly, these documentarists, who worked single, would appreciate autofocus function for at least a part of their work as it was another thing among others which was necessary to deal with. Liwaa Yazji noted for this issue: “*It was tiring sometimes with the focus when I was shooting on my own due to my need to be with the protagonist at the same time where I should as well care about the focus issue.*” Secondly, some filmmakers agreed with the fact they would use manual autofocus instead of autofocus, nevertheless, they complained about the size of display with which it was sometimes very hard to check whether the shot is focused right. And thirdly, some of the filmmakers had trouble with infinite focus ring of some lenses (e.g. L series from Canon). This made the manipulation with focus (especially orientation in the focal range) a bit harder. Thus, some filmmakers were trying to find a way for better orientation in focusing. For instance, György László, camera operator for Radovan Šíbrt’s film *The Prison of Art*, used series of label sticks in order to be well-orientated when it comes to focusing.

Despite of these issues, it cannot be said that the absence of autofocus would be something which would discourage filmmakers from using DSLRs in the field, though it was in some cases regarded as tiring and technically difficult.

5.2.2 *The Nature of Image and Picture Artifacts*

From the obvious DSLRs dispositions, I am now moving towards issues that are not so obvious and, thus, could be tricky when filmmaker is unaware of them. These issues concern the nature of the DSLR image and some related defects. In the previous sub-chapter, I have been describing technical-aesthetical factors contributing to *cinematic look* of DSLRs (5.1.2.). Some technical benefits responsible for unique DSLR image are, again, closely related to known defects. In this section, I will describe three most common picture artifacts: *rolling shutter* (5.2.2.1), *aliasing* (5.2.2.2) and *banding* (5.2.2.3).

5.2.2.1 *Rolling Shutter*

The first issue is known as *rolling shutter* (a.k.a. *jello effect* or *jellocam*). CMOS sensors placed in DSLRs camera use principles of rolling shutter,³³ i.e. “*exposing different portions of the frame at different points in time, [by] “rolling” through the frame*” (Green n.d.) For simplification, it could be said that CMOS sensor is scanning lines from the top of the sensor to its bottom. Due to this fact, when a camera operator is panning too quickly (or object is moving too quickly), a distortion, similar to ones on the *Fig. 10* and *Fig. 9* might occur.

³³ Unlike CCD sensors (by which most of the video camcorder are equipped) that use principles of *global shutter*. Principle of global shutter could be described as follows: “*The entire frame is exposed and begins gathering light; when the predetermined ‘shutter speed’ has elapsed, the sensor stops gathering light and turns its current exposure into an electronic image. There is no physical ‘shutter’ that covers and uncovers the sensor; it’s all done with timing. At the start of exposure the entire sensor starts gathering light; at the end of exposure the light-gathering circuitry is turned off and the contents of the sensor are then “read out” to become an image.*” (Green N.d.).



Fig. 10 – Rolling shutter artifact



Fig. 11 – Rolling shutter artifact

Therefore, the DSLRs are not considered as an appropriate tool when it comes to shooting with panning, quickly-moving objects or quickly changing lighting conditions (such as strobe lights). Koo, the author of popular DSLR cinematography guide (2011), summarised advice for this matter as follows: “*Don’t expect to do any whip-pans with your DSLR, and don’t expect to shoot Blair Witch-style. Treat your VDSLR like a larger motion picture camera — better yet, attach some accessories [...] to make you treat it like a larger motion picture camera — and do planned, slow camera movements.*” (p. 38). This, however, cannot be regarded as a good advice for documentary and ethnographic filmmakers who would rather have as few additional accessories as possible and who cannot sometimes plan in what tempo will the next shot be. Therefore, this issue represents serious limit of involvement of DSLRs in these film genres. As one of my participant Johann Lurf summed up, “*this is the biggest drawback of DSLR filmmaking.*”

Most of my participants were aware of this issue so they tried to avoid risky shots directly in the field, which is the best way of preventing from this undesirable effect. Few participants were unaware of rolling shutter issue but they learnt very quickly as soon as they started editing, having to discard many important shots. Obviously, sometimes a dilemma, whether to use distorted shot and spoil the aesthetical quality or rather to use it in order to preserve information value of the film, might turn up. Konstantina Bousmpoura told me: “*I wasn’t aware of this limit and it influenced my work. For example, in the group interviews the panning from one person to the other caused a picture distortion. In some cases in the editing we decided to keep the jello effect in order not to lose the information if it was considered important.*”

Luckily, there are some ways of correcting (or at least particular correcting) of jello effect issue. Jiří Stejskal and Aleš Suk used post-production method called *Warp*.³⁴ This method can analyse the amount of distortion and correct it, with a slight crop of the picture. This allowed using shots which would otherwise be affected by this distortion.

³⁴ Cf. Adobe n.d.

Another good thing for DSLR filmmakers is, that manufacturers are constantly working on this issue and there has been significant improvement (Wöber 2014). Moreover, there is an opinion that the audience became somehow habituated for this effect. Aleš Suk noted: “ [...] *And I suppose this rolling shutter is so commonly seen everywhere so it is becoming less noticeable or less annoying for the viewers, [...]*”

To conclude, even though we can assume that rolling shutter in the future would be less problem than it used to be, it is fair to say that for years 2011–2014, it was a very serious drawback which limited work of many documentary and ethnographic filmmakers and it often affected the way of camera-operating as well as the way of choosing shots for the final versions of films.

5.2.2.2 *Aliasing*

Aliasing (commonly called *moiré*)³⁵ is an undesirable effect caused by the fact that DSLRs cameras (a priori constructed for still photo) have a sensor designed for more pixels than resolution of the video. Thus, (to simplify) the camera needs to “skip some lines” while image-processing. When there is some repetitive pattern in the picture, unnatural lines, similar to ones you can see in the *Fig. 12*, may appear.

³⁵ *Aliasing* is more general term of physic referring to an effect which occurs when a signal carrying information is being sampled “at a less than twice the highest frequency present in the signal.” (this theorem is known as *Nyquist frequency*) and it concerns both digital audio and images (cf. Matthews N.d). *Moiré* is the term for patterns which appear as a result of aliasing in digital imaging (cf. *ibid*). Though the meaning of these words is slightly different, they are used as synonyms in common language of filmmakers.



Fig. 12 – Moiré patterns

It has always been a big issue in digital filmmaking and video-making. In actual fact, this concerns many types of digital cameras, not just DSLRs. It is not very rare to see moiré even on TV when an uninformed TV-show protagonist takes along with him his favourite strip tie. Moreover, it is also a problem in the field of still photos. That is why manufacturers fight against the moiré at the level of hardware.³⁶ But while removing moiré from still photo is relatively easy, there is no easy way of fixing moiré in video.³⁷ The easiest way of fixing aliasing effect for DSLR

³⁶ This hardware feature for reducing moiré is called AA (*i.e. anti-aliasing*) filter (a.k.a. *blur filter* or *low-pass filter*). It is placed just in front of sensor and it is responsible for reducing frequencies higher than ones corresponding to *Nyquist frequency* (see the footnote above). This can well eliminate moiré patterns, however, the elimination is at the expense of overall sharpness of the picture. That is why some DIY filmmakers tried to remove this filter, getting interesting results in terms of sharpness (see e.g. Reid 2012). The fact, that for some DSLR users the sharpness might be more important than occasional issue with moiré pattern, was taken into account by manufacturers who started selling two versions of high-end cameras; one with and one without AA filter (e.g. Nikon D800 and D800E, Canon 5DS and 5DS-R etc.)

³⁷ There are *some* methods based upon post-production blurring or covering (cf. e.g. Arthur 2014, Watson 2014), however, all these methods are very laborious, often demanding special care for each

manufacturer would be to decrease the number of pixels (that is actually why RED cinema cameras with 6-megapixel sensors have a great advantage over DSLRs with more than three times higher resolution). However, a potential DSLR camera, which would decrease the number of its pixels so radically, would stop being competitive among other still photo cameras (or, to put it directly, it would stop being suitable for still photography). Thus, there is no solution of this issue in the case of DSLRs and, thus, we can assume that it will always be their drawback.

Nevertheless, to my surprise, none of my participants reported serious problems with moiré patterns. The artefact appeared here and there, but not in such amount that the shots would be inapplicable. Radovan Šibrť, who experienced minor problems with moiré, told me that he would definitely have to deal with it if it was a TV advert (which he also produces from time to time). However, the documentary films (according to him) have their own aesthetic in which failures like moiré patterns are pardonable. A similar approach had Jana Panáková, when she told me that she “*takes things as they are*” and that documentary might be “*quasi-dirty*” as its aesthetics counts with it.

5.2.2.3 *Banding*

Another known artifact is *banding* which is caused by “thin” colour depth of used video standard. Most of the DSLRs use standard *H.264* with 8-bit colour compression, i.e. there are just 256 different colours for each pixel which image processor can work with. Due to this, the places in the picture which are supposed to look like a smooth transition are sometimes grouped into “*bands*” of colours, for which the processor assigned the same colour (see *Fig. 13*).

frame and with very uncertain results. Thus, these should be considered rather as workarounds applicable in case of “emergency” rather than a universal solution.

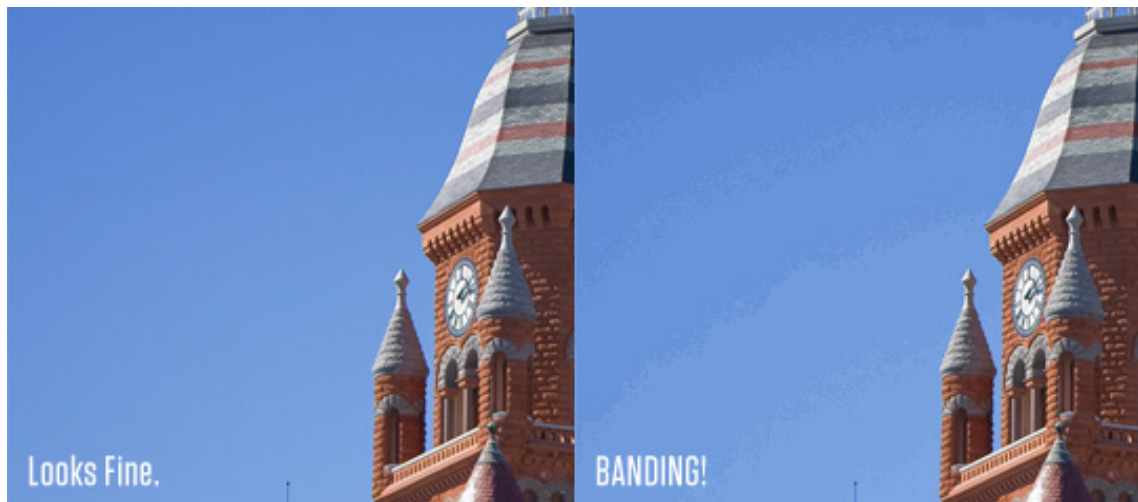


Fig. 13 – Banding

Unlike the previous issue with aliasing, we can assume that future DSLR development will entirely fix this problem. Magic Lantern in 2013 unlocked the possibility of shooting uncompressed RAW video format with 14-bit colour compression for most of the Canon cameras, which is more than enough to prevent video shots from banding. The high-end DSLRs, such as Canon 1D X or Nikon D800, have the 14-bit colour compression provided by manufacturer and it is expected that this will soon become standard for other DSLR cameras as well.

Some of my participants experienced troubles with banding, but all of them were rather marginal. Unlike aliasing, it is relatively easier to fix, thus, when banding appeared, it was being fixed in postproduction. Aleš Suk told me: *“We had a big banding phenomenon problem in one of the opening shots of clouds. Since I used [Adobe After Effect] to colour correction of the image, I applied some of my custom pre-set of the grain on the image [...] and this application helped to hide such artifact.”*

To make a partial conclusion for this section, even though all three mentioned artifacts are widely considered as serious drawbacks of DSLRs, none of my participants reported their major influence on their filmmaking. To some extent, they are correctable or preventable. Another good point is, that for documentary and ethnographic film, the informational value of the shots often played greater role than their technical quality. From these three drawbacks, rolling shutter represents probably the most serious one as it limits the process of shooting.

5.2.3 *Workflow Limits*

This last thematic section will be dealing with two limits which represent a certain limitation in shooting workflow. Both limits presented in this section are limitation exclusively of DSLR cameras and though the effects of these two limits are very similar, their causes are fundamentally different. Firstly, there is an issue with *sensor-overheating* (5.2.3.1) and, secondly, there is a *legislation-based time limit* (5.2.3.2).

5.2.3.1 *Sensor Over-Heating*

The advantages of large CMOS sensor have already been described and the major aesthetical and technical advantages of DSLRs are its claim to fame. However, as it is a priori designed for still photos, they, from time to time, suffer from over-heating. And there is not much space for improvement of this issue.³⁸ This over-heating may be manifested by increase of the noise level (in the better cases) or by sudden shutting camera down. For documentary and ethnographic filmmakers, it is nothing really desirable.

Experiences of my participants with this issue were various. The first thing, which influenced this experience, was, unsurprisingly, the climate of the region where the fieldwork was taking place. For instance, Jiří Stejskal and Jana Panáková, who were filming in Ukraine and in Russia respectively, they have not experienced problems with over-heating whatsoever. On the contrary, Jana Panáková was trying to solve different problem as in her field the temperature goes sometimes below minus 50 degrees of Celsius, in which almost each piece of electronics stops working and even the classical film may crackle. On the other hand, filmmakers, who did their fieldwork in rather tropical conditions, had serious problems with overheating. Jari Kupiainen, who was shooting in the Solomon Islands, noted: *“This was a constant issue in the tropics, especially daytime in the sun. I could not shoot all I wanted because of heating.”* Similarly, the problem with overheating happened to Aleš Suk when he was working on another project: *“I have experienced overheating long time ago in a big production where I was using my 5D2 and my B and C cameras were*

³⁸ There were rumours that Nikon was about to implement a *removable heat storage* to solve this issue (cf. Nikon Rumours 2013), nevertheless, this patent has never been turned into reality.

7Ds [...] Both cameramen were suffering from overheating while shooting long interview on the Mediterranean coast during noon while not being in shadows. Neither my 5D2 with grip nor 1Dx have overheated.”

As seen, the over-heating issue always depends on particular model of camera and particular conditions of shooting. Generally, it could be said that DSLRs are not suitable for long shots because they increase the risk of sensor-overheating. Thus, they are very limited in shooting of *interviews* which are crucial part of documentarists' work. Koo (2011:40) explicitly warns against the usage of DSLR in interviews: “*if you're considering a DSLR to shoot interviews this is a major consideration as your camera will inevitably run into issues in the middle of an interviewee's spiel.*”

Sensor over-heating is, again, a very serious issue which every single documentary filmmaker should take into account before going to the field. DSLRs are definitely *not* suitable for shooting long shots, such as interviews or other long shots (especially these where filmmakers cannot check whether the camera is working) and are very risky to use in hot conditions. Filmmakers, who need a reliable tool and who are supposed to work with long shots and/or in hot conditions, should always consider an alternative technique or, at least, a backup technique.

5.2.3.2 Legislation-based Time Limit

Another drawback is the time limit of one shot, which has various lengths for various cameras, but is set maximally to 29:59 minutes. The reasons for this limitation are quite prosaic: according to EU tax law,³⁹ the digital camera capacity of shooting video longer than 30 minutes is treated as a video camera recorder, and, therefore, they are subjected to an extra 4.9% tax. Considering the amount of money which filmmakers pay for their equipment, the extra 4.9% does not look like a huge amount

³⁹ Precisely, according to valid Combined Nomenclature Regulation of EU (2015), the *Digital cameras* with video-capturing capacity are considered as *Video camera recorders*, unless they “*are not capable, using the maximum storage capacity, of recording, in a quality of 800 × 600 pixels (or higher) at 23 frames per second (or higher) at least 30 minutes in a single sequence of video.*” (CNR 2015, subheadings 8525 80 30, 8525 80 91 and 8525 80 99). This law is valid from 2007.

which they would consider as a great obstacle.⁴⁰ Nevertheless, this limit of DSLR's video remains until today.⁴¹

Not many participants, however, reported this as a problem. I was told by many of them that they have never shot such a long take. Some of them assumed that camera would sooner over-heat than it would reach the time 29:59. Radovan Šibrť compared DSLR-shooting with shooting on old film reels: *“I have never done such a long take. And I have, what would I do with it? [...] One can actually learn how to shoot smartly as you have to think before you shoot [...] It is similar to shooting with film reels. You cannot shoot half-an-hour shot as the reel is not simply that long.”* Similarly, Adran Abramjan noted that it is better to think what to shoot while shooting than to shoot too much material and make ex-post selection.

The only participants, who did have trouble with this limit, were Johann Lurf and Konstantina Bousmpoura. Both of them were documenting performances for their films (Konstantina performances of dancers and Johann performances of night scenery) and they were trying to shoot these performances as a whole. In the previous sub-section, I have already mentioned that DSLRs are not suitable for shooting interviews due to overheating. No matter how cool conditions are, filmmakers need to take into account this limit as well. Generally, it can be said that DSLRs are not ideal for filmmakers who need to shoot some particular scene (interviews, performances etc.) as whole without pausing.

⁴⁰ I have also heard some speculation that the statement about European taxes is rather an excuse of DSLRs' manufacturers which are hiding other issues, such as sensor over-heating, FAT-32 4Gb limit, license of codecs and others. As it is always manufacturers' choice to set the limit, I need to leave this idea as an unfolded speculation.

⁴¹ It should be also noted that most of the high-end camera are able of immediate starting after 29:59 so that just few frames are lost. Magic Lantern, moreover, broke this limit in March 2015 and enable video recording over 30 minutes. In EU, however, this might be seen as impairment of the right. Another option is to use an external HDMI recorder.

5.3 Chapter Summary

In this chapter, I have been dealing with known benefits and drawbacks of DSLR cameras and I have been considering them in the context of documentary and ethnographic filmmaking with help of data provided by my participants.

The following table shortly summarise the results of my research for all aspects which have been touched. The table represents a reconstruction of filmmakers' decision-making whether to involve or not to involve a DSLR camera in their projects, considering their pros vs. their cons.

I have also added my subjective evaluation for each particular aspect and its relevance for the focused genres of film. I indicated whether the aspect was 1) **Highly Relevant** (and difficult to achieve with other type of camera) 2) **Relevant** (but probably achievable with other cameras) 3) **Trade off** (good aspect but at cost of something) or 4) **Not Relevant** (not regarded as relevant by my participants). A similar evaluation was made for cons, where **Highly Relevant** means a serious drawback while **Not Relevant** means an aspect which was finally not regarded by my participants as a drawback.

Aspect	Relevance for Documentary and Ethnographic Film	Evaluation
<i>Pros</i>		
Affordability	As the film projects related to genre of documentary and ethnographic film are very often on budget, this criterion was considered highly relevant. It helped to my participants with budget savings, independence on schedules of shooting-technique provider or festival-competitivity.	Highly Relevant
Shallow Depth of Field	Some of my participants worked with this aspect in a creative way as an artistic mean of expression. Nevertheless, other participants stated that shallow DOF increases the risk of unfocused shots and it sometimes demands special care, which might be very difficult to	Trade off

	achieve in field conditions.	
Dynamic Range	Unlike commonly-held view on this aspect in the context of DSLRs, not many of my participants were satisfied with DSLRs' performance in terms of DR. Majority considered them as comparable to video cameras or worse. Nevertheless, this aspect is highly influenced by particular manufacturer and model of DSLR camera.	<i>Not Relevant</i>
Performing in Low-Light Conditions	My participants regarded this criterion as groundbreaking. It allowed shooting without need of additional lighting in any daytime. The experiences slightly differed according to sensor-size (APS-C vs. Full-Frame), but their overall performance in low-light conditions was evaluated as excellent.	<i>Highly Relevant</i>
Interchangeable Lenses	This factor gave a great freedom in a way of creating original cinematic look, according to actual wishes of filmmakers. Nevertheless, some of my participants have problems in dusty environment, where the process of lens-changing could have endangered the camera-sensor, and for some of my participant the process of lens-changing represented rather a drawback due to which an important shot might have been missed.	<i>Trade off</i>
Mobility	Thanks to the small dimension of DSLR cameras, filmmakers are able to shoot in hardly-accessible areas or places with limited space to camera-operating. It was appreciated especially by filmmakers who were limited in terms of logistic or number of crewmembers.	<i>Highly Relevant</i>
Unusual Angles	For some of my participants, the fact that DSLRs allow operating in tiny space was important part of their film aesthetics.	<i>Relevant</i>
Intimacy	Most of my participants reported that dimension of DSLRs helped them with more intimate relationship between camera operators and protagonists.	<i>Highly Relevant</i>

Being Perceived as a Still Photographer	Some of my participants also noted that mistaking film-camera operator for still photographer might have also played role in their filmmaking. This factor often helped with accessing restricted areas and led to different kind of protagonists' behaviour.	Highly Relevant
Simplicity	The fact that DSLR shooting workflow is simpler than other shooting workflows was also confirmed by many of my participants. It has been concluded that filmmakers have a great freedom to customise their workflow according to their needs.	Highly Relevant
Cons		
Issues with Sound Recording	My participants confirmed that DSLR shooting workflow demands dual system of audio recording, therefore, is not suitable for filmmakers unfamiliar with this system or those limited with budget and/or number of crewmembers.	Highly Relevant
Camera-Handling and Controlling	This aspect, which is broadly considered as a great drawback of DSLRs, was not confirmed by majority of my participants. Almost none of them were using any additional tools for ergonomics-improvement in order not to lose other advantages of DSLR for their filmmaking (such as intimacy, mobility etc.).	Trade off
Absence of Autofocus	Nor this factor was considered highly relevant as most of my participants used manual-focusing. Nevertheless, some of them would prefer to have auto-focus function for at least part of their work and several of them noted it was very hard to verify the quality of focus on internal DSLRs' displays.	Relevant
Rolling Shutter	Most of my participants regarded rolling shutter as a	Highly

	serious drawback limiting both final editing and way of shooting.	<i>Relevant</i>
Aliasing and Banding	None of my participants was experiencing limiting issues with aliasing or banding. It has been concluded that documentary and ethnographic films have their own aesthetic in which these kinds of imperfection might be tolerated. Unlike rolling shutter, it did not influence the process of shooting.	<i>Not Relevant</i>
Sensor Over-Heating	Sensor over-heating, especially for those who were shooting in hot conditions and/or were supposed to take long shots (such as performances or interviews) was considered as one of the most serious drawbacks of DSLRs.	<i>Highly Relevant</i>
Time Limit	The legislative-based time limit issue also represented a minor drawback for filmmakers who were supposed to shoot long shots without a pause (such as performances or interviews).	<i>Relevant</i>

6 Discussion : Overall Evaluation and Future of the DSLR in Documentary and Ethnographic Filmmaking

In this chapter, I will evaluate DSLRs' overall performance and I will shortly discuss the potential future involvement of DSLRs in the genres of documentary and ethnographic filmmaking on the basis of both testimonies of my participants and trends in shooting-technique development.

When I was asking my participants for overall evaluation of DSLRs in their process of filmmaking, I have got very different kinds of answers. Some of my participants were simply impressed by DSLRs' strengths and they considered them as game-changing tool in filmmaking. Aleš Suk, for instance, told me: *“For me the DSLR is generally a great step forward [...] I love the discreet feel, the possibility to capture both pictures and videos and the look of the image.”* To questions whether he would recommend using DSLRs to other filmmakers or whether he would use it for his another project, he replied without hesitation he definitely would.

Nevertheless, there were those filmmakers who were not impressed at all. Jana Panáková stated: *“I can imagine using DSLR for some web projects, but for my kind of filmmaking I would definitely choose different kind of technique [...] The worst thing was the issue with ergonomics. Due to these problems, I didn't feel free and so I couldn't really appreciated the pros of the camera.”*

Most of my participants would belong neither to a group of DSLRs fans, nor to group of sceptics; they pragmatically consider DSLR as an opportunity which, at that point, suited well for their project. Adran Abramjan, for example, claimed it would always depend on current context. For projects, where intimacy or unpretentiousness is demanded, the DSLR camera is a great choice. But one always needs to consider their drawbacks and spend time with decision-making. As Marcell Gerő summed up, *“different productions require different gear,”* adding that *“DSLR is not the best choice for every situation. In our case it was.”* In short, there is no such thing as an ideal, universally-usable camera. The camera choice will always be a result of negotiation in which many factors (such as film budget, number of crew-members, shooting conditions, target audience etc.) must be taken into account.

I also asked my participants about their opinion on future involvement of DSLR in documentary and ethnographic filmmaking. Though my participants are not market analytics, they represent a sample of DSLR-video users and, therefore, their opinions give us an interesting insight into the question of DSLRs' future.

Radovan Síbrt, who worked with various types of video and film cameras, not-excluding high-end products (such as Arri Alexa), told me that for the time around 2011, DSLRs were miraculous for their price and they could have saved up lots of money to many film productions. *“Today, however, the situation is different. Canon C100, for example, costs approximately the same as Canon 5D. So, why would anyone spend money for a still photo camera if one can have a good film camera with ways better compression than a camera for stills?”* said Radovan.

In actual fact, there is a current on-going discussion about involving DSLR for video shooting in the future among market analysts. Very recently, a report about the expected development of shooting technique has been released. It has been noted that *“the industry is currently at a turning point, with DSLRs in Europe expected to account for merely 4% of sales within the professional video market [...] by 2019.”* (while in 2013 it was 31%) (cf. Price 2014, Chart 6).

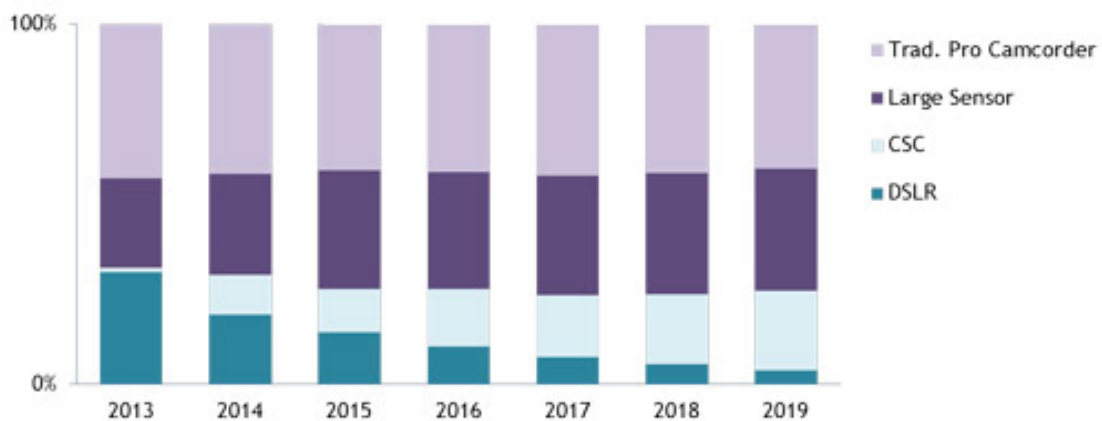


Chart 6 – Prediction of the development of the market with professional shooting technique (according to Price 2014)

Nicky Price, the analyst who conducted this prediction, reasoned his conclusions as follows: “*We are currently witnessing a significant shift in dynamics, with DSLRs falling out of favour with the professional video producers [...] End users are turning to more affordable CSCs as well as turning back to professional camcorders.*”⁴²

Though I am not a market specialist either, I will make a guess concerning involvement of DSLRs in the focused genres. I will bring up three main arguments for which I think we can expect some continuity in using DSLRs in genres of documentary and ethnographic filmmaking.

When I was doing my preliminary research, I have noticed that for documentary or ethnographic films, there is a significant trend to use rather *available* technology than to use the *newest* technology. For instance, in 2012/2013 there were only three films shot on DSLR, which were screened in Antropofest, despite of the fact that it might have been the most suitable shooting gear for ethnographic filmmakers in that time. But for genre of ethnographic film (and very similarly in documentary), there is a significant *inertia* in using shooting technology, i.e. to use disposable equipment which can be provided by departments or production companies. As far as I can guess, this inertia will be continuing in case of DSLRs as well. Anthropological departments or production companies have been equipped with several DSLRs which have proven their suitability for both ethnographic and documentary filmmaking. Thus, we can assume that DSLR gear will be used in these genres for several more years before another suitable (and affordable) technique will appear.

There is another argument for my assumption: the prediction of decline of DSLRs’ involvement was also rationalised as results of the fact that “[e]nd users are reportedly increasingly frustrated with limitations in functionality of DSLRs.” (Price

⁴² It should be added, however, that whether DSLR video is really dying out actually depends on how we define the term DSLR video. *DSLR* is no longer precise a term for referring to *still photo cameras with video capacity*. In fact, some of my participants anticipated that video made by still photo camera will have continuity, but under the umbrella of *different technology* and/or domination of a *different manufacturers*. Radovan Sibrť, Adran Abramjan and Aleš Suk have recently shot with Sony A7 models (i.e. full-frame *mirrorless camera*) and all of them were impressed by their image quality. Aleš Suk indicated that this model is a symbolic evident, that video taken by still photo cameras is by no means dying out. Nevertheless, models using these technologies are not exactly *DSLRs* (though they are commonly called so). Simply put, they are no longer digital single-lens *reflex*, as they lack the mirror. Thus, the analysis does not say that filmmakers will stop using still photo cameras for video works. It does say that a gradual shift from *DSLR* to *mirrorless camera (MILC)* might be anticipated.

2014). This is very questionable matter for these genres of film. For instance, one of the reason for which ambitious filmmakers move from DSLRs to other kind of cameras (such as Blackmagic Pocket Cinema series) is their lack of shooting-RAW capability.⁴³ Nevertheless, do ethnographic and documentary filmmakers need to work with 16bit RAW files? Would they really welcome the amount of external hard drives for storing about 19 GBs for each minute of their footage? Similar questions appear in the discussion about increasing resolution (*Do documentarists really need 4K or more in the field?*), lacking ergonomics (*Do not DSLRs bring advantages with their specific ways of handling and controlling?*), time limits (*Do I really need to have one take longer than 30 minutes without a cut?*) and so forth. Simply put, the focused genres have their own limits (or rather *rules of thumbs*) within which they have to operate. The fact, that better cameras for feature-filmmaking have been developed does not automatically say that they are also better cameras for documentary and ethnographic filmmaking. Development of shooting technique might have already exceeded what is required for good documentary and ethnographic films.

The last argument for my assumption takes into account some aspects of DSLRs which have been uncovered by my research: there are factors by which no recently developed camera is possessed apart from DSLRs. For example, the mentioned aspect of *intimacy*, enforced by the fact that a camera-operator might be mistaken for still photographer, is hardly manageable by other kinds of cameras. This is something very unique and only documentary and ethnographic filmmakers might really appreciate this fact.

Thus, I guess the cameras a priori designed for still photos will be appreciated by filmmakers for several more years. No matter whether it will be *actual* DSLR or *mirrorless camera (MILC)*, their technological successors, or some other newer technology.

⁴³ The question RAW is actually little complicated, because most of the Canon DSLRs hacked by Magic Lantern are able of shooting RAW, most of the newer DSLRs with HDMI output can shoot RAW with an external recorder and, moreover, it is anticipated that for upcoming DSLRs (such as 5Ds or 5DR), the RAW recording will be the standard.

7 Conclusion: DSLR Revolution – New Technology in the World of New Media

“As someone who spends a lot of time talking to everyone from very experienced Hollywood DPs to those keen enthusiasts, I am amazed at just how excited people are by these cameras. This truly is the democratising of filmmaking. Now that high-quality gear is in reach of everyone, it really does come down to the talent behind the camera.”

Philip Bloom, a guru of DSLR filmmaking

(Lancaster 2011:409)

Turning back to the research questions defined in the introduction, I have touched every one which I have set out so far, apart from the last one: *“What role do the online communities of filmmakers and the principles of New Media communication play in shaping the DSLR revolution?”* Though the answer to this question is scattered around the all thesis, I decided to dedicate a special care for this matter in this closing chapter. This chapter is a symbolic seal connecting the world of technique with the world of people, and it gives us the answer to the question why we should deal with the phenomenon of DSLR revolution not just as a technical issue but also as a societal phenomenon.

While the thesis was being written, Canon announced 110-millionth produced lens (cf. Burgett 2015). And these are just lenses made by one manufacturer among many. DSLRs are trendy, this is certain. And as basically all DSLR cameras manufactured after 2010 are equipped with video-capturing function, we are talking about massive potential of involvement DSLRs’ for video-making and film-making.

When I was delivering the quantitative questionnaire to my participant Aleš Suk, he immediately remarked: *“Wow! Philip Bloom on the cover page!”* Philip Bloom, who was many times mentioned throughout the thesis, is not just a man who was playing with DSLRs without being noticed. His YouTube channel has got about

90,000 subscribers and about 7,3 million views⁴⁴ (in both metrics, it is about three times more than YouTube channel of David Beckham). He is a real *celebrity* in this field. And we do not usually talk about celebrities if the field of his/her interest is a marginal amusement for a dozen of people. DSLR filmmaking and video-making is, indeed, a popular hobby widely spread around the world.

The revolution, which started as a matter of sheer coincidences, was greatly boosted by online communities of people, communicating on the principles of New Media communication, i.e. the revolutionary information was available for anyone in real time and anyone could contribute to develop the revolution further (cf. Digital Delevirence 2004). As a result of effort of people, who tirelessly shared their knowledge about DSLR filmmaking, that is who were developing firmware hacks or who suggested *DIY* solutions for complicated and expensive filmmakers' tasks, the trend, which Lancaster mentioned as "*democratisation of cinema look*," started growing.

The real revolution does not lie in the particular technical, aesthetical and other advantages which have been described in this thesis. It has been shown that these kinds of advantages might be regarded as pros as well as cons, always depending on the context of a particular film project. What does matter, however, and what does set DSLRs apart from other shooting technique, is their contribution to the *democratisation of cinema look*. With appearance of DSLRs, cinematic look has stopped being restricted to elites with unlimited budget. Jean-Denis Galvan, a reader of Cinema5D.com reacted to the prediction that DSLRs' involvement in filmmaking will almost dye out by 2019 (discussed in the previous chapter) as follows:

"To me, the real DSLR revolution was in the huge jump in IQ into this range's price. At this time, outside ARRI and RED, (with only S35 sensors and not full frame) and in the semi-pro budget range, there was really nothing available. [...] It's very strange to consider the potentiality of the 5D MkII even today. I can shoot RAW near 1080p with [Magic Lantern] and there's no pro/semi-pro camera that enable that (out of the box, I mean) in the same price range." (Leitner 2015)

If we are talking about *revolution*, we should specify that it is a *revolution from below*. At the beginning, there was an invention with a great potential, but had

⁴⁴ Last accessed July, 28 2015.

there not been people keen on developing this potential (DSLR populariser, firmware hackers, DIY advisers etc.), there would be no DSLR revolution, no DSLR filmmaking and no documentary or ethnographic films which have been subjected in this thesis. DSLR revolution did not appear as a deeply-thought move of camera manufacturers. It was the work of people who sacrificed their free time in order to *democratise* cinematic look to anyone. And it was the online world which boosted the revolution up and spread it around the world.

This trend of democratisation of cinematic look has not stopped yet. On the contrary, as a symbolic peak of this democratisation, there is an interesting project called AXIOM camera. It is an open hardware and free software digital cinema camera which can be seen as a symbolic seal of contest with manufacturers dictated the prices for all film industry as well as symbolic height of filmmakers' freedom (see AXIOM [camera] 2014). This project is a loose sequel of the same revolution, which has begun with DSLRs.

In the thesis, I have been dealing with the difference between video-look and cinema-look. I dare say that the time when one will be undistinguishable from another is fast approaching. For example, Full HD resolution was just five years back an attribute of high-end professional video equipment. Today, it is a standard for cell-phones which people have in their pockets. 4K resolution was then considered as factor distinguishing cinema production from the rest of the motion-pictures industry. Today, however, cameras smaller than pack of cigarettes are able of capturing in 4K and one can watch 4K videos from YouTube on his/her UHD television. This is by no means a consequence of DSLR revolution. It is simply a result of technical development. Nevertheless, this does not imply the end of the cinema look or, so to speak, the end of film as such. As Lancaster (2011:415) noted, "*someone shooting on a RED Scarlet, for example, can shoot a project that doesn't look that good, whereas someone shooting on a standard HD camera can get a cinema look if he knows what he's doing. The resolution doesn't create a cinematic look; the cinematographer's eye does that.*"

Simply put, in near future, the cinema look will be less and less dependent on involved shooting-technique, as tools with truly cinematic image will soon become

available for tiny fraction of the former price. Though in some years, the DSLRs will probably be overcome and the role of DSLR revolution in democratisation of cinema look will be forgotten, it was *the* revolution with which *it all started*.

The story of DSLR revolution is a story about how technology can be developed in today's world, where a new technology does not necessarily mean predetermined givenness, but where an opportunity can be pushed forward to create new horizons. This story is telling us, that everyone can take a part in *a revolution*.

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Fig. 3 – Performing in low-light conditions – *Solar Eclipse* (2011) (dir. by Martin Mareček)

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Fig. 4 – Shooting in restricted areas – *Reconnaissance* (2012) (dir. by Johann Lurf)

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Fig. 5 – Shooting in restricted areas – *To Rule, To Work, To Earn, To Pray, To Collapse* (2013))

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Fig. 6 – A DSLR with a mounted external microphone

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Fig. 7 – An illustration of additional tools for ergonomics improvement

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Fig. 8 – An illustration of additional tools for ergonomics improvement

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Fig. 9 – An illustration of additional tools for ergonomics improvement

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Fig. 10 – Rolling shutter artifact

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Fig. 11 – Rolling shutter artifact

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Fig. 12 – Moiré patterns

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Fig. 13 – Banding

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9 Appendix

9.1 Preliminary Research – Involvement of DSLRs in the Films screened at IDFF Jihlava and Antropofest between 2011–2014

Film Title	Contact Name	Contact Festival	Year Of screening	DSLR involved
Arranged love	Sarah Bregy	Antropofest	2011	No
Bárisej	Kriszta Bodis	Antropofest	2011	No
Bunong Guu Oh/Bunong's birth practices	Tommi Mendel	Antropofest	2011	No
Chokora – surviving on the streets	Lea Furrer	Antropofest	2011	No
Friends	Frode Storaas	Antropofest	2011	No
Holuboje	Martin Šmoldas	Antropofest	2011	No
Ping gang	Enrico Bisi	Antropofest	2011	No
Turistou ve vlastním domě	Jaroslava Bagdasarová	Antropofest	2011	No
Blinding	Steve Sanguedolce	IFDF Jihlava	2011	No
Spectres	Sven Augustijnen	IFDF Jihlava	2011	No
The Castle	Martina Parenti	IFDF Jihlava	2011	No
A Cell Phone Movie	Nedžad Begovic	IFDF Jihlava	2011	No
Empire Me	Paul Poet	IFDF Jihlava	2011	No
Generation Singles	Jana Počtová	IFDF Jihlava	2011	No
Into Oblivion	Šimon Špidla	IFDF Jihlava	2011	No
A Catapult of Fate	Jan Gogola ml.	IFDF Jihlava	2011	No
The Making Of	Jan Foukal	IFDF Jihlava	2011	No
On the Outside	Veronika Sobková	IFDF Jihlava	2011	No
Race to the Bottom	Vít Janeček	IFDF Jihlava	2011	No
Grow	Johan Rijpma	IFDF Jihlava	2011	No
EM and HE	Vladimír Michálek	IFDF Jihlava	2011	No
Awareness	Marek Matvija	IFDF Jihlava	2011	No
Eden's Ark	Marcelo Felix	IFDF Jihlava	2011	Partly
Evolution of Violence	Fritz Ofner	IFDF Jihlava	2011	Partly
31 Endings/31 Beginnings	Rafani	IFDF Jihlava	2011	Partly
Paroubek With a Thousand Faces	Jan Látal	IFDF Jihlava	2011	Partly
I Can See You in Words that I Cannot See	Hana Nováková	IFDF Jihlava	2011	Partly
Meet me in memoriam	Alina Trebbin	Antropofest	2012	Yes
Kultura daru	Lukasz Kaminski	Antropofest	2012	No
Our ground	Hana Synková	Antropofest	2012	No
Shooting Freetown	Kieran Hanson	Antropofest	2012	No

Tender kisses are hard to find	Ines Ponte	Antropofest	2012	No
Tumenge	Milan Durnak	Antropofest	2012	No
What keeps them going	What keeps them going	Antropofest	2012	No
Toward Nowa Huta	Dariusz Kowalski	IFDF Jihlava	2012	Yes
Fortress	Klára Tasovská	IFDF Jihlava	2012	Yes
Kuichisan	Maiko Endo	IFDF Jihlava	2012	No
The Sound of Old Rooms	Sandeep Ray	IFDF Jihlava	2012	No
1+8	Brudniak Angelika	IFDF Jihlava	2012	No
New Life of Family Album	Adam Ol'ha	IFDF Jihlava	2012	No
Citizen K.	Michal Dvořák	IFDF Jihlava	2012	No
Shoot Don't Shoot	William E. Jones	IFDF Jihlava	2012	No
Village, Silenced	Deborah Stratman	IFDF Jihlava	2012	No
161>88	ANTIFA	IFDF Jihlava	2012	No
Four Horsemen	Ross Ashcroft	IFDF Jihlava	2012	No
In Dog's Name	Martin Dušek	IFDF Jihlava	2012	No
The Time We Have	Mira Jargil	IFDF Jihlava	2012	No
Missing Parts	Alfredo Covelli	IFDF Jihlava	2012	No
Kinoki	Léa Favier	IFDF Jihlava	2012	No
Postcard from Somova, Romania	Andreas Horvath	IFDF Jihlava	2012	No
Last Portrait	David Varela	IFDF Jihlava	2012	No
Dusty Night	Ali Hazara	IFDF Jihlava	2012	No
Mothers	Linda Jablonská	IFDF Jihlava	2012	No
The End of Time	Peter Mettler	IFDF Jihlava	2012	Partly
The Brussels Business	Friedrich Moser	IFDF Jihlava	2012	Partly
Vana – The Biggest Race Is the Life Itself	Jakub Wagner	IFDF Jihlava	2012	Partly
The Girl from the South	José Luis García	IFDF Jihlava	2012	Partly
Traces	Agáta Foukalová	IFDF Jihlava	2012	Partly
Espectadores	Fedor Ikelaar	Antropofest	2013	Yes
Creation and chanting of lik yaat	Satoru Ito	Antropofest	2013	No
Funeral season	Mathew Lancit	Antropofest	2013	No
Hanyky o kracaváčku a devlíčkovi	René Starhon & Kristýna Fendrychová	Antropofest	2013	No
It is better in the Bahamas	Anrew Turley	Antropofest	2013	No
Krev a pýcha	Petr Kotrla	Antropofest	2013	No
Looking at themselves: Babaluda Iuda	Mihai Andrei Leha	Antropofest	2013	No
Motyky a Skype	Motyky a Skype	Antropofest	2013	No
The nightmare of a belief	Kateřina Bubeníčková	Antropofest	2013	No
Tradiční znalost Asheniku	Pavel Borecký	Antropofest	2013	No
Watching last judgment	Milan Durnak	Antropofest	2013	No

The yayas de l'elegance	Maria José Pavlovic	Antropofest	2013	Partly
Misericordia: The Last Mystery of Kristo Vampiro	Khavn De La Cruz	IFDF Jihlava	2013	Yes
Crop	Johanna Domke	IFDF Jihlava	2013	Yes
Not My Land	Aljona Surzhikova	IFDF Jihlava	2013	Yes
The Waiting Point	Maša Drndić	IFDF Jihlava	2013	Yes
Winter / Miracle	Gustavo Beck	IFDF Jihlava	2013	Yes
Byeway	Ivo Bystřičan	IFDF Jihlava	2013	Yes
Show!	Bohdan Bláhovec	IFDF Jihlava	2013	Yes
The Great Night	Petr Hátle	IFDF Jihlava	2013	Yes
Reconnaissance	Johann Lurf	IFDF Jihlava	2013	Yes
Different as Night and Day	Peter Dudar	IFDF Jihlava	2013	Yes
V.I.P. / Vietnamese Important People	Lukáš Kokeš	IFDF Jihlava	2013	Yes
Gottland	6 authors	IFDF Jihlava	2013	Yes
Amdo After Harvest	Adam Ruszkowski	IFDF Jihlava	2013	Yes
Rogalik	Pawel Ziemilski	IFDF Jihlava	2013	Yes
Fulmaya, the Girl with Skinny Legs	Vendula Bradáčová	IFDF Jihlava	2013	Yes
Coast of Death	Lois Patiño	IFDF Jihlava	2013	No
Touch	Shelly Silver	IFDF Jihlava	2013	No
Same River Twice	Amir Borenstein	IFDF Jihlava	2013	No
The Uprising	Peter Snowdon	IFDF Jihlava	2013	No
Thawathosamat	Punlop Horharin	IFDF Jihlava	2013	No
The 727 Days Without Karamo	Anja Salomonowitz	IFDF Jihlava	2013	No
Normalization	Robert Kirchhoff	IFDF Jihlava	2013	No
Lecedra	Jivko Darakchiev	IFDF Jihlava	2013	No
DK	Bára Kopecká	IFDF Jihlava	2013	No
Mythmaking	Jan Gogola	IFDF Jihlava	2013	No
White-Black Film	Vladimír Turner	IFDF Jihlava	2013	No
45 7 Broadway	Tomonari Nishikawa	IFDF Jihlava	2013	No
I Was Here	Philippe Léonard	IFDF Jihlava	2013	No
Rear Window Timelapse	Jeff Desom	IFDF Jihlava	2013	No
Pastoral	JB Mabe	IFDF Jihlava	2013	No
Song	Nathaniel Dorsky	IFDF Jihlava	2013	No
Exterior Extended	Siegfried Alexander Fruhauf	IFDF Jihlava	2013	No
The Sight	Jeremy Moss	IFDF Jihlava	2013	No
Warped Ján	Petr Šprincl	IFDF Jihlava	2013	No
Flying image, live	Martin Blažíček	IFDF Jihlava	2013	No
Redemption	Miguel Gomes	IFDF Jihlava	2013	No
Public Hearing	James N. Kienitz Wilkins	IFDF Jihlava	2013	No

House of Cards	Jan Reinisch	IFDF Jihlava	2013	No
The Analogs	Martin Dušek	IFDF Jihlava	2013	No
Nestlings 2	Kamila Zlatušková	IFDF Jihlava	2013	No
Searching for Bill	Jonas Poher Rasmussen	IFDF Jihlava	2013	No
Triangular Stories	Henrike Naumann	IFDF Jihlava	2013	No
The Creation As We Saw It	Ben Rivers	IFDF Jihlava	2013	No
Love with the Scent of Fir	Karel Koula	IFDF Jihlava	2013	No
Liebe Indigo	Saša Dlouhý	IFDF Jihlava	2013	No
Our Waszek. On the Power of the Powerless	Krystyna Krauze	IFDF Jihlava	2013	No
Returns of Agnieszka H.	Krystyna Krauze	IFDF Jihlava	2013	No
Life with Jester	Helena Třeštíková	IFDF Jihlava	2013	No
Time Goes by Like a Roaring Lion	Philipp Hartmann	IFDF Jihlava	2013	Partly
Eugenic Minds	Pavel Štingl	IFDF Jihlava	2013	Partly
Future My Love	Maja Borg	IFDF Jihlava	2013	Partly
Pandora's Promise	Robert Stone	IFDF Jihlava	2013	Partly
Our Bodies Guard the Sea	Adéla Sobotková	IFDF Jihlava	2013	Partly
Lukas The Strange	John Torres	IFDF Jihlava	2013	Partly
Bomb Patrol Afghanistan	Michael Haertlein	IFDF Jihlava	2013	Partly
Beatle Jew	Szarfer Federico	IFDF Jihlava	2013	Partly
Benghazi Stories	Omar Bushiha	IFDF Jihlava	2013	Partly
Behing the wheel	Elise Laker	Antropofest	2014	No
Noise that brings money	Konrad Pilot	Antropofest	2014	No
On the common ground	Sophie Wagner	Antropofest	2014	No
Our missionaries	Martin Gruber	Antropofest	2014	No
Out into the world with cheese	Ramona Sonderegger	Antropofest	2014	No
The high Cybercafé	Tanel Saimre	Antropofest	2014	No
Tigether as one	Lamtur Tanlaka Kilian	Antropofest	2014	No
Toku Fenua	Martin Zinggl	Antropofest	2014	No
Žlutý dům	Lubomír Lupták	Antropofest	2014	No
Euromaidan. Rough Cut	11 authors	IFDF Jihlava	2014	Yes
Cain's Children	Marcell Gerö	IFDF Jihlava	2014	Yes
Evaporating Borders	Iva Radivojevic	IFDF Jihlava	2014	Yes
The Serbian Lawyer	Aleksandr Nikolic	IFDF Jihlava	2014	Yes
My Home	Jiří Stejskal	IFDF Jihlava	2014	Yes
Long Live Hunting!	Jaroslav Kratochvíl	IFDF Jihlava	2014	Yes
Mat Goc	Dužan Duong	IFDF Jihlava	2014	Yes
Active Image O	Becky James	IFDF Jihlava	2014	Yes
Callisto	Youjin Moon	IFDF Jihlava	2014	Yes
Unknown Tale	Sanchirchimeg Vanchinjav	IFDF Jihlava	2014	Yes

The Weight of Snow	Daniel McIntyre	IFDF Jihlava	2014	Yes
Arguments	Andran Abramjan	IFDF Jihlava	2014	Yes
The Limits of Europe	El Parvulesco	IFDF Jihlava	2014	Yes
Final Draft	Scott Calonice	IFDF Jihlava	2014	Yes
The Rising	Nick Jordan	IFDF Jihlava	2014	Yes
The Lenght	Iván Torres Hdez	IFDF Jihlava	2014	Yes
If Adolf Hitler Lived There Would Be No Rights for Gypsies	Apolena Rychlíková	IFDF Jihlava	2014	Yes
Haunted	Liwaa Yazji	IFDF Jihlava	2014	Yes
Na knížecí	Taťána Rubášová	IFDF Jihlava	2014	Yes
The Bed is Broken	Raluca Racean Gorgos	IFDF Jihlava	2014	Yes
The Quest of the Schooner Creoula	Andre Valentim Almeida	IFDF Jihlava	2014	Yes
Women in the Land of the Taliban	Lenka Klicperová	IFDF Jihlava	2014	Yes
Buenos Aires Free Party	Homero Cirelli	IFDF Jihlava	2014	No
Letters to Max	Eric Baudelaire	IFDF Jihlava	2014	No
Chasing after Wind	Juan Camilo Olmos Feris	IFDF Jihlava	2014	No
The lake	Shin'ichi Miyakawa	IFDF Jihlava	2014	No
Ming of Harlem: Twenty One Storyes in the Air	Phillip Warnell	IFDF Jihlava	2014	No
The Beijing Ants	Ryuji Otsuka	IFDF Jihlava	2014	No
6 Degrees	Bartosz Dombrowski	IFDF Jihlava	2014	No
The Chimney	Laila Pakalnina	IFDF Jihlava	2014	No
The Forest	Sniša Dragin	IFDF Jihlava	2014	No
In the Basement	Ulrich Seidl	IFDF Jihlava	2014	No
The Gospel According to Brabenec	Miroslav Janek	IFDF Jihlava	2014	No
Into the Clouds We Gaze	Martin Dušek	IFDF Jihlava	2014	No
Pawel Wonka Commits to Cooperate	Libuše Rudinská	IFDF Jihlava	2014	No
Aula Magna (16 mm)	Andrés Denegri	IFDF Jihlava	2014	No
The Civilization Desire	Natalia Piñuel	IFDF Jihlava	2014	No
Red Capriccio	Blake Williams	IFDF Jihlava	2014	No
Two Points of Failure	Michael Moshe Dahan	IFDF Jihlava	2014	No
Fascinating Moments	Yoshiki Nishimura	IFDF Jihlava	2014	No
Ginza Strip	Richard Tuohy	IFDF Jihlava	2014	No
Jupiter Lolopop	Charlotte Dunker	IFDF Jihlava	2014	No
Lunar Almanac	Malena Szlam Salazar	IFDF Jihlava	2014	No
Our Hands Are Empty	SJ Ramir	IFDF Jihlava	2014	No
Beep	Kyungman Kim	IFDF Jihlava	2014	No
Field	Yi Myun	IFDF Jihlava	2014	No
Frame Walk	Hayoung Jeon	IFDF Jihlava	2014	No

Seventh Submarine	Allan Brown	IFDF Jihlava	2014	No
Study of Synchrony	Patrick Bergeron	IFDF Jihlava	2014	No
Dark Matter	Karel Doing	IFDF Jihlava	2014	No
Trento Symphonia	Flatform	IFDF Jihlava	2014	No
Cut Out	Guli Silberstein	IFDF Jihlava	2014	No
Intimate Distance	Steffen Köhn	IFDF Jihlava	2014	No
Short Film about Life	Laila Pakalnina	IFDF Jihlava	2014	No
Laborat	Guillaume Cailleau	IFDF Jihlava	2014	No
Fading	Alina Cyranek	IFDF Jihlava	2014	No
Backstage Revolution	Petra Ševců	IFDF Jihlava	2014	No
Happy Together	Saša Dlouhý	IFDF Jihlava	2014	No
The Magic Voice of a Rebel	Olga Sommerová	IFDF Jihlava	2014	No
Fathers and Sons	Bing Wang	IFDF Jihlava	2014	No
Downeast	David Redmon	IFDF Jihlava	2014	No
On the Art of War	Silvia Luzi	IFDF Jihlava	2014	No
Beyond Icebergerland	Xavier Christiaens	IFDF Jihlava	2014	No
The Reunion	Anna Odell	IFDF Jihlava	2014	No
True Love Child	Pavla Sobotová	IFDF Jihlava	2014	No
Love Dialogues Part. 3	Pavla Sobotová	IFDF Jihlava	2014	No
Kremličkárna – Summer with poet Vít Kremlička	Michal Böhm	IFDF Jihlava	2014	No
Grumbling: More Than Skin Deep	Jakub Skalický	IFDF Jihlava	2014	No
Stories of Uncommon Energy: The Miracles of Emílie S.	Tereza Engelová	IFDF Jihlava	2014	No
I Am the People	Anna Rousillon	IFDF Jihlava	2014	Partly
Aged	Philip Hoffman	IFDF Jihlava	2014	Partly
Water to Tabato	Paulo Carneiro	IFDF Jihlava	2014	Partly
A Last Year in 114 Minutes	Daniel Nicolae Djamo	IFDF Jihlava	2014	Partly
Gottland	4 authors	IFDF Jihlava	2014	Partly
5 – 9	Ulf Lundin	IFDF Jihlava	2014	Partly
A.D.A.M	Vladislav Knežević	IFDF Jihlava	2014	Partly
Digital Landscaping	Sagsok Ko	IFDF Jihlava	2014	Partly
Model Village	Hayoun Kwon	IFDF Jihlava	2014	Partly
Trabant vs. South America	Dan Přibáň	IFDF Jihlava	2014	Partly
Striplife	Nicola Grignani	IFDF Jihlava	2014	Partly

9.2 My Participants – Overview

9.2.1 Adran Abramjan: *To Rule, to Work, to Earn, to Pray, to Collapse*

Name of the film:	To Rule, to Work, to Earn, to Pray, to Collapse <i>[Vládnout, pracovat, vydělávat, modlit se, hroutit se]</i>
Year of completion:	2013
Director(s):	Adran Abramjan
Producer(s):	Film And TV School Of Academy Of Performing Arts In Prague
Camera operator(s):	Adran Abramjan
Involvement of DSLR:	99% (just one take is shot with a camcorder)
Synopsis:	According to the leading Czech Egyptologist, professor Miroslav Barta, more and more signs of the impending collapse of our society are coming. On the background of his reflections we watch documentary short stories that ask whether these signs are so ubiquitous that they pervade the society even in the insignificant moments of everyday life.
More information:	http://dafilms.com/film/9023-vladnout-pracovat-vydelavat-modlit-se-hroutit-se/

9.2.2 *Konstantina Bousmpoura: Working Dancers*

Name of the film:	Working Dancers
Year of completion:	2014
Director(s):	Konstantina Bousmpoura, Julia M. Heimann
Producer(s):	Konstantina Bousmpoura, Julia M. Heimann
Camera operator(s):	Jose Maria Gomez
Involvement of DSLR:	80% (alternated with video camera)
Synopsis:	Working Dancers is an Argentinian-Greek feature documentary about dance. Pigu Gomez the Argentinian Director of Photography is in Athens, working with one of the directors Konstantina Bousmpoura, the Color correction and the post production of the image of the documentary Working Dancers at the post – house Authorwave. Julia Heimann, the second director, is following the process by Internet from Buenos Aires. The feature documentary Working Dancers is a co-production between Argentine and Greece, another co-production of Bad Crowd.
More information:	http://www.badcrowd.eu/

9.2.3 Marcell Gerő: *Cain's Children*

Name of the film:	Cain's Children <i>[Káin gyermekei]</i>
Year of completion:	2014
Director(s):	Marcell Gerő
Producer(s):	Sára László (HU), Jacques Bidou (FR), Marianne Dumoulin (FR)
Camera operator(s):	Rudolf Péter Kiss (HU), Zoltán Lovasi (HU)
Involvement of DSLR:	100%
Synopsis:	<p>In 1984, Pali, József and Zsolt, three boys convicted of homicide, were filmed in communist Hungary's most barbaric youth detention centre. Thirty years later, filmmaker Marcell Gerő decided to find out what had become of the plans they had made back then. His visits to Zsolt's mother and home village reveal the indignities he suffered as a child. He is now living in a psychiatric ward. József, or Gabesz as he is now known, was 14 when he stabbed a teacher in self-defense. Now he's a drifter and an absent father. Pali was 15 when he was sentenced to 13 years for shooting his father to death. Pali's mother was always telling him that he was no good, and now his young daughter Valéria gets the same treatment from her stepsisters and grandmother. In probing conversations with Pali, Gabesz and Zsolt – filmed in close-up – the director assesses the pitiful sum total of their failed lives, while also making a connection between where they grew up and where they ended up. The unobtrusive visual symbolism and sparingly used music add a poetic layer to the whole.</p>
More information:	http://www.dokweb.net/en/documentary-network/east-european-docs/-cain-s-children-5736/

9.2.4 Jari Kupiainen: Kastom Twelve – Rennell and Bellona Artists at the FOPA 2012

Name of the film:	Kastom Twelve – Rennell and Bellona Artists at the FOPA 2012
Year of completion:	2014
Director(s):	Jari Kupiainen
Producer(s):	Jari Kupiainen / Jape Films
Camera operator(s):	Jari Kupiainen, Barry Pugeva
Involvement of DSLR:	97% (alternated with mobile phone Nokia N9)
Synopsis:	<p>How do cultural traditions survive and evolve in the present? How does art and cultural identity connect? Kastom Twelve is a story of cultural continuities and the present state of a Polynesian cultural tradition. The film is documented at the Festival of Pacific Arts (FOPA) in Solomon Islands in 2012 and it focuses on the artists from Rennell and Bellona Islands. Rennell-Bellonese compose one per cent of the Solomon Islands population, yet their artists were ubiquitous at the FOPA 2012, and they also participated actively in the festival organization. Who are Rennell and Bellona Islanders and what kinds of traditions (kastom) do they have in 2012? Kastom Twelve documentary film is realised by cultural anthropologist Jari Kupiainen, and it is based on long-term anthropological research into the Rennell and Bellona culture.</p>
More information:	http://www.pkey.fi/viscult/2014/elokuva-kastom-twelve.php

9.2.5 *Johann Lurf: Reconnaissance*

Name of the film:	Reconnaissance
Year of completion:	2012
Director(s):	Johann Lurf
Producer(s):	Johann Lurf
Camera operator(s):	Johann Lurf
Involvement of DSLR:	
Synopsis:	<p>In silent shots, Lurf offers a clip-like depiction of the Morris Reservoir near the Californian city of Azusa huge reservoir, which long served as a testing site for torpedoes, or rather, underwater warfare. RECONNAISSANCE targets details of the terrain in a seemingly motionless way, to unfold a subtle play with light and movement within this framing. First is a stone wall on which the incidence of light begins to oscillate almost imperceptibly. Then come parts of the dam, ramp-like concrete colossi, obstructed sections of road, underground shafts; and also medium shots of the surroundings all sublimely alienated. One alienating effect is the partially abrupt, and partially barely perceptible change of light. The other, much more ghostly, is the sliding movement of individual areas of the landscape or the building.</p>
More information:	http://www.sixpackfilm.com/en/catalogue/show/2007

9.2.6 *Jana Panáková: 5 Lives, One Death*

Name of the film:	5 Lives, One Death [a tentative title] <i>[5 životů jedna smrt]</i>
Year of completion:	Planned 10/2015
Director(s):	Jana Panáková
Producer(s):	Jana Panáková
Camera operator(s):	Jana Panáková
Involvement of DSLR:	20% (alternated with 8mm, HDV, GoPro and other cameras; observational documentary being shot for 7 years).
Synopsis:	N/A
More information:	N/A

9.2.7 *Radovan Šíbrt: The Prison of Art*

Name of the film:	The Prison of Art <i>[Vězení umění]</i>
Year of completion:	2012
Director(s):	Radovan Šíbrt
Producer(s):	Vít Klusák and Filip Remunda (Hypermarket Film)
Camera operator(s):	György László, Lukáš Milota
Involvement of DSLR:	100%
Synopsis:	<p>“Most prisoners like boxes.” The constrained nature of prisons opens up an infinitude of fantasies and free artistic expression. Environment determines means of expression. A project of confrontation and dialogue with artists from the outside shows radical differences and a conspiratory divergence from social norms. This essay on imaginary and physical freedom introduces us to the extreme thoughts of our own boundaries and limitations.</p>
More information:	http://dafilms.com/film/8542-vezeni-umeni/

9.2.8 Jiří Stejskal: *My Home*

Name of the film:	My Home <i>[Jáma]</i>
Year of completion:	2014
Director(s):	Jiří Stejskal
Producer(s):	Nut production
Camera operator(s):	Jiří Stejskal
Involvement of DSLR:	25% (alternated with Sony Z1 and Panasonic PMW 200; observational documentary being shot for 5 years)
Synopsis:	This picturesque Ukrainian farm is not surrounded by fields, but by huge housing developments. Ominous cranes overlook Natasha's land at the edge of Kiev, which year after year is being pushed deeper into a pit by new panel buildings. The brave owner protects not only acres of land, but also traditional family values, faith and ownership. From a bird's-eye view of the farm, a sharp contrast emerges between the village and the city. This peculiar family business model is set forth in a four-year chronicle from the point of view of foreign visitors who don't interfere with the way of life that the family has lived for generations.
More information:	http://www.dokument-festival.com/database/movie/17482%7CJama

9.2.9 Aleš Suk: Marija's Own

Name of the film:	Marija's Own <i>[Marijine]</i>
Year of completion:	2011
Director(s):	Željka Sukova
Producer(s):	Aleš Suk
Camera operator(s):	Aleš Suk
Involvement of DSLR:	95% (alternated with 8mm film)
Synopsis:	<p>A typical cross-section of bigoted neighbours in an ordinary apartment building are invited to an intimate party to honour the memory of the late Marija Violić, a fellow tenant, friend and grandmother. Instead of descending into sentimental cliché, the party soon evolves into a reality show, complete with all-singing, all-dancing interludes. The venue for this unique gathering is Marija's apartment and the music is provided by the hired musicians - a bunch of complete unknowns as far as the guests are concerned but in real life, the hugely popular Czech dance electro-trash band Midi lidi. And the purpose of this unique get-together? To finally fulfil a long overdue family obligation to the late, great, dearly departed Marija.</p>
More information:	http://www.dokweb.net/en/documentary-network/east-european-docs/-marija-s-own-5043/

9.2.10 Liwaa Yazji: *Haunted*

Name of the film:	Haunted
Year of completion:	2014
Director(s):	Liwaa Yazji
Producer(s):	Liwaa Yazji, Heinrich Boell Stiftung Fund
Camera operator(s):	Talal Khoury- Jude Gorany- Liwaa Yazji and others
Involvement of DSLR:	50% (alternated with camcorders and iPhone)
Synopsis:	The civil war in Syria has thrown the counties inhabitants into a state of permanent insecurity. The film's nine protagonists must remain in a constant state of alert in case they are unexpectedly forced to leave their homes. Destruction and the rootlessness of the characters are emphasized by deliberately imperfect shots taken with a hand-held camera or through grainy images from Skype conversations.
More information:	http://www.dokument-festival.com/database/movie/17490%7CMaskoon

9.3 Qualitative Questionnaire For Documentary And Ethnographic Filmmakers

DSLR documentary

Using DSLR in documentary and ethnographic filmmaking



Qualitative questionnaire for documentary and ethnographic filmmakers

What should you know before you start?

1. First of all, **thank you for your time**. I know that filmmakers often do not have much time so I really appreciate your participation! **Thanks!**
2. This is a **qualitative questionnaire**. Only a few participants are needed for my research, however, I am asking for a relatively huge amount of information. Unlike usual questionnaires that usually take 5 minutes, this may require **45–60 minutes** of your time. I have split the questionnaire into **three parts** – block 1, block 2 and block 3. Each of these blocks should take approximately 15–20 minutes of your time. It's perfectly fine to interrupt your work, save your answers and continue the next day.
3. Most of the questions are **open-ended** which means they ask you for a sentence or a couple of sentences when necessary.
4. This is **by no means a knowledge contest**. Some of the questions are based upon very complex issues and if you haven't encountered with some of these issues, simply indicate it. It is not necessary to answer every question.
5. Questions are designed in a way such that you, as a director, should be able to answer them. However, sometimes you may find someone else from the crew more suitable to reply instead of you. Questions that fall in between are marked as follows:

● **producer** ● **cameraman** ● **editor/colourist**

This may help you if you decide to forward the questionnaire to the rest of your crew.
6. If you like, your given answers could be made anonymous.. Please, see the following section – *anonymization*.
7. Feel free to **make references on particular scenes** of your film (E.g. *"In the scene when the actor is near the fireplace, we were having some issues with sensor overheating..."*) If you think that a picture or video can clarify it more than thousands words, feel free to attach any pictures or video files. I'll be very happy to receive them.
8. If you prefer, feel free to print out the questionnaire and send me the scanned answered copy.
9. To facilitate your thoughts after your feedback on the questionnaire, I will **send you the results of my research** once it is finalised. It will include lots of information about how other filmmakers have dealt with pros and cons of DSLR, what they think about the future of the technology etc.
10. **Once Again, thanks for your time.**

Anonymization

What does it mean to be “anonymized”?

Before data anonymization:

“Peter Jackson, the director of the film Hobbit (finished in 2014), noted that using DSLR had following drawbacks...”

After data anonymization:

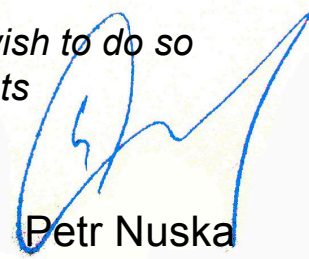
“My participant no. 3 (who finished his film in 2014) noted that using DSLR had following drawbacks...”

I don't mind if my name and the name of my film will appear in the results of the research	<input type="checkbox"/>
I would prefer to be anonymized	<input type="checkbox"/>
I don't mind to be named under the following conditions:	

Ethic Statement

I declare that:

- *all data that my participants provide me will be used exclusively for the purposes of my research*
- *no information given by my participants will be used for commercial purposes*
- *I will anonymize the responses of those participants who wish to do so*
- *I will provide the results of my research to all my participants*



Petr Nuska

■ **BLOCK I.**

Credits, Workflow, DSLR specs, Affordability

Credits

Film name, Crew, Production...

Name of the film:	
Year of completion:	
Director(s):	
Producer(s):	
Camera operator(s):	

Could you roughly estimate to what extent (in %) was DSLR technique involved in making of your film?

If the answer to the previous question is not “100%”, what is an alternative to DSLR technique?

What kind of shooting technique did you use before the emergence of DSLR (during your previous film projects)?

Workflow

Production timing, “Typical shooting day”...

Could you shortly describe how does the timing of working on your film look like? When did the film idea appear? When were the pitching sessions taking place? What about shooting? Editing and postproduction? When was the premiere?

Could you indicate at which stage (among those you gave above) did the idea about DSLR technique involvement come about?

Could you shortly describe the workflow of a typical shooting day? Who was present in the shooting place? What technology equipment was in place? What are some usual happenings in a typical day?

DSLR specs

Body used, Lenses used and Other things...

● What kind of body/bodies did you use for your film? *(Please, if possible, be specific also as for the generation; e.g. Canon 5D MarkIII)*

● Could you name all the lenses you involved? *(Please, if possible, indicate at least brand, focal range and lens speed)*

What technique did you use for sound-capturing?

● Did you use any system of stabilization (tripods, monopods, shoulder/chest rigs, hand grips, steadicams, run-and-gun adapters...)?

● ● Did you intentionally use a specific customized picture style in order to preserve more picture information (such as ExtraFlat style, Color Correction 101, Technicolor Cinestyle etc.)?

● ● What was the standard (format/codec) used for shooting, editing and screening (e.g. H.264, ProRes, DPC)?

● Did you involve any firmware hack (e.g. Magic Lantern)?

● Did you use any other tools that are designed to extend DSLR cinema function (such as speedboosters, lens adapters, external viewfinders, HDMI external recorders, HDMI external displays, follow focus mechanisms, base-plates, dollies, matte-boxes...)

Affordability

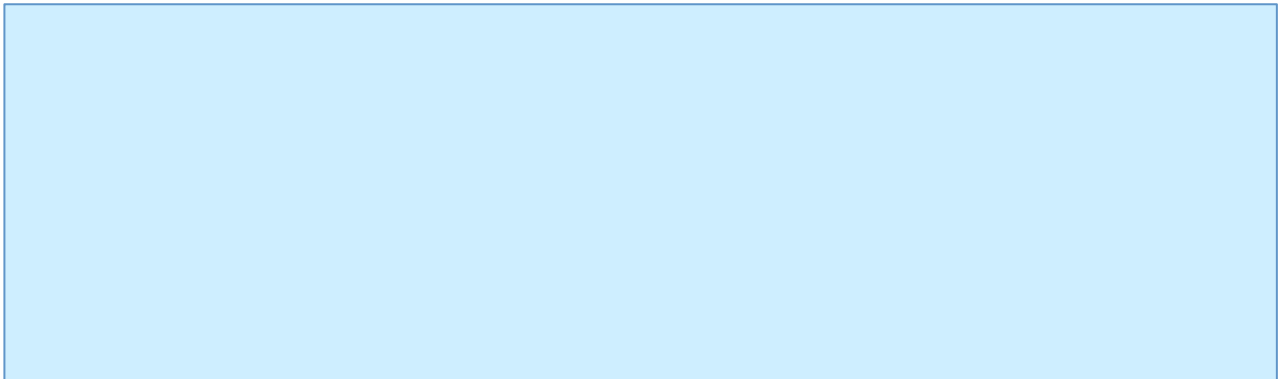
Saving Budget, Competitiveness, Insurance

● To what extent was the decision to use DSLR motivated by budget savings? How did this decision influence the composition of the budget?

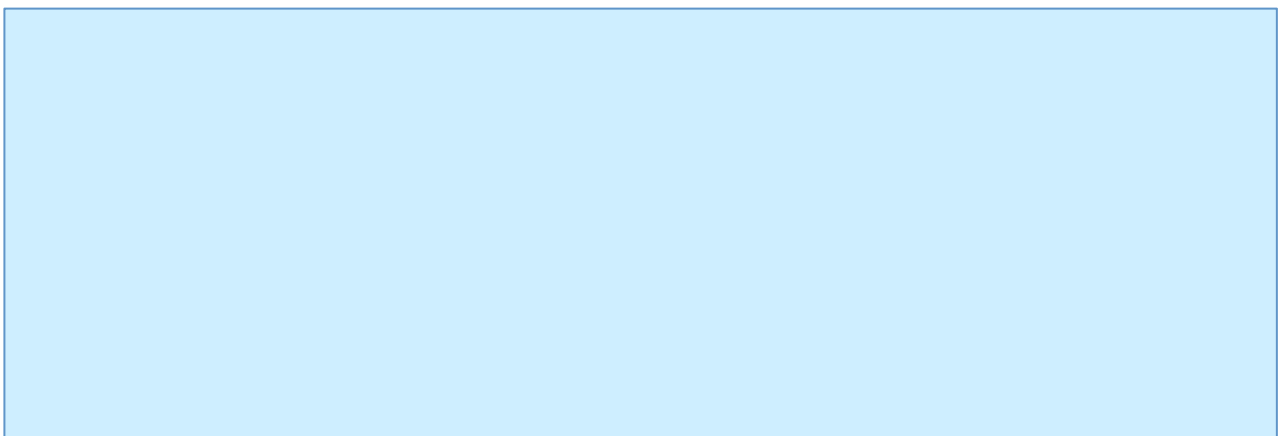
● Could you roughly estimate what percentage of budget was spent on DSLR technique (including all additional tools you indicated in the previous block)?

● Do you think that the decision about using DSLR made your film more competitive on festivals (thanks to cinematic look for affordable price)?

● Jared Abrams, a Hollywood-based cinematographer, once made a comment about **replaceability** of DSLR thanks to their easy affordability (i.e. cheapness). He wrote: *“It all started with the movie Iron Man 2. The 2nd Unit DOP was using the [DSLR] camera for stunt work. At \$2,500 it was better than risking a camera operator's life and cheaper to have it destroyed during a stunt than any other camera available at the time.”* Did you consider DSLR camera in a similar way when you were working on your film?



● Martin Mareček, the director of the film *Solar Eclipse*, remarked in a TV interview: *“The first reason for which we used DSLR was its FullHD-capturing capacity. The alternative cameras that were able to do so, such as XDCAM, would be very difficult to bring to Tanzania... among others there would be nobody who would provide insurance.”* Did the matter of **insurance** play a role in choosing DSLR as a key technique for your project?



Great! This is the end of the Block I. Thanks for now; feel free to have a break...

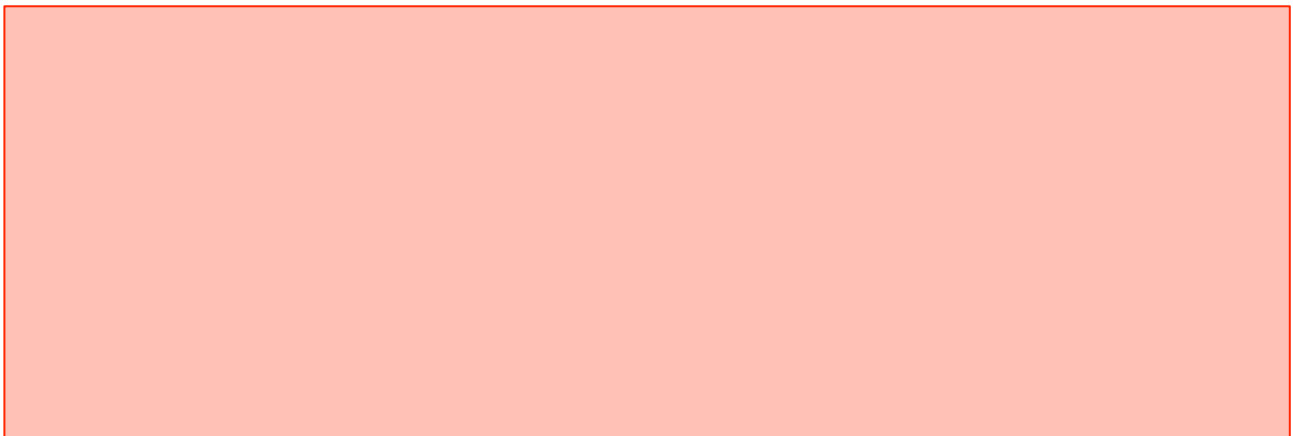
■ **BLOCK II.**

Compactness, Technical and aesthetical pros

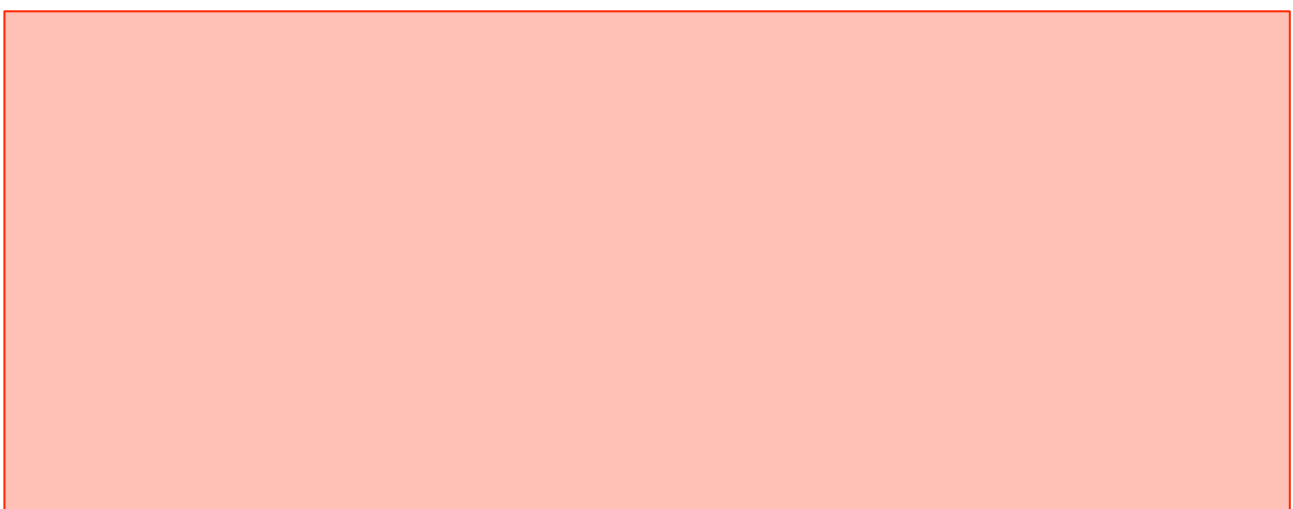
Compactness

Mobility, Intimacy, Invisibility...

● Peter Mettler, the director of the film *The End of Time*, once noted: “*I did use a DSLR for small parts of the film where I needed to go climbing and couldn't carry a lot of gear.*” How did you appreciate this aspect of DSLR (**compactness and mobility**) in your project?



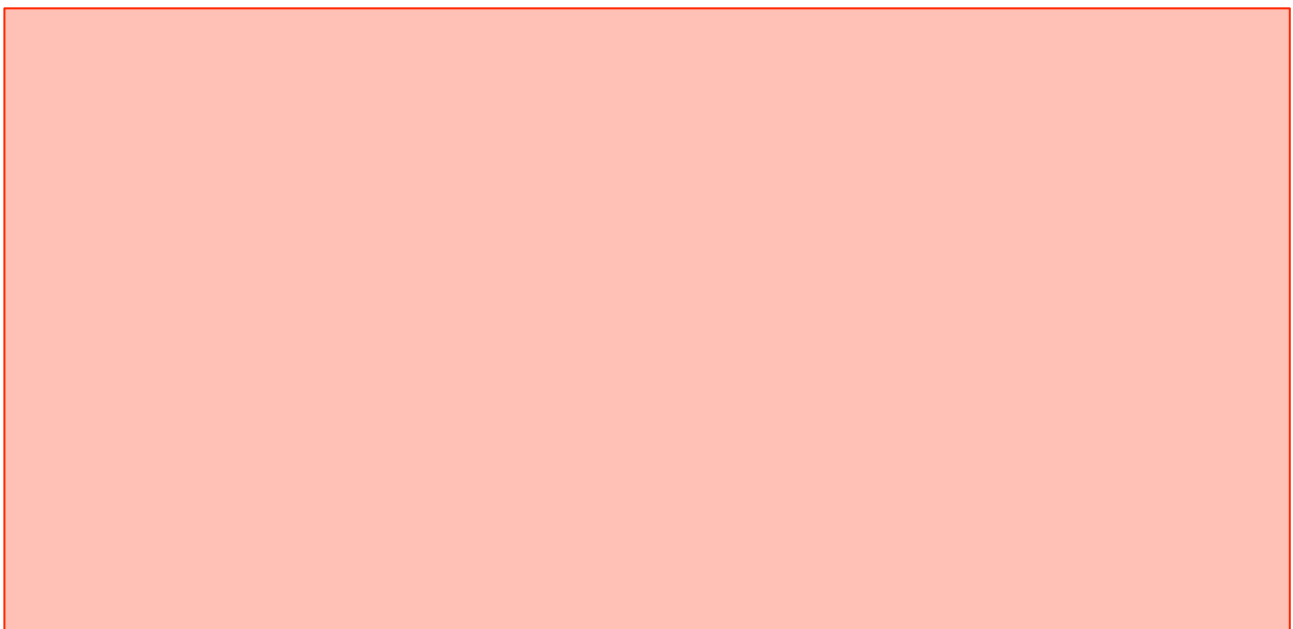
● Shane Hurlbut, the director of photography of the film *The Last 3 minutes*, got high on unusual angles that he could shoot from with DSLR: “*Never before have we been able to cinematically do a helmet cam, do something that really puts the viewer in a first person perspective.*” Did you take the chance to shoot from **unusual angles** as Hurlbut did? When and where specifically?



● Rodney Charters, a Hollywood cinematographer, once made an experiment with a DSLR and took cinematic shoots of the White House. Then he said: *“You try to film out in the streets of Washington, DC, anywhere near the White House with a RED camera and see what happens when an SUV with dark windows pulls up and six beefy chaps get out and beat the crap out of you...”* He claimed that he was able to succeed in this experiment because he was regarded rather as a *“museum tourist”* with still photo camera. Have you encountered situations that you were able to make certain shoots because you were considered to be rather **photographer** and, therefore, somehow invisible for those you were shooting?

● Greg Yaitanes, the director of House TV series, was once talking about an intimate space between filmmaker and actor when using DSLR: *“This [using DSLR] was beyond a cinematic look. It gave a new level of being able to pull the actors out of the background and pull them ... right to your face, and give an intimacy that I haven't seen in digital or film.”* Did you find a similar aspect of **intimacy** when you were working on your film?

● Kurt Lancaster, a guru of DSLR cinema, admired the **simplicity** of DSLR. He wrote: *Not a big black tent with tons of wires running out of it, with waveform monitors, computers, and large HD monitors inside, nor did he utilize a digital image technician (DIT) seen on the set of Battlestar Galactica, for example. By embracing the simplicity of the [DSLR] technology, [we are] able to keep the production simple, small, and intimate with the director and the actors, not a big circus.* Would you agree with this statement about DSLR being **simple**? Or would you consider all the DSLR workflow (with the necessity of external sound capturing, tools for better ergonomics etc.) rather **complex**? You can compare it with other workflows (i.e. shooting techniques) that you have been working with so far.



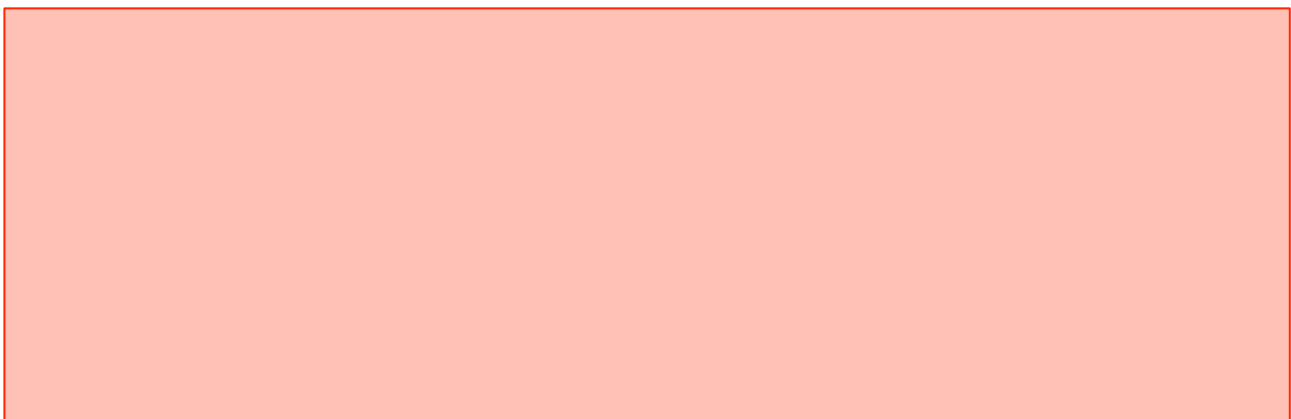
Technical and aesthetical pros

Shallow DOF, Dynamic Range, Low-light Conditions...

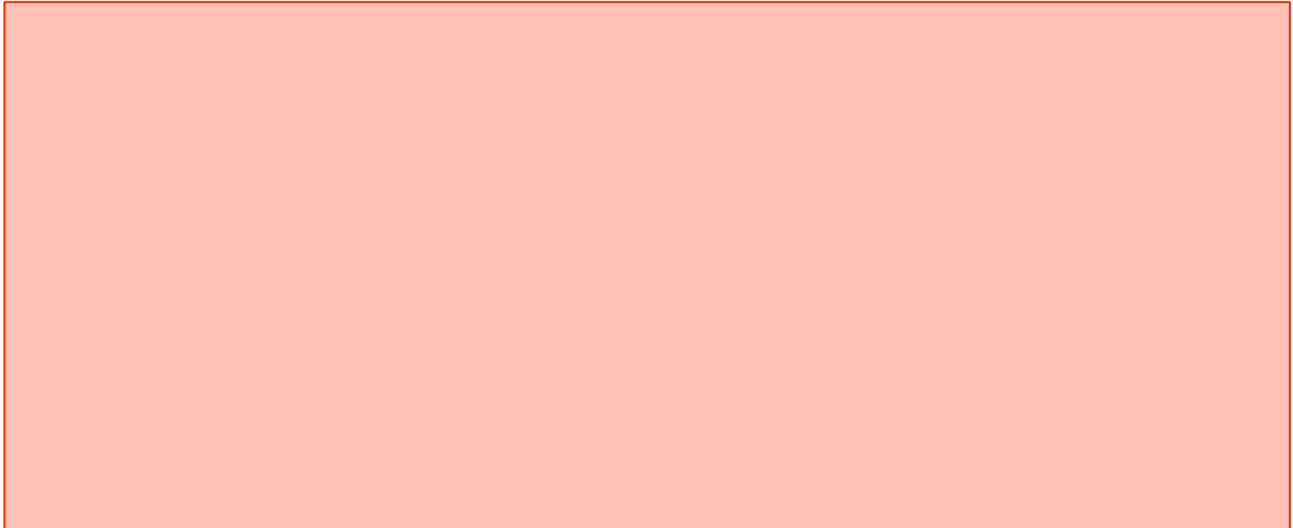
● One of the important esthetical and technical pros of DSLR is the capability to work with very **shallow depth of field** (*bokeh*) which is considered to be of exceptional quality. Did you intentionally work with this feature? Did you use it as an artistic means of expression? If so, how exactly?



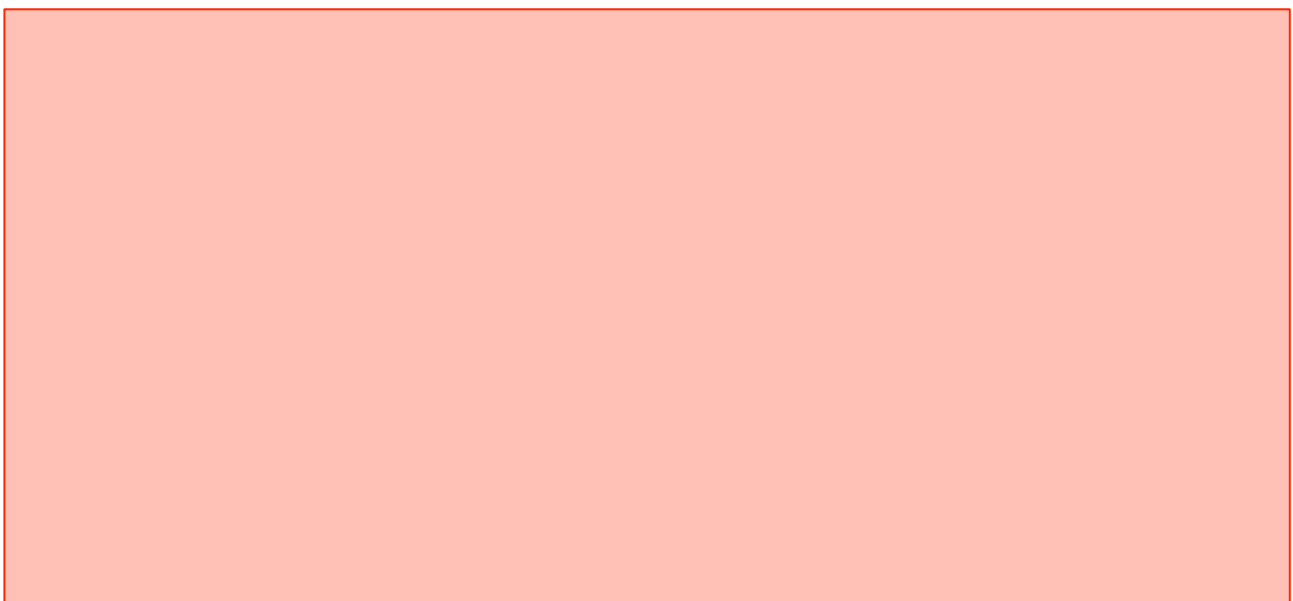
● DSLR are also considered to have greater **dynamic range** (i.e. ratio between the maximum and minimum measurable light intensities) comparing to video cameras. According to your experience, how did DSLR performed as for the dynamic range. Could you compare it with another cameras you have been working with?



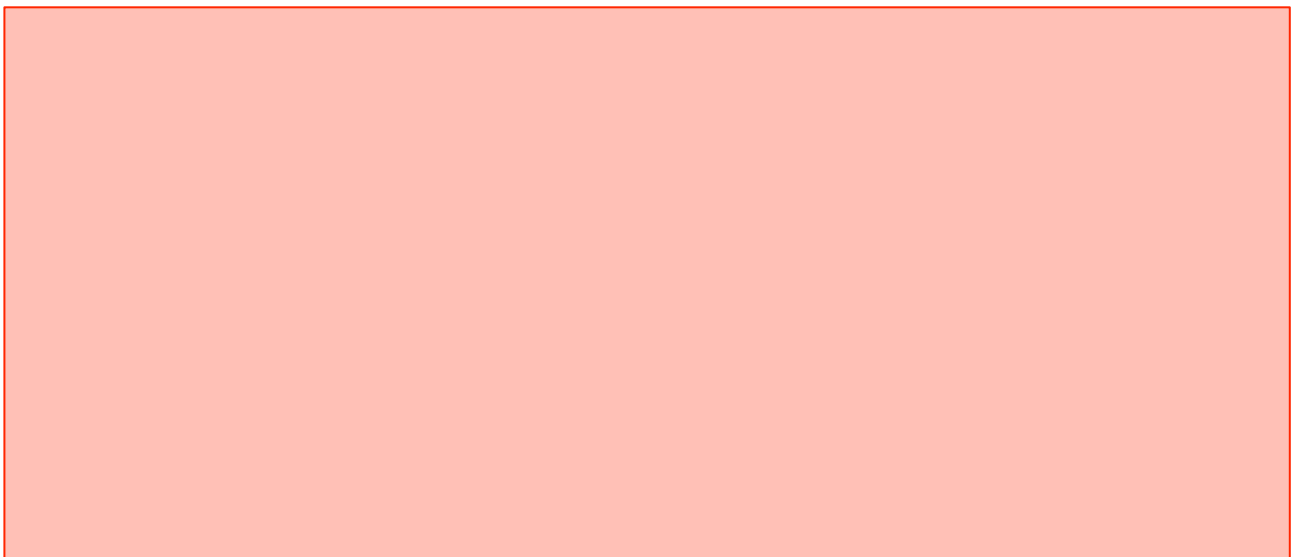
● Thanks to the large CMOS sensor, DSLR cameras perform very well under **low-light conditions**. How did you appreciate this aspect while working on your project? Did you use it as an artistic means of expression? When, where and how?



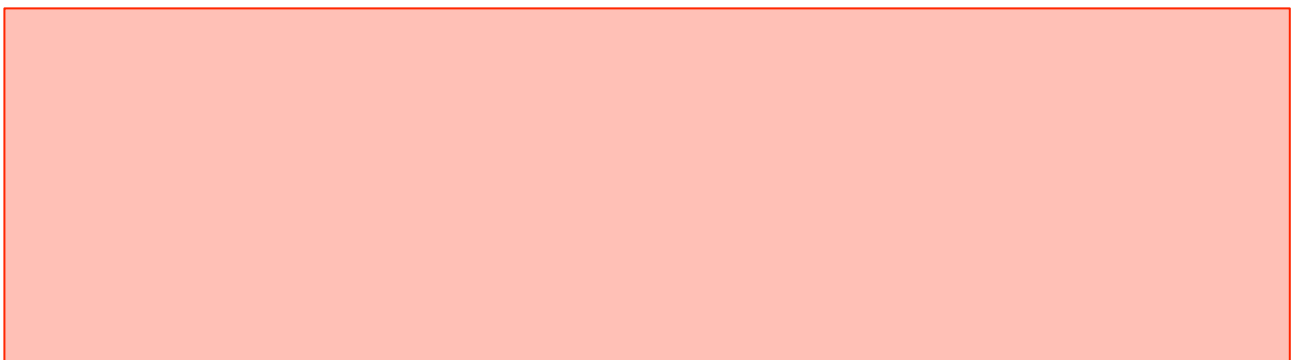
● DSLR cameras have also brought a new possibility to work with **shutter speed**. While shutter speed around 1/60 of second creates smooth cinema-like pictures, shutter speed around 1/250 can have sharp and stroboscopic effect typical for action films. Moreover, DSLR are able to decrease shutter speed to 1/25 which can be convenient for low-light conditions. How did you work with shutter speed in your film? Did you deal with it as means of expression? How exactly?



● Following aspect might be considered either as a pro or as a con: while some documentary filmmakers appreciate fixed focal range of video cameras which gives them opportunity to quickly change the frame of picture by zooming closer towards subject, some filmmakers appreciate great scale of **interchangeable lenses** available for DSLR which gives them much greater freedom as for focal range, lens speed, sharpness and other aspects despite of the fact that they sometimes must take time in order to change lens. Would you consider the lens mobility as a pro? How did you work with this aspect of DSLR? Have you missed a shot sometimes because you chose a wrong lens and there was no time to fix it?



Another broadly valued aspect of DSLR is that they can serve well even as a **still photo camera**. Did you also use your DSLR for still photo? And if so, was it just for your personal purpose or did you plan to use it for other purposes e.g. publication, exhibition, photography competition etc.? Are you still using a photo that was made with your DSLR for (i.e. inside) your film?



● ● ● Are there any other technical or esthetical pros that have not been mentioned so far and you would consider them to be noteworthy?



Great! This is the end of the Block II. Thanks for now; feel free to have a break...

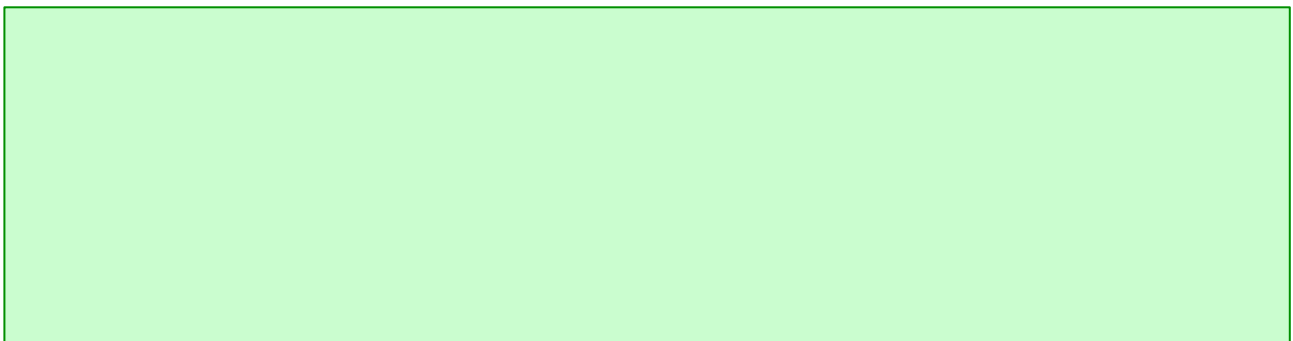
■ **BLOCK III.**

Technical limits, Future, DSLR community

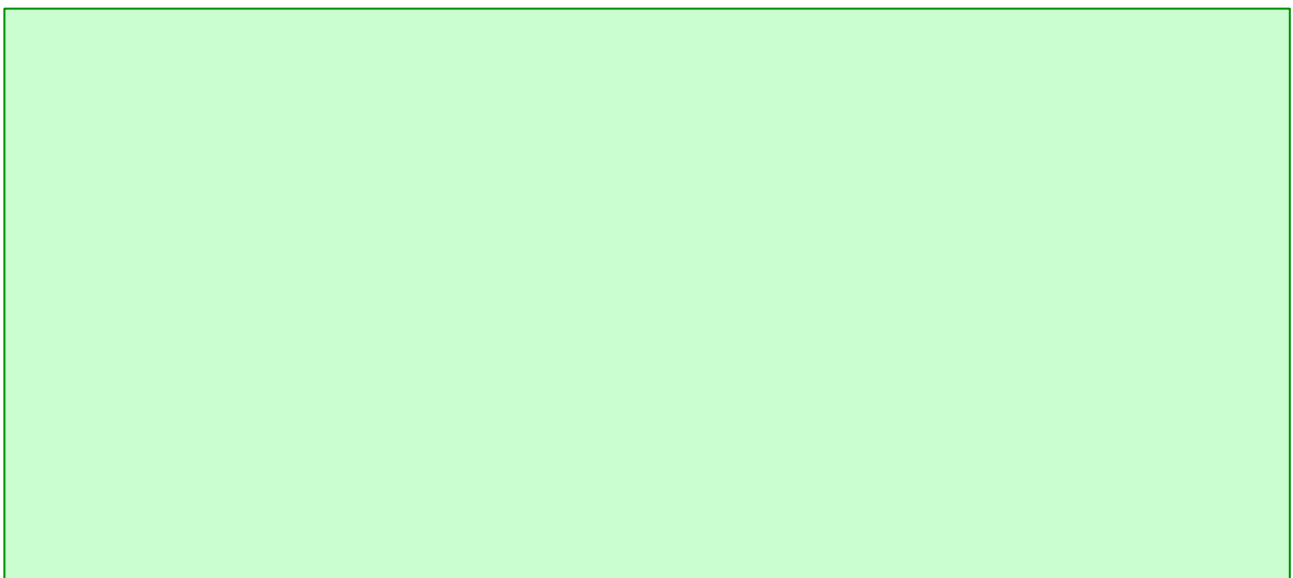
Technical limits

Absence of audio, Ergonomics, Artefacts...

DSLR are not well adapted for **audio recording** (poor built-in mic, absence of XLR cable...) which prompts users to use dual (i.e. external) system of audio recording. How did you handle with this limit? Would you consider it as a drawback for your documentary work?



● DSLR are designed for still photo that's why they need a special care as for their **ergonomics** (the way they are held and the way they are controlled). How did this drawback influence your documentary work? How was the DSLR ergonomics like comparing with ergonomics of cameras you have been working with before? Please take into account all tools for ergonomics adaptation (such as rigs, follow focus mechanisms, viewfinders etc.) you used.



● ● Due to CMOS sensor, DSLR face the problem of rolling shutter (also known as jello effect). This can cause picture distortion when you are panning too quickly or if your subject is moving too fast. (See the pictures):

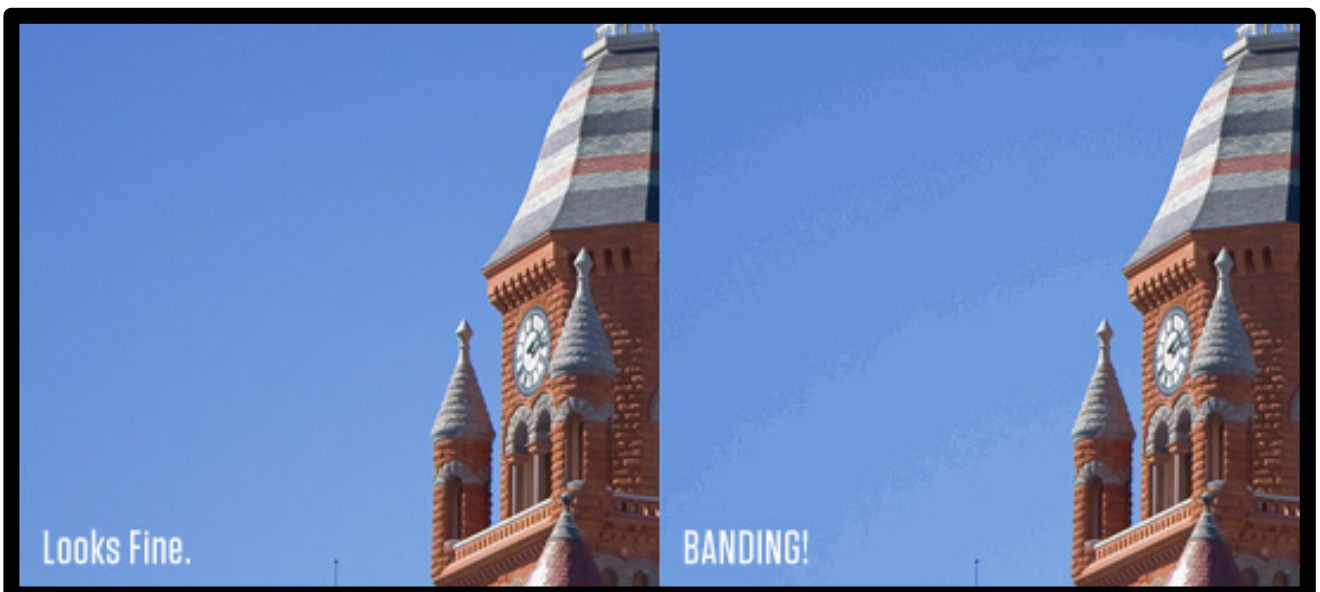


How did this effect influence your work? Were you aware of this limit? Did you miss a shoot because you were panning too quickly? If you used any hardware or software solution to prevent from rolling shutter, please indicate that.

● See the pictures on the following page. There are two samples of most typical **artifacts** connected with using DSLR – **aliasing (moiré)** (unnatural line-skipping occurring when shooting some repetitive patterns) and **banding** (visible lines that appeared in place of smooth transition):

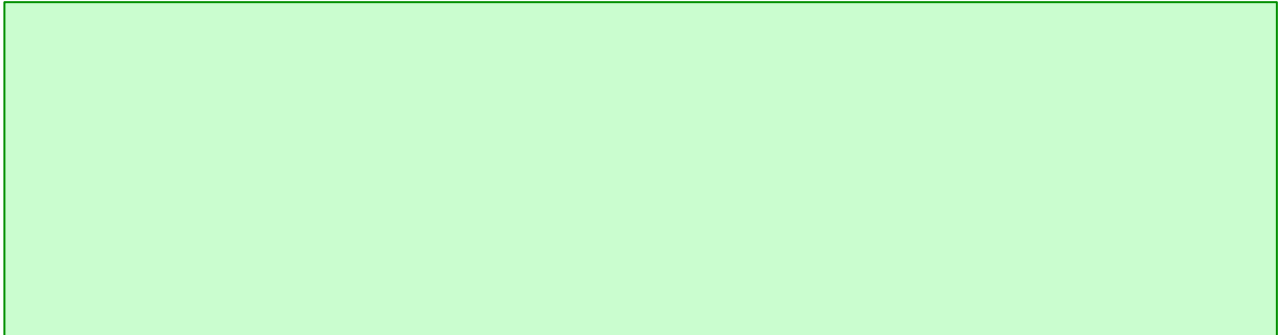


Aliasing (moiré)

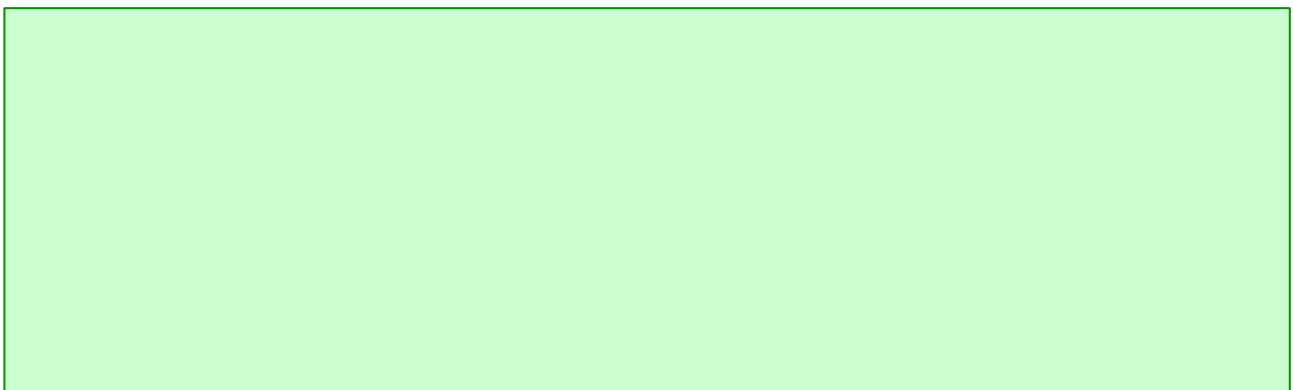


Banding

Did you encounter any issues with these artifacts? If so, how did they limit you in your work? Did you have any issues with other artifacts? If you take any action against these artifacts while shooting or in postproduction, please indicate that.



● **Sensor over-heating** leading to turning camera off or to increasing noise in images is another known drawback of DSLR. Have you experienced sensor overheating during your shooting? How often did it happen? Did you miss some shoots due to this problem? Was the problem connected with some known conditions that you could have prevented from happening?



● Due to legislative restriction, DSLR camera **automatically stops after 29 minutes and 59 seconds** of shooting. Did this put a limit on your work?



● DSLR, especially their first generations, don't usually have **autofocus** while shooting video. How did you deal with this drawback?

● Some TV productions refuse films shot on DSLR because of their **progressive scanning** (compared to interlace scanning that is often being used by TVs until now). Did you have any problem with this matter?

The following drawbacks are connected with specific brands and models. Please fill in the forms wherever applicable.

● Did you have issues with oversensitivity to certain parts of the colour spectrum (e.g. red)? *(especially first generations of Canon)*

● Did you have any issues with low-bitrate standards such as MJPEG, AVCHD? *(especially first generations of Nikon and Panasonic)*

● Did you have trouble with reliability or resolution of external HDMI displays/viewfinders? (*especially first generations of all manufacturers*)

● Did you find infinite focus ring a problem? (*especially lenses from Canon*)

● ● ● Did you encounter any other problem which is noteworthy?

Overall

Pro vs. Cons, Future of the technology...

● ● ● Considering all the pros you have indicated in the block II. and all the cons you gave in the block III., how would you sum up the overall performance of DSLR up? Did its advantages outweigh the disadvantages? Would you recommend DSLR to your colleagues who work on documentary or ethnographic film?

● ● ● What do you reckon about the future of this technology? Would it continue/grow or was it just a blind branch in cinema development?

● ● ● Are you going to involve DSLR in your following film projects? If no, please indicate briefly why.

DSLR community

Community, Gurus, Blogs...

Do you remember when and in which context you heard about DSLR filmmaking?

Do you remember the first film shoot with DSLR that you watched?

Were you inspired by someone in particular to use DSLR?

Did you inspire someone in particular to use DSLR?

Have you been visiting some web blogs on DSLR filmmaking?
Which one(s)?

DSLR cinema has its own *gurus* (developers, populariser, firmware hackers...). Could you name some of them who influenced you?

Many of the first DSLR filmmakers were recruited from the ranks of photographers. How would you describe your relationship to photography before you started DSLR filmmaking?



This is the end of the questionnaire!

Thanks for your time.

Please send your filled questionnaire to my e-mail address:

nuska.petr@dunelm.org.uk

I will notify you once the research is finalised
...best of luck with your following film projects (no matter
whether involving DSLR or not)...

...and...

Thanks!

Petr

10 Summaries

10.1 Abstrakt v českém jazyce

Práce se zabývá využitím videa digitálních zrcadlovek (*DSLR*) v dokumentárním a etnografickém filmu, resp. zkoumá zda a v jaké míře se a těchto žánrech projevil trend označovaný jako *DSLR revoluce*. Těžištěm práce je kvalitativní analýza výpovědí deseti filmařů, kteří v letech 2010–2014 používali digitální zrcadlovku při práci na svém filmu. Syntéza těchto poznatků je konceptualizována jako rekonstrukce procesu rozhodování zda digitální zrcadlovku pro film použít nebo nepoužít, tj. posouzení jejich výhod (cenová dostupnost, technicko-estetické kvality, kompaktnost či jednoduchost) a jejich nevýhod (ergonomie, obrazové artefakty, limity v pracovním postupu). Rekonstrukce tohoto rozhodování je posuzována v kontextu konkrétních zkušeností participantů a věnuje se především vlivu digitálních zrcadlovek na pracovní postup a finální produkt. Závěrečná kapitola práce se věnuje *DSLR* revoluci jako společenskému trendu, který byl posilován vlivem online komunit *DSLR* filmařů, kteří se aktivně podíleli na průběhu revoluce. Přílohy práce obsahují stručný popis filmových projektů všech participantů a předlohu strukturovaného dotazníku, který byl použitý při sběru dat.

10.2 Summary in English

The thesis deals with the involvement of *digital single-lens reflex* cameras (*DSLR*) with video-capturing capacity in documentary and ethnographic film, more particularly, it examines whether and to what extent these genres were influenced by a trend called *DSLR revolution*. The main contribution of the work is a qualitative analysis of the testimonies of ten filmmakers, who used DSLR cameras while working on their films during the years 2010–2014. The synthesis of this analysis is conceptualised as a reconstruction of the process of decision-making whether to use or not to use a DSLR camera, considering its benefits (affordability, technical and aesthetic qualities, compactness and simplicity) and its limits (ergonomics, visual artifacts, workflow limits). The reconstruction of this decision-making process is considered in the context of specific experiences of the participants and it focuses on the impact of DSLRs on filming workflow and final product. The final chapter deals with the DSLR revolution as a social trend which was stimulated by the influence of online communities of DSLR filmmakers who actively participated in the course of the revolution. Appendix of the thesis contains a brief description of the film projects of all participants and the model of the structured questionnaire used for data collection.