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Factors Driving the Development of Image Acquisition Methods and Technologies

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Annotation: This article presents a number of factors that contribute to the development of filming methods and tools, in particular, the use of artificial intelligence in the filming of historical documentaries, along with relying on archival materials, can make seemingly boring photo archives interesting, and provides concrete examples.

Keywords: documentary, interview, footage, archive, artificial intelligence.

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Introduction

Any work of visual art, including a documentary film, is a product of the creative appropriation of the time in which it was created. A documentary film, created by observing and deeply understanding real life, then creatively adapting it to technical and aesthetic rules and translating it into a visual language, preserves the spirit of the time, the thoughts, consciousness, and values of people. Such a phenomenon of art is absolutely essential for future generations. However, a fact confirmed throughout human history is that only the best, unique, perfect, and timeless works of art enter the annals of history. It is for this reason that today, alongside other audio-visual arts in our country, it is appropriate to pay special attention to the skill of documentary filmmaking. Each topic and aspect of documentary filmmaking has created creative resonances in the world of cinematography. Even the subjective worldviews and understandings of documentary film among major filmmakers are quite contradictory. This, of course, is evident from the multitude of documentary film genres. However, the main debates are dedicated to the semantic essence of the documentary film, the ideas presented within it, and their significance. From its very inception, cinematography has, without any debate, championed high-quality and dramatically sound film shots. This confirms the freedom of the cameraman shooting a documentary film. Camera work is an absolutely crucial part of documentary filmmaking. This is because the visuals of all types of documentary films can instill trust or a particular mood in the viewer. Since a documentary film is reality itself, the viewer feeling as though they are witnessing reality firsthand is the ultimate goal of documentary filmmaking. In this area, the cinematographer must envision and shoot their film through the eyes of the people of the chosen period, utilizing camera work, shooting styles, and methodology. In recent years, there has been noticeable progress in the national school of cinematography and in the world of documentary filmmaking, with innovative visual experiments being undertaken. Among such films produced in our country are the multi-part documentary

series "Uzbekistanlik" (dir. Jahongir Ahmedov and Muhlisa Azizova; cameraman Jahongir Ibragimov), the documentary film "Armon" (dir. Ruslan Soliyev; cameraman Sarvar Sobirov), the documentary film "A Life Dedicated to Enlightenment," the documentary film almanac "The Heart of the People," "Ibrat" (dir. Jahongir Qosimov; cameraman Rustam Murodov), "Muqimiy" (dir. Muzaffar Shodiyev; cameraman Ravshan Musayev), "Muhammad Yusuf: You Are Great, My Motherland!" (dir. Iqbal Meliqo'ziyev; cameraman Rixsibek Shermuxammedov), and "Jadid Enlightenment" (dir. Doniyor Shokirov; cameraman Davlat O'rozaliyev). In these films, we can certainly observe the development of camera work in our country.

Camera work, like visual art, is a type of art that defines the visual standards of an era, public consciousness, outward fashion, public order, and knowledge. Depicting the image of a real person in a documentary film without distorting it in the image requires a specific shooting methodology. The visual structure of a documentary film stems from the footage used. Naturally, the footage varies depending on the type of documentary film. "A documentary film is a very complex genre, requiring a long time to prepare and produce: factual and documentary material is selected, and a script is created based on it. The structure of a documentary film is diverse: on-location and reportage shooting, location and interior shooting, and the use of archival video and photo materials." Nevertheless, the shots of most documentary films can be analyzed. According to analyses, documentary film footage consists of interview shots, B-roll shots, episodes, metaphorical creative shots, and archival photo and video shots. Focusing on interview shots, all documentary films can be broadly categorized into two types of interview shots: formal interviews and informal interviews.

A formal interview is understood to mean that the interviewee knows in advance that they will be interviewed, that certain conditions for the interview have been prepared in advance by the film crew, and that the location where the interview is expected to be conducted has been prepared for filming. In a formal interview, the cameraman knows the questions that will be asked in advance, as well as the emotional intensity of the likely answers. Based on this, the cameraman can completely pre-plan the interview shot. They can pre-plan important aspects of camera work such as pre-constructing the shot composition and determining the shot angles. In a formal interview, the person's image, the shot composition, and the placement of lighting equipment are determined by the section of the film where the interview is being placed. In a formal interview, the cameraman can position their cameras from various pre-planned points and, based on the emotional state of the answer for a particular part of the conversation, change the camera angles even while the interviewee is paused. Of course, the biggest drawback of a formal interview is its artificiality in the eyes of a cinephile or film critic. The integrity and realism of a formal interview depend on the skill of the director conducting the conversation. This is because the formal interview has become the primary tool of journalism, and this framing has remained subconsciously ingrained in people. It’s as though the interviewee is forced to speak without any mistakes, without their usual personal mannerisms. This stereotype exists even among many documentary film directors and cameramen. Building an interview by placing a person in a sometimes uncomfortable, exemplary position, restricting their behavior, personal habits, and mannerisms, while losing their individuality, is an aspect that falsifies documentary filmmaking. Although this aspect isn’t given sufficient attention in our country, it is strongly criticized at prestigious film festivals in Western countries and among the world's renowned documentarians. Yann Arthus-Bertrand's 2015 documentary "Human," built on formal interviews, is one of the highest-quality documentary films of our time.

Informal interviews in documentaries are spontaneous conversations with the subject; the interviewee is in their own comfortable personal space—their workplace, during work, their home, or some other private setting. Spontaneous interviews always present the cameraman with challenges regarding shot composition, lighting, color, and perspective. This is because, in many cases, the cameraman is unfamiliar with the interviewee's environment. To avoid the interview

seeming artificial, the image needs to be quickly prepared. This isn't difficult for television journalism interviews, where the camera simply needs to show the subject, but for cinema, the composition and the unspoken emotions conveyed are crucial. The quality of the filming process in an informal interview fully depends on the cameraman's creative solutions. Global documentary filmmaking movements like "Cinema Verite" and "Direct Cinema" have championed informal interviews, explicitly stating that formal interviews are a dishonest aspect of documentary filmmaking. Therefore, these movements used only spontaneous conversations in their documentaries.

It's also important to note that, during editing, cutting out moments of excitement, slips of the tongue, unusual behavior, and mannerisms belonging to the interviewee's personality in both formal and informal interviews prevents the audience from connecting with the interviewee's inner world. In general, this creates a situation where the quality of a formal interview depends more on the filmmaker (mostly the director) conducting the interview and offers the cameraman more freedom; informal interviews, conversely, give the interviewee and the director conducting the interview more freedom of placement and movement, but naturally, this limits the cameraman to a certain extent and compels them to find more complex solutions.

B-roll footage is a term from the days of film; A-roll was the main footage on the film reel, while B-roll was secondary footage that filled in gaps and connected shots, providing supplementary material without distracting the viewer. In expository documentaries, for instance, B-roll includes shots that confirm the interviewee's words and illustrate the process being discussed, not just shots of the interviewee themselves. B-roll footage not only facilitates the editing process and links different shots, but also confirms the events presented to the viewer, increasing their belief in the reality depicted. Furthermore, it simplifies the editing process. B-roll footage defines the overall visual style of the documentary and introduces the audience to the film's setting. High-quality B-roll footage allows viewers to take short breaks from the information presented, enabling them to process it more effectively and preventing boredom. From this perspective, B-roll footage is very important for documentaries. Cameramen have more freedom when shooting this footage because it often takes place outside the main shooting schedule and over a longer period. It’s important that B-roll footage supports and enriches the information being presented. In world-renowned documentaries, B-roll footage often incorporates allusions and metaphors. The Uzbek documentary film "Imkon Bering" (Let Me), directed by Doniyor Shakirov and shot by Said Dalilkhon Said Turg'utkhonov, can be included among documentary films enriched with high-quality B-roll footage. It depicts the fate of children separated from their families and sent to a re-education facility for wrongdoing, with the main interview shots and episodes enhanced by B-roll footage reflecting their inner world. It's worth noting that such footage is filmed in almost all types of documentary films.

Episodic footage in a documentary film is a sequence of shots that reveals the essence of the film and the real-life personalities of its characters. The word "episode" itself means "event." Documentary film episodes allow the viewer deeper and clearer access to the subject matter. They help the audience understand the information and themes presented in the film, the context, and the reasons behind the inner feelings of both the objects and subjects. Episodes are used to convey deeper visual information to the viewer. Documentary film episodic footage includes illustrations, reconstructive shots, animated, and other staged shots. As an example, in many portrait-style documentaries, we can see complete events in the main subject's family life or work process. Episodes are often staged in expository and poetic forms of documentary films, while in observational, participatory, reflexive, and performative forms, they are often unstaged and spontaneous.

Staged, reconstructive episodes in documentary filmmaking remain a subject of continuous debate. "Reconstruction is the process of recreating an event. Based on the definition given in the

explanatory dictionary, 'reconstruction is a complete reorganization and reworking of something with the goal of improvement and perfection.'" The main reason for this debate is that, although reconstructive episodes have existed since the very beginning of documentary film, they represent a form of indirect falsification of reality by the filmmaker. Reconstructive episodes were present in the early newsreels of the Pathe brothers, and even in Robert Flaherty's "Nanook of the North," one of the first feature-length documentaries, staged episodes were used. While the justification for recreating past events might lie in their confirmation through paper or other archival sources, the characters, personalities, and emotions within the depicted events in the film cannot claim true realism. This, in turn, means it cannot be considered a "true" documentary film according to the "Cinema Verite" movement, which relies on the active participation and improvisation of its subjects. However, without any photo or video archives of past events, relying only on narration or audio archives, a film might become visually boring and unconvincing without visual confirmation. Moreover, the average viewer often doesn't realize that the images are recreated and this doesn't distract them from the flow of the film's narrative. Therefore, there is no clear solution to this debate within documentary filmmaking.

Aleksandra Trukhina, head of the master's program at VGIK (Russian State University of Cinematography), quotes in her article "The Method of Reconstructing Human Images in Documentary Film" for the film journal "Film Style and Time": "The author and the character in a documentary film are in a complex ethical relationship. The reconstruction method fully reflects this complexity. When a documentary filmmaker reconstructs events, it creates a moral responsibility towards the real people in their film. There is a whole complex of problems related to the relationship between truth and invented ideas, artistic fiction that sets the limits of authorial freedom, interpretative facts, changes in space and time, staging, interference in the lives of other people, and encouraging characters to perform specific actions."

Metaphorical creative shots in documentary films enhance immersion and create a visual-mental connection with the audience. Visually rich shots with diverse illustrations and metaphors are often the main tool in poetic documentary styles. Such footage can heighten the emotional impact of a documentary's theme without relying on the presence of characters. A good example is Ethan Omo's review of "Koyaanisqatsi" on his film blog. Omo describes the film's opening: "Koyaanisqatsi's first minute began with a black screen and red dots that appeared with the film's title; as this happened, the first few notes of the soundtrack played. The title faded to reveal the film's first shot, but as it faded, vocal and arpeggio sequences began to play. From this first minute, the audience is prepared by music and suspense for what's to come—a horrific soundtrack that underlines the film's pace. When the first shot appeared in full, the viewer sees the initial two parts of the Koyaanisqatsi cycle: a shot slowly moving away from ancient cave paintings. These images depict people from their primitive state trying to create innovations, but also a long period of technological stagnation. This shot is literally an explosion—a catastrophe, transitioning to the final part of the Koyaanisqatsi episode cycle. After the explosion fades, another shot plays that represents the beginning of the Koyaanisqatsi cycle—a mechanical hand released from a space rocket, signifying the peak of human innovation. The film's end returns to this rocket to complete the cycle; the rocket explodes in flight."

In Uzbek documentary filmmaking, we can see creative illustrations and artistic interpretations in Ruslan Soliyev and Sarvar Sobirov's "Armon," dedicated to the heroes of the national Jadid movement. The film's prologue begins with a title card stating: "All reconstructions and artistic setups in the film are modern interpretations and may not accurately reflect the environment, symbolism, locations, and reliable historical depictions of the real events mentioned." "Armon" uses creative footage and episodes rarely seen in documentaries, employing innovative visual solutions.

Photo, video, and audio archives have always been fundamental elements of documentary films. Archives hold significant historical and artistic value in documentary filmmaking. This is due to their historical accuracy and authenticity, making them primary sources for research. Documentarians can use historical documents, photos, videos, and audio recordings to build their narratives on facts, reflecting real events and people's experiences. Furthermore, archives often contain rare or inaccessible materials that capture cultural and ethnic moments, social development, or important figures. Using archival images in documentaries helps preserve memories and ensures that important aspects of history aren't forgotten. Archives add deep emotional resonance to documentary films. Viewers feel a direct connection to the subject matter. The use of rare archival materials enhances the visual and substantive value of the creator's film in terms of history. Archives deepen the historical context. In a major documentary journal, William Cole, a researcher at the University of Arizona, raises issues regarding the relationship between contemporary archives and artificial intelligence in his article "The Dilemmas of Documentary Evidence: Founders of the Archival Producers Alliance Discuss How AI Is Changing Archival Science."

For many, the essence of creating a documentary film is built on a significant sense of responsibility and idealism that aspires to convey truth and authenticity around historical narratives (even though all these claims come with ancient warnings). One of the integral elements of the documentary filmmaking process is the use of archival images. The place of archival materials is invaluable in popular documentary series like "Eyes on the Prize" and "The Vietnam War," as well as in other historical topics. However, with the emergence and rapid development of synthetic imaging tools based on artificial intelligence, traditional and tested methods of archival production are facing challenges. Directors and producers are beginning to consider using synthetically generated content instead of relying on intensive, skilled research, complex rights issues, and skyrocketing costs of archival production—leading to problems related to documentary evidence, authenticity, and ethical considerations.

In 2023, the Archival Producers Alliance (APA) was established, consisting of over 200 archival producers who published an open letter in The Hollywood Reporter last year to draw attention to the use of artificial intelligence in documentary filmmaking. Two leading organizers of the APA, Rachel Antell and Jennifer Petrucelli, discussed documentary film through Bicoastal Zoom. This discussion also served the purpose of reviewing the reasons for the APA's project to present guidelines on the ethical use of artificial intelligence in documentary filmmaking at the upcoming APA Getting Real 24 exhibition. Certainly, there are several reasons for utilizing artificial intelligence. Films like "Welcome to Chechnya" (2020) and "The Other Body" (2023) have made extensive use of artificial intelligence to protect the identities of their subjects. However, in the world of documentary films, we felt the need for guidelines and standards that we, as a community, can agree upon regarding AI. When you sit down to watch a documentary, I believe the audience trusts the filmmaker that what they see is the truth. You understand there are liberties taken when you watch a fictional film based on a true story. Therefore, we want to protect the integrity of documentaries.

Enhancing and presenting chronological and archival photo-video materials with the help of artificial intelligence, providing the viewer with a higher-quality and more understandable visual experience, was also used in the film "Jadid Maorifi" (director Daniyor Shokirov), a film in which I personally worked as a camera operator. Artificial intelligence can enhance the visual quality, resolution, and size of an image without distorting it or making significant changes to its meaning. However, even then, when such content is placed on the global public internet, it is labeled with an AI designation. This label indicates that the visual product should never be equated with the original. In the documentary film "Jadid Maorifi," most of the historical events were processed using the "Sora" AI platform. Events described in paper archives but lacking complete visual documentation were recreated using artificial intelligence. Additionally, the quality of archival

video and photo materials was improved, and small animations and enhancements were added. This transforms visually static and potentially boring archival photos into more engaging short video clips with dynamic elements. A significant advantage of artificial intelligence is its lower cost compared to shooting high-quality reconstructive footage.

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