

# “Bolex Artists”: Bolex Cameras, Amateurism, and New York Avant-Garde Film

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## THE BOLEX H16 CAMERA

Designed by Jacques Bogopolsky in 1928, the Bolex camera was first commercialized by the Swiss firm Paillard-Bolex in 1935. The model shown here is an H16, the firm’s emblematic 16mm model, from 1952. The camera measures 8.5 x 5.9 x 2.3 inches (21.6 x 15 x 7.6 cm) and weighs about 12 lbs (5.5 kg). Known for its robustness and versatility, the Bolex uses a spring motor mechanism, is equipped with a reflex viewfinder, and allows for a large range of speed variations—capturing from 8 to 64 frames per second—as well as single frame exposures.

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## THEORETICAL FRAMING

Bolex cameras were used by American avant-garde and documentary filmmakers from the late 1940s to the 1970s and beyond, alongside a wide array of users, which included television reporters, people in the educational and business worlds, and non-professionals. This chapter explores the role of the Bolex in the history and aesthetics of avant-garde cinema and its American “renaissance” after World War II. The role that substandard formats played in the construction of an artistic *ethos* based on the figure of the amateur is also examined, exemplifying technology’s place and meaning in the culture of the time.



# “BOLEX ARTISTS”: BOLEX CAMERAS, AMATEURISM, AND NEW YORK AVANT-GARDE FILM

## INTRODUCTION

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The Bolex camera was invented by a Ukrainian engineer, Jacques Bogopolsky, in 1928. Two years later, he sold his patent to the Swiss firm Paillard, a manufacturer of typewriters, gramophones, and phonographs. In 1935, Paillard launched the first Bolex H16 camera. From 1935 to 1969, Paillard-Bolex launched more than fifty types of 16mm and 8mm movie cameras.

The Bolex was known for its solidity, light weight, and versatility in various shooting situations. It used a spring motor mechanism (although some later models were electrically powered), so that the camera had to be wound up to shoot for about 30 seconds continuously. Importantly for avant-garde cinema, it allowed for a large range of variations in speed: a finger-tip release button placed on the front of the camera enabled continuous exposures, while a side release button allowed for locked, hands-free running or single frame exposures. It was possible to film at 8, 16, 24, 32, and 64 frames per second (fps). Bolex had a reflex viewfinder, and in the original H16 model three lenses could be mounted on a rotating turret.<sup>1</sup>

Bolex cameras were used in a great variety of contexts, notably for documentary, educational, corporate, or amateur films. Filmmakers working outside mainstream cinema chose the Bolex for its robustness, reliability, relative inexpensiveness, and, in the case of avant-garde cinema, for the array of aesthetic possibilities it allowed. In the New York avant-garde film genre, films shot with a Bolex include Maya Deren and Alexander Hammid's *MESHES OF THE AFTERNOON* (1943); Andy Warhol's *SLEEP* (1963) and *SCREEN TESTS* (1964-1966); Jonas Mekas's *WALDEN* (1969) and *LOST LOST LOST* (1976); Marie Menken's *NOTEBOOK* (1962), *GO! GO! GO!* (1963), and *ANDY WARHOL* (1965); Gregory Markopoulos's *GALAXIE* (1966); and Jack Smith's *NORMAL LOVE*

(1963); among many others. Although the use of 16mm cameras abated in the 1980s mainly due to the rise of video technology, there has been a continuing, albeit marginal, use of 16mm film in art and independent film practices to this day. This chapter explores how the use of the Bolex's technical features contributed to the aesthetics of avant-garde cinema from the 1940s to the 1970s. It also stresses the role of 16mm cameras in the filmmakers' construction of an artistic *ethos* based on the figure of the amateur, which subverted the industry's discursive and economical framing of 16mm.

Studies of American avant-garde film have linked the “renaissance”<sup>2</sup> of the movement to the availability of inexpensive and portable cameras after World War II among other factors,<sup>3</sup> but to date there have been few accounts of the implications of the technology on these films' aesthetics. Although the concern for reflexivity and medium specificity is considered a defining feature of avant-garde cinema and experimental film, there are few studies of specific apparatuses and their connection to aesthetic issues, and cameras in particular have rarely been examined in that light.<sup>4</sup> This chapter argues that taking into account the specifics of 16mm cameras—the Bolex in the present case—may contribute to a discussion of film aesthetics and of the filmmakers' position in the culture of their time, as well as help to distinguish experimental film from other areas of the history of cinema, such as video art. Although the reference to amateurism or “home movies” in New York avant-garde film has already been analyzed,<sup>5</sup> this chapter connects studies of 16mm technology and their social role in the 1960s with studies of avant-garde film to see how dominant views of 16mm equipment help us to assess the cultural positioning of these filmmakers.

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## 16MM AND THE PARADOX OF ARTISTS AS AMATEURS

Although the use of 16mm grew steadily in the 1920s and 1930s (after Kodak launched the first camera, film stock, and projector in 1923), the format became truly ubiquitous after the war. Bolex provides a telling example of the use of 16mm equipment by avant-garde and documentary filmmakers in that period. The “renaissance” of avant-garde cinema in the United States after World War II was simultaneous with the widespread use of 16mm equipment. Despite the fact that many filmmakers started using a Bolex camera as a cheaper alternative to 35mm, the camera's mobility, robustness, and technical possibilities were also important criteria, allowing for greater freedom in filming, both from a physical and financial point of view. Importantly for those who joined the “New American Cinema Group” in 1959 and the New York Film-Makers' Cooperative two years later, the Bolex camera made it pos-

sible for them to make films on their own, outside of industrial modes of production.

Additionally, the 16mm camera mechanisms and film strength were improved at the time – notably with the replacement of the 16mm acetate base by a stronger cellulose triacetate base in 1948. Progress regarding image stability, “zoom lenses” (which enabled variable focal lengths without moving the camera), and sound technology made it increasingly possible to use 16mm cameras for television, a field then in full expansion.<sup>6</sup> Aspiring filmmakers naturally took on 16mm as a trial format, as did the Mekas brothers—Adolfas and Jonas—when they purchased their first Bolex in 1949.

Looking at the history of 16mm film circulation, it is also interesting to understand why filmmakers working outside the industry were drawn to it. Because 16mm was the “safety” format up to 1950 (since acetate film was inflammable, unlike nitrate film), 16mm films could be shown in venues other than licensed and regulated cinemas, such as community centers, churches, factories, schools, or political organizations. Even after 1950, at a time when the Hayes Production Code still prevailed in the United States, 16mm equipment offered possibilities for greater freedom of expression. Film societies, like Amos Vogel’s Cinema 16 in New York, not only used 16mm to show reduction prints of commercially produced features but also to show censored films.<sup>7</sup> 16mm equipment became widespread in the academic and non-profit worlds after WWII. Universities were also a significant outlet for Cinema 16’s distribution arm and later for the Film-Makers’ Cooperative. Apart from the freedom in filmmaking that 16mm cameras made possible, this circulation network may also be a reason why 16mm was embraced by the emergent counter-cultural forces of the time.

The 1920s to 1940s period was marked, to quote Patricia Zimmermann, by the “inscription of an ideology of professionalism on all discursive levels of amateur film.”<sup>8</sup> It submitted 16mm and 8mm users to what James Card, curator at the George Eastman House, once called a “tyranny of words” opposing professional know-how and amateur incompetence.<sup>9</sup> Like other manufacturers, Bolex advertisements participated in disseminating the idea that aesthetic value in a film relied on technology and tangible visual criteria rather than on more intangible factors. Amateurism was defined through technology, with the possession of sophisticated equipment and accessories being a touchstone of professionalism.

From an aesthetic point of view, it equated “good” filmmaking with technical know-how and imposed a visual norm inspired by Hollywood films.<sup>10</sup>

A look at Bolex advertisements from the 1940s to the 1960s shows how the firm referred to that hierarchy. Bolex distinguished between the 16mm and 8mm camera, promoting the former as “semi-professional” (e.g., more



Fig. 22: Bolex advertisement praising the camera's "professional" standards.

intended for documentary, educational and corporate films, as well as for “demanding amateurs”), while targeting 8mm at amateurs, for more informal and private uses.<sup>11</sup> In ads for its 16mm camera, Bolex distinctly associated its camera with amateur and professional practices, claiming to bring “amateur” practices closer to “professional” standards on account of the camera’s technical performances. The company claimed to target a kind of elite among amateurs (“critical amateurs” as an early 1938 ad put it) who made “good” amateur films. This group was pitted against “poor” home movies filled with “mistakes” in framing, exposure, focus, and so forth. The camera itself was supposed to help correct these mistakes.<sup>12</sup>

This discourse equating aesthetic value with technical mastery was turned upside down by avant-garde filmmakers. Maya Deren, Stan Brakhage, and Jonas Mekas, who described themselves as amateurs, developed a typical avant-garde way of reflecting on their own practices, which effectively turned the limitations of 16mm to their artistic advantage. Jonas Mekas stressed that 16mm cameras enabled more spontaneity and improvisation: he considered what were previously described as visual “defects”—blurring, erratic camera moves, in-camera editing, etc.—as valuable marks of personal expression. Far from being a failing professional, the Bolex artist was seen as a freer, more authentic individual, who did not rely on financial imperatives.<sup>13</sup> Even if Deren, Brakhage, and Mekas had different ideas of what being an amateur meant, for all of them, praising amateurism was a way of assessing the feasibil-

Fig. 23: Hollywood star Kim Novak promoting the easy use of the Bolex camera.



ity of one-person films and to oppose the “division of labor” in the film industry.<sup>14</sup> The high regard for amateur formats should also be placed in the wider context of the attack on “technocracy” experts and professionalism throughout the arts<sup>15</sup> that was linked to the Brecht-inspired valorization of folk art and domestic practices at the time. Notably, Brakhage and Mekas compared their films to “home movies” as a way to advocate their own thematic focus on domesticity and the family sphere.<sup>16</sup>

Ironically, this assertion of amateurism somehow reflected the industry’s urge to equate technology and status: to be an amateur was to use amateur technology; since they were using 16mm or 8mm “amateur” technology, then they must be amateurs. Yet, these filmmakers were not amateurs in any literal sense: they developed very sophisticated and idiosyncratic uses of their medium – and Bolex required a true mastery to put its features to creative use. Instead, their reference to amateurism was instrumental in defining their own position as filmmakers working outside the industry and in asserting the aesthetic specificity and legitimacy of their work.

Maya Deren wrote extensively on technology and its importance for her artistic practice. In her text “Planning By Eye,” she explained how artistic ends and technical means dialectically inspired and influenced each other in her work.<sup>17</sup> For instance, she noted how the lack of sound in her Bolex camera helped her rely less on plot and on what she called the “theatrical tradition” in cinema, and how her concern with editing was born of the lim-

itations imposed by discontinuous shooting.<sup>18</sup> Expanding on Deren's comments, it is possible to explore how the aesthetics of certain avant-garde films relied on making the most of Bolex features regarding film length, single frame exposure, varying recording speeds, handheld camera moves and lack of synchronous sound. Examining these aspects may contribute to a better understanding of the aesthetics of the experimental film in the 1960s and 1970s.

## DISCONTINUITY

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Bolex 16mm cameras could hold 50 and 100-foot-long films, while 8mm models held 25-foot-long films, which was the equivalent of four minutes of film projected at 16 fps. Hence, the filmmaker working outdoors only had limited time to shoot before changing the reel—knowing that film was on a limited supply. Moreover, the Bolex's spring motor mechanism implied that you could only shoot for a few moments—about 30 seconds—in a row before having to wind the camera up. Discontinuous shooting probably favored discontinuous, fragmented, and elliptic forms. This limitation was used to various ends by filmmakers. Andy Warhol's *SCREEN TESTS*, his filmed portraits of Factory regulars, used the total length of the 100 feet of film for each take and each portrait, shot at 24 fps. The images were then screened in slow motion at 16 fps. The intensity of these portraits very much relies on their specific temporality and floating atmosphere, prompting comparisons with the stillness of photography and early cinema, while actually resulting from a deft and conscious use of a constraint of the apparatus.

Discontinuous shooting probably played a part in the emergence of such cinematographic forms as “notes” or “film journals.” In Jonas Mekas's *WALDEN* (whose alternative title is “Diaries, Notes and Sketches”), the film structure involves short scenes separated by descriptive or reflexive titles. Mekas's focus on everyday life implied there was no need for continuous action: the scenes he chose often implied everyday actions with no significant beginning or end, whose essence might be captured in a few moments of shooting. Mekas often lowered the recording speed, which further enabled him to crystallize the event in a few bursts of images. The irregular movement of the film—its uneven *défilement* to use Thierry Kuntzel's term<sup>19</sup>—became characteristic of his style. Marie Menken also made ample use of discontinuous forms, as in her film *NOTEBOOK*. At the beginning of *Go! Go! Go!*, she used a low recording speed together with a horizontal tracking shot taken from a moving vehicle to create collage-like views of passers-by in New York streets. In her film *ANDY WARHOL*, the same acceleration and disjunction is used to



reflect on the theme of series and on Warhol's mock-industrial artistic production, during the making of the Campbell Tomato Juice boxes.

Bolex cameras also had a manual rewind system, which made superimpositions easy to make. Mekas used low recording speeds and superimpositions to dazzling effects in *NOTES ON THE CIRCUS* (1966). Maya Deren and Alexander Hammid used superimposition very differently in one scene of *MESHES OF THE AFTERNOON*, where Deren sits at a table next to her mirror image. The Bolex's footage and frame counters would have enabled such special effects to be done with great precision.

## A DISJUNCTION BETWEEN SOUND AND IMAGES

Sound is another decisive, although perhaps obvious, aesthetic aspect of 1960s avant-garde films, which was guided by the limitations of the camera. 16mm cameras were silent until the 1950s, when they began allowing for synchronization to an external magnetic sound recording device, which meant that sound had to be captured separately and synchronized with the film. Bolex launched the "Synchromat" in 1957 and the "Sonorizer" in 1960 to that end. Yet, contrary to what happened in documentaries, avant-garde filmmakers rarely attempted to synchronize their footage with a simultaneously recorded soundtrack. A vast majority of films did not rely on dialogues, which were so essential to fiction films. Instead, they either kept their films silent or played on the disjunction between sound and images.

Andy Warhol's films made with a Bolex were silent. Marie Menken used an illustrative soundtrack of birds singing in *GLIMPSES OF THE GARDEN*, and no sound in *NOTEBOOK* and *GO! GO! GO!*. Maya Deren commissioned Teiji Ito for the musical soundtrack of *MESHES OF THE AFTERNOON*. Jonas Mekas made full use of Bolex limitations regarding sound. His film *LOST LOST LOST* (like many of his succeeding films) is based on a temporal gap between the moment the images were shot—from 1949 to 1963—and the moment the film was edited and the voice-over recorded, the film being finished in 1976. This temporal gap is structurally conveyed through a disjunction between sound and image. The commentary reflects on the footage years after the images were shot, echoing the film's central theme—Mekas's history of loss, exile, and subsequent discovery of cinema as a way of redeeming lost time. The elegiac comments and romantic music turn the film diary into a theater of remembrance.

## CONCLUSION

The variety of ways in which the filmmakers of the New York avant-garde responded to the same apparatus is telling of the fact that a technique is never creatively meaningful in itself. The painting is not the canvas. Yet as Maya Deren put it, these filmmakers developed “a certain creative attitude towards the medium”<sup>20</sup> which stemmed in part from the specificities of their tools. The aesthetics of discontinuity or the treatment of sound are some of the possible interconnections between technology and artistic forms; and other areas could be probed with regards to avant-garde film using 16mm or 8mm—for instance regarding film stock texture or color. Furthermore, the Bolex camera provides an interesting example of the way technology and culture interacted in a history of conflicting discourses, between amateurism and professionalism. In that sense, exploring the history of techniques—both from a cultural perspective and from a purely technical point of view—helps us better understand the specificity of experimental film from the 1950s to the 1970s and the ways in which it differs from other histories of the moving image.