Gabriel Menotti
0000-0002-7435-5539

Gabriel Menotti*

Discourses around vertical videos: an archaeology of "wrong" aspect ratios[1].

Discursos em torno dos vídeos verticais: a arqueologia de uma proporção "errada" de tela.

This paper seeks to provide historical references for the examination of contemporary forms of vertical moving images, often considered "wrong" due to their incompatibility with the audiovisual standards established in the West. Deploying an archaeological approach, the paper identifies expressions of verticality in moving images since their first modern developments, encompassing both the birth of cinema and the emergence of video art circuits in the 1980s-90s. These cases serve to underscore the disputed mediality of audiovisual systems. This paper concludes by showing how the negotiation of medium specificities continues through networked platforms and curated events, creating possibilities for the emergence of new technological art forms.

Esse artigo busca estabelecer referências históricas para a análise de imagens em movimento verticais, frequentemente consideradas "erradas" devido a sua incompatibilidade com os standards audiovisuais ocidentais modernos. A partir de uma abordagem de arqueologia de mídias, o artigo identifica expressões de verticalidade nas imagens em movimento desde seus primeiros desenvolvimentos, considerando o nascimento do cinema e a emergência dos circuitos de videoarte nos anos 1980-90. Esses casos ressaltam a midialidade disputada dos sistemas audiovisuais. O artigo conclui demonstrando como a negociação de especificidades midiáticas se estende por meio de plataformas em rede e da curadoria de eventos, criando a possibilidade para a emergência de novas formas de arte tecnológica.

Introduction

"Horizontally," the news anchor says. "Lying on its side," another insists. The statement is repeated again and again in a quick sequence of video excerpts by a number of TV reporters. "Always horizontally," they insist, hands stretching an imaginary frame out in the air. If it has not become clear by now, it is a humorous montage. Out of context, the characters are made to respond to a question incorporated in the title of the *BuzzFeed* post. White boldface letters over red background: *How would I like to be right now?*[2]. The unexpected black-and-white insert of a man hugging a dog while lying on a couch renders the answer palpable. The compilation, made in the spirit of reaction GIFs and other declaratory memes, is meant to assert something about the state of whoever shares it on social media. But, simultaneously, it hints on the degree of cultural saturation attained by the strange images it appropriates. What makes the compilation funny, after all, is the subversion of their familiar meaning.

If the reader is out of the loop, let me explain. Before being deployed as a tool for online expression and belonging, the scenes were part of some of the main Globo network's TV news programs. Originally, they had nothing to do with body postures, but rather with screen orientations. The reporters' somber, condescending tone addresses the audience, instructing them on the proper ways to make a video for TV. Globo had started a project on the occasion of the 2018 general elections called "The Brazil I want", inviting viewers to send videos telling their expectations for the country's future[3]. "Horizontally" is how a mobile phone should be held to record movies that would look good on the show. However, as the sheer volume and insistence of the reporters' pleas indicate, the network's advice was not being entirely successful. Unapologetically, one presumes, the public kept submitting vertical videos to them.

And why shouldn't they? Vertical aspect ratios are quickly taking over contemporary audiovisual environments. The format has become intrinsic to our everyday media experience precisely because of tablet and smartphone screens, often manipulated in an upright position. It is the norm for the hyper-ephemeral content native to these devices, such as social media stories, TikTok lipdubs, and Whatsapp chain messages, being expressive of what is current, fleeting and live. Movies recorded in this format, typically captured with mobile phone cameras, can easily be found on video sharing platforms, flanked by thick black mattes. The growing number of standing monitors to display electronic posters in

2. BUZZFEED BRASIL. **Caso ainda não tenha ficado claro**. [*S. l.*], 31 jan. 2018. Twitter: @BuzzFeedBrasil. Available from: https://twitter.com/BuzzFeedBrasil/status/958754590232600582. Access in: 18 Jan. 2019.

3. O BRASIL que eu quero. [*S.l.: s. n.*], 2018. Globoplay. Available from: https://globoplay.globo.com/o-brasil-que-eu-quero/p/10525/. Access in: 18 Jan. 2019.

shop windows and airport lounges implies that this proliferation is not restricted to the internet but also affects urban media architectures. The release of *Sickhouse* (2016), a feature-length thriller filmed entirely in vertical format, and originally shown on Snapchat as a kind of "found stream" stunt, suggests that the aspect ratio could even have some influence in established genres of cinematic storytelling.

Nevertheless, vertical moving images remain largely ignored by traditional cinema scholarship, overshadowed by other interpretations of verticality that have been much more concretely articulated throughout the history of audiovisual media. In Kristen Whissel's recent exploration of "the new verticality" in cinema photography, for instance, the verticalization of screens goes notably unmentioned. Whissel identifies how digital technologies have impacted the film industry by increasing the use of the screen's vertical axis since the late 1990s, but fails to address how the same transformations affected the frame format[4]. The disregard for screen orientation as a subject of inquiry seems to be collateral to the understanding of aspect ratios as what Sean Cubbit calls a *real abstraction*: one "which arises historically from specific conditions and which operates on those conditions as if it was a universally valid truth"[5]. Aspect ratio is, in that sense, deemed an unquestionable feature of moving images. It should therefore come as no surprise that most criticism against vertical videos, either from corporate news media or internet communities, is not justified by the fact that the format is aesthetically displeasing, but rather, as Globo's patronizing campaign heralds, because the format is *wrong*, as if resulting from unacceptable film-making mistakes. The implication being that horizontality is a property inherent to audiovisual media and, therefore, a common denominator of most (if not all) moving image technologies. But a quick glance at the current online video landscape immediately disproves this assumption.

The growing production of vertical videos, both as individual *ouvres* and a means of media expression, calls for the study of their history as a film style and the establishment of rigorous parameters for their comparative analysis. However, before engaging in these more sophisticated endeavors, it seems necessary to describe the current dispute around the format's legitimacy, and not only in order to inscribe it as an object in the field of cinema studies. The discussion around vertical videos reveals some concrete incompatibilities between socio-technical systems that media cultures try to bridge, despite the efforts they make to deny these incompatibilities. Its exploration could therefore allow us to examine how technological components are naturalized

4. WHISSEL, Kristen. **Spectacular digital effects:** CGI and contemporary cinema. Durham: Duke University Press, 2014. p. 28.

5. CUBITT, Sean. **Film, landscape and political aesthetics:** deseret. In: INTERNATIONAL SCREEN STUDIES CONFERENCE, 24., 2014, Glasgow, UK.

in our conventional audiovisual practices – in other words, how the abstract properties of the medium become "real."

An archaeology that is attentive to certain "non-obvious apparatuses, practices and inventions"[6] as related to moving image technologies reveals an unexpected diversity of aspect ratios. It also shows that screen configurations have not evolved under a linear progression, but rather through continuing reorganizations. Unusual formats, while being suppressed from cinema to advance its commercial development, were simultaneously promoted through aesthetic experiments elsewhere. Under that light, the bias against vertical moving images seems to have been largely influenced by socio-technical and cultural contingencies. In order to understand how horizontal moving images prevailed as normal, one could adopt Jonathan Sterne's concept of mediality. For the author, mediality does not represent a specific quality proper to any one element, but is rather a manifestation of the "collectively embodied process of cross-reference" between them[7]. As elements that "bind together 'different perspectival scales, technologies, epistemologies, rhythms, and affordances,'"[8] certain standards, such as the horizontal aspect ratio, come to define the medium as such and therefore earn a distinguished status among its features.

The current mass dissemination of vertical videos is evidence of a broader reconfiguration of audiovisual media caused by digital screens, computer networks and mobile media devices, and is likely to produce new standards. Horizontal images already seem out of place in contexts such as social media *stories* updates. Conversely, the resistance to acknowledging the legitimacy of vertical videos indicates certain contradictions caused by this development. Because vertical videos cause a disjunction between moving images and the established platforms, they signal essential disconnections between the medium's individual constituents. Thus, vertical videos challenge formal standards of audiovisual media and expose their arbitrary character. While seeking ways to either incorporate or suppress the format, the discourse networks established around vertical videos intervene in the alleged correspondence between visual qualities, spatial arrangements, viewing regimes, bodily practices, and modes of agency. To understand the continuing development of audiovisual media circuits, one must examine the role these networks play in the management of mediality and the ensuing societal shifts.

The historical suppression of vertical moving images

The verticalization of the moving image is not a phenomenon exclusive to mobile video culture. Many of the optical toys that were

6. PARIKKA, Jussi. **What is media archaeology?**. Cambridge, UK: Polity, 2012. p. 2.

7. STERNE, Jonathan. **MP3:** the meaning of a format. Durham: Duke University Press, 2012. p. 9-10.

8. Ibidem, p. 23.

9. BELL LABORATORIES. Two-way Television and a Pictorial Account of Its Background. 1930, p. 4. Available from: http://www.tvhistory.tv/1930-ATT-BELL.htm. Access in: 12 Nov. 2017.

10. HUHTAMO, Erkki. Elements of Screenology: toward an archaeology of the screen. **Iconics:** International Studies of the Modern Image, [*S. l.*], v. 7, p. 31-82, 2004. p. 61-62.

11. FRIEDBERG, Anne. **The virtual window**: from Alberti to Microsoft. Cambridge, MA: MIT Press, 2006. p. 131.

12. EISENSTEIN, Sergei. The Dynamic Square. **Close Up**, London, v. 8, n. 1, p. 2-16, 1931. p. 9-10.

13. Ibidem, p. 4.

14. Ibidem.

15. Ibidem, p. 9.

popular in the 19th century, such as the zoetrope and the phenakistoscope, favored narrow framing as a method to save reel space and focus the attention of the spectator onto one single image at a time. Likewise, early TV prototypes displayed images in a portrait orientation. The system pioneered by John Logie Baird in 1925, for example, employed a 3:7 ratio that was much better suited for its application as a face-to-face "system of communication that supplemented the telephone"[9]. The screen that is now recognized as traditional, the horizontal 4:3 rectangle, was made a cultural standard only in the 1950s in order to enable television networks to show the old movie serials and Hollywood films that largely adopted this format[10].

Nonetheless, it should be noted that, even for cinema, a horizontal standard was not established from the outset. The format of the film frame and screen were not normalized until the 1930s, coeval with the implementation of sound technologies that led to the uniformity of projection systems worldwide. The newly created American Academy of Motion Picture Arts and Sciences attempted to define a standard film aspect ratio to allow for the broad circulation of professional cinematographic works[11]. Among the options that the institution considered, there was a clear tendency towards the landscape orientation because of three reasons: its supposed statistical prevalence in painting, particularly in the "narrative" pictures of the 19th century; its resemblance to the horizontal aperture of the Western theatre stage; and the fact that it was more suitable to the physiology of human vision[12].

The conveniences of a fixed aspect ratio did not have universal appeal, though. For filmmaker Sergei Eisenstein, for instance, screen standards only represented the "limits within which revolve[d] the creative imagination of the screen reformers."[13] Instead of standardization, Eisenstein would rather have more opportunities for what he deemed the long-ignored "virile, active, vertical composition"[14]. During a speech given at a technical meeting of the Academy in 1930, Eisenstein upheld that, instead of making different forms of spectacles more similar to one another, "it is our task to seek out the strictest differentiation in adapting and handling them according to the organic specifics typical for each"[15]. According to him, to exclusively define a horizontal standard for the cinematographic image meant to exclude "50 percent of composition possibilities" from film projection. To encompass all possible formats, Eisenstein advocated for a cinema screen in the shape of a "dynamic square" that would be able to accept many projected frame geometries. Such a dynamic square would enable filmmakers to "give decent shots of

152

Gabriel Menotti

Discourses around vertical
videos: an archaeology of
"wrong" aspect ratios

so many things banished from the screen until today," such as winding medieval streets, overwhelming Gothic cathedrals, totem poles, and "the Paramount building in New York"[16].

According to Friedberg, Eisenstein's proposal represented more than a plea for creative freedom, leading to "speculation on the broader implications of [the screen's] otherwise unquestioned horizontality"[17]. In doing so, it challenged one of the medium's already implicit structures and represented an obstacle for the consolidation of universal industry standards and efficient commercialization. It should thus come as no surprise that, when it settled for a paradigm in 1932, the Academy opted for the much more manageable 4:3 horizontal rectangle, which had been used since 1889 in the works of Thomas Edison and William Kennedy Dickson and would eventually become known as the "academy ratio"[18].

Overlooked verticalities in experimental film and video

Despite the normalization of the horizontal frame in cinema and television, crowned by the adoption of the academy ratio by commercial TV, vertical moving images were never entirely eradicated. The portrait orientation has subsisted inconspicuously in seemingly marginal practices and avant-garde experiments, often closer to the art world than to the film industry. By operating under their own exceptional conditions or in symbiotic contrast with the technical standards of their time, these practices have remained essentially excused from the rules of everyday commercial media platforms.

Works such as *Commutazione con mutazione* (1969) and *Film Stenopeico* (1973/81/89), by Paolo Gioli, mobilize the verticality of the filmstrip in an exploration of the formal tensions between the image and the exhibition apparatus. By using custom pinhole cameras and techniques such as optical printing, Gioli has produced fragmented and superimposed images spreading "across two or more frames on the physical strip." David Bordwell classifies these pieces as "vertical cinema" in a direct reference to Eisenstein[19]. Nevertheless, since Gioli's films were made to run on conventional 16-mm apparatus, their verticality is not entirely evident. The format of the image is only hinted by the jerky movements of the projected frame, which both "expose and celebrate the vertical bias of the apparatus"[20]. From this perspective, Gioli's work does not seem to directly *confront* the horizontal screen but simply *proclaim* its different orientation from the projected film. In a gesture fitting the experimental film tradition, Gioli unveils the inner workings of the mechanism without breaking it apart.

16. EISENSTEIN, Sergei. Op. cit., p. 8.

17. FRIEDBERG, Anne. Op. cit., p. 130.

18. Ibidem, p. 131.

19. BORDWELL, David. Paolo Gioli's vertical cinema. **David Bordwell's website on cinema**. Madison, Aug. 2009. Available from: http://www. davidbordwell.net/essays/ gioli.php. Access in: 11 Nov. 2017.

20. Ibidem.

21. AV, Mario. Usando o Monitor de Pé. **Different Thinker**, 5 May 2008. Available from: http://marioav.blogspot.com.br/2008/05/usando-o-monitor-de-p.html. Access in: 11 Nov. 2017.

Outside of the cinematographic medium, cases of vertical moving images are even more abundant. Since the mid-1970s, vertical monitors have been used in many popular video game machines. The standing screen fosters certain gameplay conventions while simultaneously allowing for slimmer cabinets that are easier to accommodate in the limited space of arcade parlors. In the 1980s, a couple of vertical computer monitors were released for the consumer market aimed at word processing and desktop publishing[21]. Even though they were not popular at that time, these monitors correctly predicted the widespread vertical use of newer computational devices such as tablets, smartphones, and e-readers. In such devices, the portrait orientation becomes a transparent interface feature in that it suits the screen's particular functions and modes of operation. There is no apparent incompatibility between the image format and the screen aspect ratio.

The free coupling between image formats and display conditions is enhanced in the contemporary art world. The modern gallery operates as a sort of *tabula rasa* able to accommodate, often simultaneously, a wide variety of exhibition systems. Such openness has provided artists with the opportunity to explore the verticality of the moving image as a compositional element, often in dialogue with the history of painting. There are many examples of the format in videos by Bill Viola, such as the diptych *The Crossing* (1996). *The Crossing* consists of two vertical screens of approximately four meters in height positioned back to back. Each screen depicts a man walking towards the spectator. When this character arrives at a certain distance, he is either struck by raising flames or drenched in falling water. After these elemental forces settle, the man has disappeared, and the video fades to black. In this work, the upright composition emphasizes the physiognomy of the human body and the dynamic of the natural elements. Combined with a pervasive slow motion effect, the vertical aspect ratio evokes the style of Renaissance's devotional pictures, a trope common to Viola's work.

Electronic technology conflated this pictorial exploration with issues of circulation and materiality befitting contemporary mass media. One exemplary case involves the "ambient films" *Mistaken Memories of Mediaeval Manhattan* (1981) and *Thursday Afternoon* (1984) made by Brian Eno. While Viola employed vertical video to feign the effect of movement in painting, Eno seemed more interested in using this format as a means to "paralyze" the moving image. As he explained in an interview published in *New Music Express*, to call his work "video paintings" is "a way of saying 'I make videos that don't move very fast'"[22]. The portrait orientation made the mere act of watching his pieces'

22. EWART, Joe. Proxy Music: an interview from New Music Express. **The Hyperreal Music Archive**, [*S. l.*], 9 Nov. 1985. Available from: http://music.hyperreal.org/artists/brian_eno/interviews/nme85.html. Access in: 11 Nov. 2017.

domestic VHS releases an extraordinary effort – "a combination of the hazardous and foolhardy to all but the most diehard Eno aficionados"[23]. In that sense, Eno's work seems to tap into the same experimental tradition as Gioli's, which deploys the vertical format to underscore the apparatus' objective presence and its active role in the performance of the moving image.

As paradoxical as it may seem, the conditions for vertical video exhibition were made much more attainable through the developments of digital widescreen technology. High-definition flat monitors are lightweight structures frequently built without features to indicate a particular orientation. Moreover, unlike the scan lines evident in a cathode ray tube (CRT) display, the LED matrix they employ does not have a predefined signal direction. The material presence of the video screen is thus attenuated, enabling easier verticalization. Suspended by cables or mounted on walls at the height of the spectator's gaze, flat monitors are strikingly similar to framed canvas. These changes apparently relieve the operational tensions caused by the unusual format and allow for more freedom in pictorial composition. Unsurprisingly, vertical display alternatives have been largely used for art pieces, whether Viola's latest video portraits or other recent works that explore the extraordinary stasis of natural landscapes, such as *Octfalls* (Ryoichi Kurokawa, 2011) and *Uyuni Sutra* (Rosângela Rennó, 2011).

In 2014, two very similar "video canvases" meant to bring this portrait orientation out of the gallery and into the consumers' living rooms. Resulting from very successful crowdfunding campaigns, the devices – *FRAMED*2.0* (FRM, 2014) and *EO1* (Electric Objects, 2014) – were designed as distribution and display platforms for digital media content. They are essentially large HD screens incorporating computer hardware and sensors, which enable them to run interactive artworks. What goes unmentioned in their promotional material, though, despite very detailed lists of design specifications, is a characteristic that seems obvious from the devices' photo and video mock-ups: both clearly favor a vertical aspect ratio. I suspect the portrait orientation is used here precisely because it makes the devices stand out among the all-purpose horizontal screens the owner would already have at home. In the same way that it allows for certain composition possibilities and operations within the frame, the screen aspect ratio imparts on the image a particular spatial presence. By giving the digital canvas this prominence while making it unfit for both everyday work and the consumption of standard content, the vertical format reinforces the device's aesthetic exceptionality. In that sense, the screen orientation serves a subtle interfacial function, leading

23. COULTHART, John. Mistaken memories of Mediaeval Manhattan. **Atelier Coulthardt**. Manchester, 5 Jul. 2013. Available from: http://www.johncoulthart. com/feuilleton/2013/07/05/ mistaken-memories-of-mediaeval-manhattan/. Access in: 11 Nov. 2017.

24. SOKOL, Zach. The next stop for digital art?: Your wall. **Vice**, London, 8 Jul. 2014. Available from: https://www.vice.com/en_uk/article/vvydmd/electronic-objects-is-the-next-stop-for-digital-art. Access in: 11 Nov. 2017.

the audience to "understand that this internet-enabled object is meant for cultural use rather than pragmatic functioning"[24].

Although the use of high-definition widescreen technologies does not completely normalize vertical moving images, it indicates a clear departure from the sheer operational tensions sought by experimental media practices. Portrait orientation is now often deployed as a means to singularize a work, endowing it with the almost self-evident quality of being "not-cinema." The vertical aspect ratio was used for example in *FILM* (2011), Tacita Dean's 35 mm projection that stands as a tribute to the end of the eponymous material. The piece was commissioned by the Tate Modern gallery to be shown in its spacious Turbine Hall for five months. Similar to Gioli's pieces, *FILM* utilizes the vertical format to call forth this normally invisible component of cinematographic exhibition. However, because of the technology employed and the conditions of installation provided by the gallery, the shape of the filmstrip could be made explicit in the projection. The image**,** which depicts a long stretch of celluloid film, is shown in a 13-meter tall vertical frame. Combined with its monumental size, the piece's aspect ratio produces a rather uncanny impression, supposedly reminiscent of the monolith in *2001: A Space Odyssey*. Standing as a giant tombstone for cinema, the screen is finally released from the medium's norms, becoming free to assume its own sculptural presence.

Disputed aspect ratios in online audiovisual media

25. BOLTER, Jay; GRUSIN, Richard. **Remediation:** understanding new media. Cambridge, MA: MIT Press, 2000.

The recent proliferation of vertical moving images likely results from the remediation of older cultural forms, as digital technologies absorb their particular characteristics to perform their function[25]. The potential for a broad variety of image formats is innate to the modern computer Graphical User Interface (GUI), as demonstrated by its use of fluid and overlapping windows. The dissemination of computational infrastructures extends such protean character to a wide range of visual media. As previously mentioned, flat HD monitors can be verticalized to operate as electronic posters. Therefore, they can be adapted to narrow spaces in order to depict particular types of information, such as fashion advertisements or flight lists. A similar remediation process occurs in devices like smartphones, tablets and e-readers, which largely inherited their form factor from analogue predecessors made to be used vertically. The smartphone vertical design allows the device to be held alongside the user's face and directs the acoustic terminals simultaneously to the mouth and ear. Tablet computers, in turn, emulate a book page,

enforcing a coincidence already noticed by Walter Benjamin: that newspapers, advertisement, and film, as modern mass media, cause print to "rise from the ground"[26].

It should be noted, however, that these handheld apparatuses are not limited to *showing* images. Because of their computational affordances and the incorporation of optical mechanisms, smartphones are also able to process, stream, and even record video. The devices that sport frontal cameras often have them centralized above the screen in the vertical axis, making the upright orientation more convenient for interpersonal visual communication. Considering how smartphones are commonly held, it is not difficult to imagine situations in which their back cameras are used in a similar vertical way. Some models include sensors that allow them to recognize the orientation in which a video was recorded and adjust the image accordingly. Due to this combination of factors, the use of smartphones as contemporary *caméra-stylos* has likewise increased the *production* of vertical videos, as well as their dissemination in social networks attended by a large public.

Online social media are the milieu in which vertical videos cause the most controversy. Other unusual aspect ratios of pre-cinematographic origin, such as the 1:1 square popularized by *Instagram* and *Vine*, do not seem to attract any noticeable contempt. The verticality of the moving image, conversely, is often scorned as a sign of amateurism: evidence that the filmmaker did not know how to use the camera properly or was not able to conform the material during post-production. This rejection might be related to the way vertical videos are presented in platforms such as YouTube. The process of pillarboxing used to make the image fit into the website's fixed video frame evinces an apparent incompatibility between the vertical aspect ratio and the display standards. It therefore implies that the unusual format disrupts established cross-references between the medium's infrastructural components, effectively impairing the experience of media circulation.

It must be noted, however, that media industries are engaged in the preservation of moving image standards for reasons other than a commitment to abstract notions of mediality. YouTube employs boxing as a way to keep all videos contained within the same frame, first and foremost to preserve the website's overall layout. The stabilization of this structure is necessary because it allows the platform to organize its entire content, from user videos to related links and overlaid advertisement. Presenting each video in a frame corresponding to its original aspect ratio would require the continuing adaptation of the website's calculated grid, subverting a certain economy of rhythm

27. GALLOWAY, Alexander.
Protocol: how control exists
after decentralization.
Cambridge, MA: MIT Press,
2004. p. 64.

28. VANHEMERT, Kyle. Horizon
app solves the dumbest thing
about smartphone video.
Wired, Boone, IA, 22 Jan. 2014.
Available from: https://www.
wired.com/2014/01/camera-
app-solves-single-dumbest-
thing-smartphone-video/.
Access in: 11 Nov. 2017.

and attention from which the platform profits. Although this change may appeal to certain users interested in exploring unusual formats, it would nevertheless disrupt the website's seamless continuity, most likely destroying its semblance of coherence, and negatively impacting YouTube's business underpinnings[27].

Media industries may extend their power to regulate standards by embedding restrictions in the very technologies of moving image production, distribution, and exhibition. Camera applications such as *Horizon* (2013) are made to inhibit the production of vertical videos with mobile devices. The app employs accelerometer data to crop the recorded video and preserve the horizontal aspect ratio no matter how the device is held. Even though the app provides more of a novelty effect than effective image stabilization, it was largely celebrated by the specialized press. A reviewer from the *Wired* magazine even declared that it "solves the dumbest thing about smartphone video", urging Google and Apple, as developers of the most popular mobile operational systems, to "[implement] a solution like this on a system level"[28]. This desire would be partially fulfilled on April 2013, with the release of the official *Google Camera* for Android and the latest update of *YouTube Capture* for iOS, both of which deactivate their video recording functions when the device is held vertically.

Software solutions that prevent media systems from being interacted with in certain ways suppress the transformation of moving image formats by crystallizing particular user behaviors. Similar to the video muting circuits of old analogue TV sets, they seek to write off of the medium the visual features they deem as noise. Thus, they overturn the operational logic of mediality and inhibit the continuing reorganization of the elements that constitute audiovisual systems on behalf of the preservation of established formal characteristics. Whether applied for or against the circulation of vertical videos, this use of digital algorithms has a profound effect on the disputes over the language and economy of audiovisual media since it completely disenfranchises certain practices while seemingly naturalizing others. As the conditions for visual compatibility are settled on such deep technical levels, the reality of real abstractions is made even more concrete, and the power that users have over their own images is largely undermined.

However, considering the poor reputation that vertical videos have on the internet, it is not surprising that these restrictions would be welcomed by a large part of the user base. A quick search for "vertical video" on Google or Duck Duck Go is enough to show the extent of this rejection. Most likely, the first hit will not be an actual video

made vertically, but rather a work that criticizes them: *Vertical Video Syndrome – A Public Service Announcement* (hereafter *VVS*). *VVS* is the most popular episode of the YouTube channel *Glove and Boots*, a comedy series featuring puppets. Browsing its comment section, it is easy to see how the act of ridiculing vertical videos resonates with the internet audience. Most of the users' feedback shows support for the *VVS* message. A recent comment reads: "People: STOP RECORDING VERTICAL VIDEOS. *This video is over two years old but still relevant!*"[29]. Another is even more dramatic: "I know I've shared this before but it's extremely important. People who record videos vertically are creating a horrible world for our children and MUST. BE. STOPPED!"[30].

VVS predicates its attack on vertical videos upon the claim that the horizontality of movie screens is natural since it corresponds to the format of human vision. Most of its arguments, however, could be dismissed by a close examination of the characteristics of the cinematographic apparatus. Historically, projection devices were engineered to promote the medium's commercial viability in spite of contingencies inherited from legacy media. The refusal of vertical videos based on purely physiological assumptions implies the normalization of the medium as a transparent channel for the intermediation of reality, favoring immersion and presence, instead of a systemic assemblage meant for the trade of visual representations with many different possible uses and formats.

Human perception is not wholly "natural," after all, in the sense that it does not completely predate media. Following on Michel Foucault's work on the disciplinarization of the body, Jonathan Crary has thoroughly investigated the production of the modern observer as an autonomous subject during the 19th century[31]. Crary demonstrates that the very understanding of vision as a physiological process emerged along with the establishment of practices and modes of knowledge that allowed for its measurement, control, and normalization. From this perspective, vision is only regarded as natural insofar as it is framed within a wider network of socio-technical processes. The supposedly "realist" media formats that mean to represent the world in high-fidelity are in fact deeply informed by external factors, whether cultural or political. In that sense, when it makes claims based on the purported horizontal nature of vision, *VVS* actually means to promote the "nature" of vision as such.

The biological argument obfuscates anxieties more directly connected to movie distribution. The standardization of aspect ratios, one must recall, made movies into a universally interchangeable

29. ARONSON, Robert. 8 jul. 2014. Comment on Glove and Boots, Vertical Video Syndrome – A PSA, **YouTube**, 5 jun. 2012. Available from: https://plus.google.com/u/0/+RobertAronson/posts/9FPU6LjF3yg. Access in: 11 Nov. 2017.

30. PAYNE, Chris. June 28, 2014. Comment on Glove and Boots, "Vertical Video Syndrome – A PSA". **YouTube**, 5 jun. 2012. Available from: https://plus.google.com/u/0/+ChrisPayne/posts/Xf3yxXnXXss. Access in: 11 Nov. 2017.

31. CRARY, Jonathan. **Techniques of the observer**: on vision and modernity in the nineteenth century. Cambridge, MA: MIT Press, 1992.

commodity – or "content," as the vloggers say. Anyone can be substituted by any other in the frame of display. The proliferation of vertical videos among standard screens provokes a disjunction in that economy, revealing the fundamental disconnection between image production and consumption, as well as the historic arbitrariness that gave form to contemporary media environments.

On the other hand, an equivalent anatomical "truth" exists for the vertical format. Even in amateur videos, the portrait orientation never seems to result from the sheer negligence of the filmmaker. On the contrary, it conveys their effort to achieve the best visual composition possible given the recording situation. As the definitive fulfillment of handheld camerawork, the vertical video expresses not a disembodied, all-seeing eye, able to conform the world to the frame, but rather expresses the embodied filmmaker, placed within the same world that is being recorded, precariously handling the camera. Thus tailored for the depicted scene, the use of the vertical format is not wrong *in itself*. On the other hand, it is *made inappropriate* by the way it is presented to the audience, using the previously mentioned process of pillarboxing.

The black mattes used for boxing indicate a form of *intermedial translation* that has been consistently employed in the process of film-to-video conversion for decades. These mattes mean to fill the differential screen space that exists between two distinct aspect ratios and preserve the form and composition of the source image. However, as Charles Tashiro already noted in the case of letterboxing, they offer an ambivalent solution. While seemingly preserving cinema's widescreen format, letterboxing makes it "smaller" than the TV screen, thus subverting the expected hierarchy between these two media. Moreover, the black mattes disrupt the diegetic world, causing an unexpected "violence to our normal cinematic experience"[32]. Therefore, letterboxing represents an obstacle for the immersion in classical cinematographic narrative caused by the shortcomings of the television system.

The kind of boxing used for the translation of (vertical) mobile into (horizontal) online video causes a similar impression that the image does not belong to the exhibition channel. Nevertheless, both *VVS* and the user comments on its page communicate a substantial change in the manner this incompatibility is understood, departing from what Tashiro detected in the early 1990s. The mattes used for accommodating vertical videos are mentioned as if they affected not the aesthetics of the image, but rather the structure of circulation itself. And the responsibility for this is attributed not to the means of exhibition, but rather to the inability of the content producer. Thus, the users' activity

32. TASHIRO, Charles. Videophilia: what happens when you wait for it on video. **Film Quarterly**, Berkeley, v. 45, n. 1, p. 7-17, 1991. p. 14.

suggests a discursive formation upholding the established standards of moving image circulation and legitimizing systemic restrictions to its production. While the process of boxing might simply indicate the disputed condition of image formats, the public discourse regarding this process enforces the authority of the exhibition platform at the expense of the ingenuity of its subjects.

Re-coupling the vertical orientation: manifestos and screenings

Comments from the *VVS*' page discussed above indicate how the diversity of moving image formats can be inhibited not only because of physical contingencies, but also due to the way participants of a filmmaking community police each other's work. In the specific case of vertical videos, the controversies are counterbalanced by a spark of genuine interest for the exploration of the format. Lately, the portrait orientation has been championed in several movies, filmmaking practices, and special screenings – often, if not as a creative development, at least as a phenomenon worthy of intellectual engagement. Similarly to *VVS*, these pieces address questions of image compatibility and partake in the dispute on which formats are allowed within certain audiovisual channels. In doing so, they mean to challenge the criticism against vertical videos by creating alternative discursive formations which promote this format.

A first example to be considered is the documentary *Curry Power* (Christoph Geiseler, 2012), a collection of scenes from India in the guise of a personal travelogue. The director first published the piece along with a column entitled *Improvisation: Vertical Videos offer iPad Users a Unique Experience*.[33] In this context, the video operated as a proof of concept that showed how the vertical format could be used to "document the stories of our everyday lives." Likewise, the seemingly parodic *Vertical Video Manifesto* (2013), attributed to a certain "Vertical Feminist Collective," praises the "punk" qualities of the portrait orientation. The piece stems from academic research conducted by professors Miriam Ross and Maddy Glen and it was explicitly made in support of vertical videos. Ross and Glen followed the manifesto with three narrative shorts, a workshop open to the general public, and a journal article addressing some of the historical context behind vertical screens.[34] Works such as these are committed not simply to exploring the aesthetic qualities of vertical videos, but also to legitimizing this exploration. As pieces that embody the vertical format rather than simply

33. GEISLER, Christoph. Improvisation: vertical videos offer iPad users a new experience. **Huffpost**, [*S. l.*], 25 May 2012. Available from: https://www.huffingtonpost.com/christoph-a-geiseler/ipad-vertical-videos_b_1540901.html. Access in: 11 Nov. 2017.

34. ROSS, Miriam; GLEN, Maddy. Vertical cinema: new digital possibilities. **Rhizomes**, [*S. l.*], v. 26, 2014. Available from: http://www.rhizomes.net/issue26/ross_glen.html. Access in: 11 Nov. 2017.

35. KITTLER, Friedrich. **Discourse networks 1800/1900**. Stanford: Stanford University Press, 1992. p. 42.

making abstract claims about it, they tap into the material conditions of media and ultimately seek to intervene in the techniques and standards that "govern the concrete manipulation of language."[35]

A similar agenda inspired the creation of communities such as the Vimeo group *Tallscreen*, which gathers enthusiasts of vertical video production. These users take advantage of the fact that Vimeo has always allowed the videos it hosts to be embedded elsewhere in their original format, regardless of the aspect ratio. The group description hails the vertical format as a "new wave of videography" and provides guidance on best practices for vertical video production, including the use of DSLR cameras and tips on how to avoid the "non-aesthetic Jello Effect." In this case, the move to subvert current standards of video production comes along with a rhetoric of aesthetic innovation, begging for the creation of alternative cinematographic languages. Older standards are substituted by new ones.

These initiatives demonstrate that the incompatibility with current standards of circulation does not need to result in the suppression of emerging moving image formats. Conversely, incompatibilities may inspire the reorganization of exhibition channels in order to accommodate new media practices. Geiseler, in particular, underscores how suitable vertical videos are to our mobile devices' current mode of operation. The widespread use of the format in video messaging applications such as *Snapchat* and the more recent popularity of Instagram's *stories* function indicate a strong predisposition that could be applied to other kinds of audiovisual content. It is a proposal that deserves serious consideration, the more mobile devices are used as a primary means of online media consumption.[36]

36. The commercial takeover of vertical videos might happen sooner than we expect. While working on this research, a former student contacted me to tell that his production company had been hired to make some work in the format. They were advertisements for a local fashion brand, meant to circulate on social media feeds, already aiming at the mobile audience.

37. Bartholl, Aram. Vertical video DVD. **Aram Bartholl**, Berlin, 28 Mar. 2013. Available from: http://datenform.de/blog/vertical-video-dvd. Access in: 11 Nov. 2017.

On the other hand, it is also possible to create completely alternative infrastructures of exhibition fitting the vertical format. Notable attempts to do so borrow from the festival model, which allows for extraordinary arrangements of the projection apparatus. On February 2013, the artist Aram Bartholl partnered with *curatingyoutube.net* to organize a screening of *Vertical Cinema* in the Platoon Kunsthalle Berlin. Employing a fullscreen 9:16 projection, the show presented a compilation of amateur videos on topics "whose vertical treatment is a natural and fitting decision."[37] A selection of the program was later released as part of Bartholl's *Dead Drops* burn-it-yourself DVD series, along with a satirical video tutorial on "how to watch a vertical video." In the tutorial, the organizers are shown demonstrating the feasibility of turning a widescreen monitor on its side, as if responding to *VVS*' taunts. Jokes aside, the artists' endeavor can be regarded as a tactical media form of promoting vertical video circulation.

162

Gabriel Menotti

Discourses around vertical
videos: an archaeology of
"wrong" aspect ratios

In that same year, another project with the same name sported much more ambitious goals. The Sonic Acts festival, a long-running Dutch event for interdisciplinary media arts, commissioned the production of ten vertical shorts from international artists. The works were made to be presented in that year's edition of the festival, in a site-specific screening held at a local church, employing a custom-made 35 mm projector and an upstanding CinemaScope screen. This use of traditional cinematographic apparatus, like in Dean's *FILM* installation, was not incidental: the Sonic Acts' screening meant to comment on the state of moving image technology by creating a sensual architecture reminiscent of the traditional World Expo's mega-structures. In such a situation, vertical cinema was presented as a means to stage "a future for film-making rather than a pessimistic debate over the alleged death of film."[38] The project later resulted in an itinerant screening presented at some of the main film festivals in Europe. One of these programs included lectures with international academics and curators, suggesting that a case is being made for the format's legitimacy, as it moves from a media arts ghetto into the mainstream festival circuit.

These examples demonstrate that unusual formats thrive when new conceptual or socio-technical synergies are created between their means of production and the established platforms of moving image circulation. In doing so, projects in vertical cinema seem to answer Eisenstein's call to "break that loathsome upper part of the frame."[39] Instead of allowing the vertical format to be curbed by traditional media standards, they adopt it as a spearhead aimed at destroying those same standards. From this perspective, the vertical video could be understood as an anomaly in the sense that Thomas Kuhn has given to this term: an element that, escaping the current paradigm, is able to expose its shortcomings and predicate its transformation.[40] Not a scrawny image, three times narrower than the screen, overwhelmed by negative space; but rather larger, three times as taller, impossible to contain.

38. BELINA, Mirna. **Kontraste cahier no 3**: vertical cinema. Amsterdam: Sonic Acts, 2013. p. 5.

39. EISENSTEIN, Sergei. Op. cit., p. 4.

40. KUHN, Thomas. **The structure of scientific revolutions**. Chicago: University of Chicago Press, 1962.

Bibliografia

ARONSON, Robert. Comment on Glove and Boots, Vertical Video Syndrome – A PSA, **YouTube**, 5 jun. 2012. Available from: https://plus.google.com/u/0/+RobertAronson/posts/9FPU6LjF3yg. Access in: 11 Nov. 2017.

AV, Mario. Usando o Monitor de Pé. **Different Thinker**, 5 May 2008. Available from: http://marioav.blogspot.com.br/2008/05/usando-o-monitor-de-p.html. Access in: 11 Nov 2017.

Bartholl, Aram. Vertical video DVD. **Aram Bartholl**, Berlin, 28 Mar. 2013. Available from: http://datenform.de/blog/vertical-video-dvd. Access in: 11 Nov. 2017.

BELINA, Mirna. **Kontraste cahier no 3**: vertical cinema. Amsterdam: Sonic Acts, 2013.

BELL LABORATORIES. Two-way television and a pictorial account of its background. 1930. Available from: http://www.tvhistory.tv/1930-ATT-BELL.htm. Access in: 12 Nov. 2017.

BENJAMIN, Walter. **One-way street and other writings**. London: NLB, 1979.

BOLTER, Jay; GRUSIN, Richard. **Remediation:** understanding new media. Cambridge, MA: MIT Press, 2000.

BORDWELL, David. Paolo Gioli's vertical cinema. **David Bordwell's website on cinema**. Madison, Aug. 2009. Available from: http://www.davidbordwell.net/essays/gioli.php. Access in: 11 Nov. 2017.

BUZZFEED BRASIL. **Caso ainda não tenha ficado claro**. [S. l.], 31 jan. 2018. Twitter: @BuzzFeedBrasil. Available from: https://twitter.com/BuzzFeedBrasil/status/958754590232600582. Access in: 18 Jan. 2019.

COULTHART, John. Mistaken memories of Mediaeval Manhattan. **Atelier Coulthardt**. Manchester, 5 Jul. 2013. Available from: http://www.johncoulthart.com/feuilleton/2013/07/05/mistaken-memories-of-mediaeval-manhattan/. Access in: 11 Nov. 2017.

CRARY, Jonathan. **Techniques of the observer**: on vision and modernity in the nineteenth century. Cambridge, MA: MIT Press, 1992.

CUBITT, Sean. **Film, landscape and political aesthetics:** deseret. *In*: INTERNATIONAL SCREEN STUDIES CONFERENCE, 24., 2014, Glasgow, UK.

EISENSTEIN, Sergei. The Dynamic Square, **Close Up**, London, v. 8, n. 1, p. 2-16, 1931.

EWART, Joe. Proxy Music: an interview from New Music Express. **The Hyperreal Music Archive**, [*S. l.*], 9 Nov. 1985. Available from: http://music.hyperreal.org/artists/brian_eno/interviews/nme85.html. Access in: 11 Nov. 2017.

FRIEDBERG, Anne. **The virtual window**: from Alberti to Microsoft. Cambridge, MA: MIT Press, 2006.

GALLOWAY, Alexander. **Protocol:** how control exists after decentralization. Cambridge, MA: MIT Press, 2004.

GEISLER, Christoph. Improvisation: vertical videos offer iPad users a new experience. **Huffpost**, [*S. l.*], 25 May 2012. Available from: https://www.huffingtonpost.com/christoph-a-geiseler/ipad-vertical-videos_b_1540901.html. Access in: 11 Nov. 2017.

HUHTAMO, Erkki. Elements of Screenology: toward an archaeology of the screen. **Iconics:** International Studies of the Modern Image, [*S. l.*], v. 7, p. 31-82, 2004.

KITTLER, Friedrich. **Discourse networks 1800/1900**. Stanford: Stanford University Press, 1992.

O BRASIL que eu quero. [*S.l.: s. n.*], 2018. Globoplay. Available from: https://globoplay.globo.com/o-brasil-que-eu-quero/p/10525/. Access in: 18 Jan. 2019.

PARIKKA, Jussi. **What is media archaeology?**. Cambridge, UK: Polity, 2012.

PAYNE, Chris. June 28, 2014. Comment on Glove and Boots, "Vertical Video Syndrome – A PSA". **YouTube**, 5 jun. 2012. Available from: https://plus.google.com/u/0/+ChrisPayne/posts/Xf3yxXnXXss. Access in: 11 nov. 2017.

ROSS, Miriam; GLEN, Maddy. Vertical cinema: new digital possibilities. **Rhizomes**, [*S. l.*], v. 26, 2014. Available from: http://www.rhizomes.net/issue26/ross_glen.html. Access in: 11 nov. 2017.

SOKOL, Zach. The next stop for digital art? Your wall. **Vice**, London, 8 Jul. 2014. Available from: https://www.vice.com/en_uk/

article/vvydmd/electronic-objects-is-the-next-stop-for-digital-art. Access in: 11 Nov. 2017.

STERNE, Jonathan. **MP3:** the meaning of a format. Durham: Duke University Press, 2012.

TASHIRO, Charles. Videophilia: what happens when you wait for it on video. **Film Quarterly**, Berkeley, v. 45, n. 1, p. 7-17, 1991.

VANHEMERT, Kyle. Horizon app solves the dumbest thing about smartphone video. **Wired**, Boone, IA, 22 Jan. 2014. Available from: https://www.wired.com/2014/01/camera-app-solves-single-dumbest-thing-smartphone-video/. Access in: 11 Nov. 2017.

WHISSEL, Kristen. **Spectacular digital effects:** CGI and contemporary cinema. Durham: Duke University Press, 2014.

Gabriel Menotti é professor no Departamento de Comunicação na UFES e nos Programas de Comunicação e Territorialidades e de Artes da Instituição. Atua como curador em formas variadas de cinema. É PhD em Media and Communications pelo Goldsmiths College e pela PUC-SP. Teve trabalhos apresentados em eventos tais como ISEA, Bienal de Arte de São Paulo, Rencontres Internationales Paris/Berlin/Madrid e Festival Transmediale. Escreveu e organizou publicações sobre imagem e tecnologia no Brasil e no exterior. Seus últimos livros são a coletânea *Curadoria, cinema e outros modos de dar a ver* (Edufes, 2018) e a monografia *Movie circuits: curatorial approaches to cinema technology* (Amsterdam University Press, 2019). Coordena a rede de pesquisa Besides the Screen.