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Narrative Polyphony in Split-Screen Cinema – Gaspar Noé's *Vortex* (2021)

Abstract: Despite audience's incessant exposures to a multitude of screens, windows, and images in contemporary times, the presence of more than one screen at once in a cinematic context creates a problem that conflicts with the medium itself: the competition for protagonism among the different narratives that form the entirety of the frame. Even though this feature is mostly used to the films' advantage, it is nevertheless interesting to understand how different images and sounds can be composed in time and space.

Therefore, drawing on John Bruns, I propose to analyze this relationship between screens from a perspective analogous to that of music. I attempt to transpose the idea of polyphony (i.e., a composition that encompasses melodic lines that, albeit independent, create a whole greater than the sum of its parts), to the work on narrative multiplicity in cinema. However, I believe that this analogy might be more interesting if one considers specifically the split-screen technique, where there are literally several moving pictures that interact with one other on a single frame simultaneously, yet independently, creating—much like in music—a whole greater than the sum of its isolated lines. I will delve on how multiple events, and their relative importance within the frame, may be developed through this cinematic device, allowing them to diverge, intersect, overshadow, or complement one other. My interest in the relationship between these multiplicities resides precisely in their fluctuations.

I propose to apply this reasoning to the film *Vortex* (Gaspar Noé, 2021) which I consider to be an object that encapsulates all the aforementioned aspects. I have selected this example not necessarily because it is produced almost entirely in split-screen, but rather because of the exquisite way in which this polyphony contributes to the construction of the film's dramaturgy.

Keywords: Split-Screen, Polyphony, Musicality, *Vortex,* Gaspar Noé.

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Introduction

During the past few decades, the use of the split-screen technique in moving images has become increasingly common. Television series are becoming more and more popular (Talen 1–2), and the same is taking place in art installations, where the proliferation of screens has practically become a norm. In cinema, although to a lesser extent, this technique has become a trend, particularly among *auteurs* like Gaspar Noé. However, considering that cinema is a relatively recent art form, such simultaneity of multiple images is still quite in its infancy, not constituting yet a style, but rather being approached intuitively, sometimes without profound thought.

Therefore, drawing on the concept of musicality, as advocated by Danijela Kulezic-Wilson (5–12), I intend to look at another art form, one which has systematically worked with the multiplicity of forms/sounds since the 13th century, i.e. music, focusing primarily on the technique of Western Polyphony. Only after a more detailed explanation of the characteristics of the split-screen and what polyphony entails in the musical context, is it possible to establish an analogy between the two devices and argue in favour of the use of the polyphonic technique—worked on by various musical movements—in split-screen cinema. The latter could greatly benefit from this relationship between temporal heterogeneous forms derived from music. I will illustrate how this analogy can be made, using Gaspar Noé's film *Vortex* (2021) as study case.

The split-screen and its features

In cinema, the split-screen technique, by its very nature, raises a series of issues, which can be viewed as either challenges or, more interestingly, as attributes that enrich the result. In this essay, I focus exclusively on split-screen as opposed to "mosaic-screen". While split-screen entails the division of a single frame usually into equal parts, mosaic-screen refers to a more complex visual composition of different moving images, often with different forms and dimensions, within a single frame, (Dias Branco 4–6). Although the split-screen also serves an aesthetic purpose, it mostly highlights the simultaneity of all the narratives and/or points of view in a more objective way.

With that said, we may define split-screen as an audiovisual technique that divides the frame into different parts, ideally equal, with each presenting a distinct moving image, thus resulting in a composition of multiple spatialities. In my opinion, the main characteristic of the split-screen lies precisely in the temporal coexistence and spatial disruption between events. While crosscutting induces a sense of synchronicity, breaking the spatial homogeneity, it can never be more than a mental association. It is the editing that suggests

contemporaneity through the juxtaposition of shots (Ingrassia 21). Other attempts were made to combine multiple events in cinematic contexts, such as the use of depth of field to allow actions to coexist in the foreground and background of a shot. An emblematic example that makes ample use of this technique is Orson Welles's *Citizen Kane* (1941). However, despite there being synchronicity between actions, there is no spatial rupture and, therefore, multiplicity is limited to the space within the borders of the conventional single frame. In contrast, in split-screen cinema all these limitations are overcome. In addition to there being simultaneity between multiple frames, the spatial disruption of the technique makes the images independent from each other, generating a potentially richer relationship between them and creating a sort of spatial editing (Ingrassia 3–4).

Peter Ingrassia lists other characteristics of the split-screen which are almost always present in films that use it. These include the sensation of simultaneity, symmetry, visual irony, omniscient view, and visual style (Ingrassia 4–5).

Physical simultaneity is one of the main features of this form of expression, but regardless of the film in question, I would like to insist on the *feeling* of simultaneity conveyed by the different images which is added to the overall frame. Even when different actions shown in a split-screen do not belong to temporally simultaneous events, the fact that they are presented at the same time gives viewers that impression, which may be quite valuable depending on the filmmaker's narrative goals.

Given that images are juxtaposed on a single frame, a connection and/or comparison between them is obtained, which establishes an inevitable parallelism or symmetry. There are cinematic moments, achieved through formal similarities, in which this relationship is obvious. The mere coexistence of multiple inner frames forces the viewer into an active critical position, seeking to find common or opposite aspects between the screens.

Visual irony, while not a universal feature, is certainly one of the possible uses of the split-screen technique. By establishing symmetry, the split-screen may acquire absurd or comedic nuances, which consequently generates an ironic relationship between the inner images. Irony, however, does not necessarily entail a comedic moment; it may rather represent a type of more serious humour.

The presentation of various narratives and points of view simultaneously endows film viewers with a sense of omniscience in that they have access to perspectives that transcend the individuality of each of the frames. More importantly, they have greater knowledge than the characters, who are unaware of the narrative multiplicity of which they are a part. It is true that suspense and mystery may be maintained with the help of the split-screen, yet the device provides us with more information than that. Its interest is more geared towards perceiving how the characters, in the narrative, learn what has already been disclosed, in the frame, to the viewer.

Although visual style may seem to apply more to film directing, it is a requisite for understanding split-screen as a narrative device. Although the technique may be used simply

to provide visual exuberance or to dazzle, it may also efficiently reinforce a narrative idea, as we will see in the study case.

Even though I have been mainly speaking about screens, one must not forget that this is an audiovisual technique and, as such, it is endowed with sound as well. If a thoughtless approach to the soundtrack was made in the split-screen, the result would be—contrary to what happens in the image—a cacophonic and unintelligible mixture of sounds (Garwood n.p). Therefore, the split-sound pattern must be conceived in a way to enhance the idea proposed by the narrative, for example, by presenting it as an enhancement of small moments, by directing the viewer's attention to different events with distinct non-simultaneous relevance, or by setting up a unifying soundtrack that works as the glue that brings together the natural dispersion of the split-screen composition. Ultimately, sound serves as an element that tends to clarify a possible enunciative dispersion that may arise from the composition of complex moving images in this type of cinema.

Musicality and Polyphony

In this sense, this essay aims to present an interpretation of the relationship between visual and musical elements within the realm of cinema featuring multiple moving images in the same frame. Even though cinema and music may appear very different, with one operating at an audiovisual level and the other solely in the realm of sound, they share denominators that provide a foundation for this analogy. These common properties include the prevalence over time, the presence of rhythm and the induction of movement (Kulezic-Wilson 10). According to Danijela Kulezic-Wilson, a sense of musicality emerges when "certain attributes that are recognized as being typical of music" are implied (6). In other words, cinema can be considered musical when these shared features, largely universal to all music, are emphasised. This observation creates points of connection to support the metaphor. However, the transposition of various characteristics from musical form to the context of cinema, a more recent and narrative art form, is not without contention. For the purpose of this article, I choose to narrow the spectrum to a particular musical technique called polyphony.

When I refer to the term "polyphony", I am addressing one of the main musical textures, alongside monophony, homophony, and heterophony. The specific texture of polyphony arises from the coexistence of several melodic lines played simultaneously. These elements maintain their independence, allowing the listener to perceive them individually in spite of their simultaneity. This independence is achieved through manipulation of onset synchronicity, which refers to synchronization between the notes played by different melodic lines, and "semblant motion", which refers to the similarity in contours between the different melodic lines (Souza, 166). Therefore, a polyphonic texture emerges when there is a low value both

on onset synchronicity and on semblant motion within all melodic lines, resulting in the independence of the different voices (asynchronicity and different melodic contours tend to separate the melodic lines). Additionally, based on the "texture space" concept developed by David Huron—which represents the four main textures at the corners of a two-dimensional diagram with semblant motion on the x-axis and onset synchronization on the y-axis (Huron n.p.)—Souza further elaborates that this framework should not be limited to static points in space but should encompass dynamic trajectories [Fig. 1]. This means that texture can evolve from one type to another within the same musical context (Souza 166). This idea expands the possibilities of the analogy I draw between the two mediums, allowing me to incorporate here other textures closely related to polyphony, as will be discussed later.

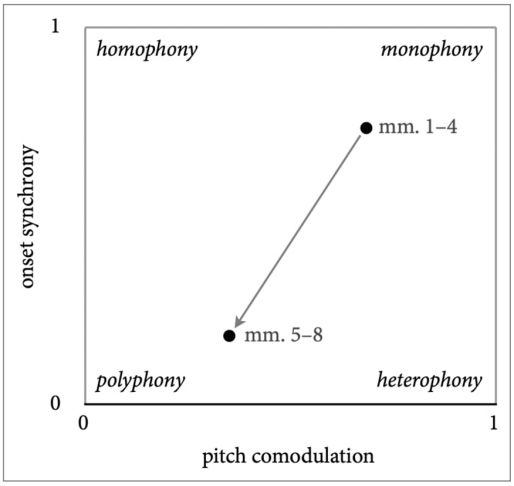

Fig. 1. Souza's diagram based on David Huron's texture space, representing dynamic variations between textures.
Source: chapter 7, *The Oxford Handbook of Critical Concepts in Music Theory*

I hope it is now clear that when I mention the term polyphony, I am not just referring to the period in western music spanning from the 13th to the 16th centuries, which naturally includes the technique of counterpoint, but also to a broader use of the term that includes other historical periods as well. I intentionally use "polyphony" instead of "counterpoint" to emphasise an open perspective on the multiplicity of melodies, thus avoiding a direct connection to the strict rules of counterpoint (which are still partially used in this context).

In this way, the resemblances between polyphony and split-screen also become more evident, particularly in what concerns their interaction between distinct and autonomous elements over a specific length of time. Cinema allows for a much more horizontal style of thinking, mainly due to the development of narrative plot points. Yet, it also possesses a quite pronounced vertical logic, derived from certain framing and editing techniques, such

as the juxtaposition of shots in a flux and the centrality of the single frame, which deeply involves an overlapping of different layers. Furthermore, cinema may contain music, and particularly the polyphonic technique. This concurrency of horizontal (elements that follow each other linearly) and vertical (in which simultaneity is required) features proves intriguing when applied to the cinematic medium, where one is not expecting a vertical structural akin to that found in music.

This notion of a vertical polyphonic musical thinking applied to cinema is certainly not a new concept. Besides its use in *Citizen Kane* (1941), which emphasises multiple actions within a single frame, commentators such as Sergei Eisenstein, John Bruns and Andrew Grossman have drawn comparisons between polyphony and narratives featuring multiple protagonists or storylines.

In the realm of cinema, Eisenstein established an analogy between the two mediums, relating editing to polyphony, and coined the expression "polyphonic editing". According to him, this is a type of editing where multiple threads or sequences are connected not by typical cinematic devices, but rather "through a simultaneous advance of multiple series of lines, each maintaining an independent compositional course and each contributing to the total compositional course of the sequence" (Eisenstein 75). In his view, the result "depends just as much on the character of the film sequence (or complete film) as a complex—a complex composed of film strips containing photographic images", similarly to polyphonic music.

Bruns also explores this relation in the case of Paul Thomas Anderson's film *Magnolia* (1999), which he considers a prime example of this analogy. The film's entire narrative is constructed through the overlap of numerous storylines that initially appear unconnected. The main interest of *Magnolia* lies in the encounters and disconnections of these different independent lines, with viewers incessantly seeking to understand the relationships between them in a film where there are practically no secondary characters (Bruns 202–03). The film contains a montage sequence in which all the protagonists sing the same song, underscoring the film's polyphonic structure.

Lastly, Grossman, for instance, applies the polyphonic metaphor to the multiplot narrative of the libretto of Prokofiev's *The Gambler*, a musical piece based on Dostoevsky's novel. He highlights the multi-voiced characteristics of the narrative, which stem from the fragmentation of the Wagnerian hero concept into a multi-protagonist narrative (Grossman n.p.). However, these arguments seem to me somewhat flawed. Contrary to musical polyphony where several melodic lines are played simultaneously, with this overlap forming the overall texture, in the examples of multi-plot and multiple protagonist narratives, the narrative overlap, which exists to some extent, takes place in the mind of the viewers. Therefore, in the cases mentioned above the overlap of narratives is produced in the writing and in the editing and does not involve a concrete overlap of forms as in polyphonic music technique. For this reason, I choose to establish the analogy between music and cinema in a context where their similarities are

more evident, where there are indeed two images that compete for a single frame and interact with each other over time. In the split-screen, the undeniable connection with polyphony highlights the parallels that can be drawn between the two.

Polyphonic Technics in Split-screen Cinema

Having explained the concepts in question, I may now establish this analogy more specifically. Firstly, it is crucial to examine the primary techniques that constitute polyphony, so that we may then proceed to search for potential correspondences in cinema. My attribution of musicality to the split-screen aligns with Danijela Kulezic-Wilson's reasoning in *The Musicality of Narrative Film*, which transposes musical characteristics—considered by the author to be universal (time, rhythm and movement)—to possible cinematic techniques capable of performing similar functions. Yet, I will establish the relationship between music and cinema through my own critical analysis, basing the metaphor on the characteristics I deem essential to the polyphonic technique. It is important to note, though, that these aspects, which are not exclusive to polyphony, cannot be objectively transposed from one medium to the other without an adaptation of sorts. It would be impractical and unnecessary here to thoroughly analyse all possible variables, so I restrict myself to seven features that I consider to provoke a richer thought process about narrative multiplicity in the context of split-screen cinema. They are: semblant, oblique and contrary motions; melodic leaps; timbres and registers; dynamic variation; rhythmic contrast; canon and repetition; and unison (which, although not a polyphonic technique, is important in this context, as I will explain later). I will organise these features starting with those related to pitch or frequency, followed by those related to sound intensity, then rhythm and repetition/asynchronicity, and finally ending with an exception of a non-polyphonic technique – the unison.

1. Semblant, oblique and contrary motions

Prior to delving into the three types of motions achievable in a polyphonic passage, which are very important in the counterpoint technique, it is essential to explain certain intricacies pertaining to melody. Amid the various uncertainties surrounding its precise definition, and the limitations of different existing definitions, I opt to use the simple idea that "[A] melody is the bringing about of sounds which follow one another by means of the raising and lowering of successive intervals, constituting a species of harmony [...]" (Burmeister n.p.). In this sense, when moving from one note to a higher one, it is said that the melody has an ascending contour, and conversely, when moving to a lower note, that it has a descending contour.

With that said, in a context where multiple melodies are played simultaneously, it is common for the directions of their melodic contours to converge and diverge. The relationship established between two simultaneous melodic directions is called motion,

which can be parallel, similar, contrary, or oblique. Parallel motion occurs when both melodies follow the same direction while maintaining the exact same interval between them, whether ascending or descending, resulting in a melodic parallelism. In the case of similar motion, the contour between the two melodies must be the same as in parallel motion; however, the interval between the two melodies may change, even though they follow the same direction. Conversely to these two, contrary motion occurs when both melodies move in opposite directions. Finally, oblique motion occurs when one melody maintains or repeats the same note while the second performs some movement, whether ascending or descending. If both melodies repeat the same note, this is not considered motion, as both are melodically static. In order to simplify the analogy I aim to establish in this article, I will use the term "semblant motion" as used by David Huron and Jonathan de Souza, referring to both similar and parallel motions. I believe such detailed distinctions are not essential for the metaphor I intend to present.

Since there is no direct transposition to pitch related techniques, the analogy between music and cinema that we can establish will be naturally more subjective and open to different, possible multiple, interpretations. It seems to me that, as the term "motion" implies direction and movement, we can think about a possible comparison to be made at the level of movement and/or position of the figures in a split-image. Like in polyphony, these motions refer to the relation between two images, even though there can be multiple simultaneous motions when there are more than two inner frames (or musical voices)[1]. In semblant motion, for example, there could be two similar shapes, characters, or camera movements, ultimately establishing a relationship of similarity between both images. An oblique movement, on the other hand, could be seen as a difference in activity, where one screen is more static/inactive and the other more active. Finally, contrary movement would present an opposition of actions, not necessarily through opposite movement between characters alone, but rather through a type of antagonistic relationship between both images, ultimately creating a contrast of strong ideas.

2. Melodic leaps

As I have already explained, a melody is a set of juxtaposed notes, thereby creating melodic intervals between them, which can be either bigger or smaller. Generally, the smaller the distance between notes, the more continuous a melody will sound. However, if it is formed exclusively by small intervals, its interest is reduced. To create a rich and interesting melody, it is necessary to have some melodic leaps, i.e. notes that are occasionally significantly higher or lower, creating a slight rupture that generates interest and dynamism. Although a melody can hardly be created solely with large melodic intervals, these are undoubtedly a

1 The term "voice" does not necessarily denote a vocal performance, but rather a melodic line assigned to a player, whether singer or instrumentalist.

fundamental tool that endows it with character and authenticity. In the polyphonic context, and because these leaps are naturally more impactful, it is certain that, when a leap occurs, the listeners' attention will shift to the melody where that same melodic interval occurs. These leaps need to be treated with great care since they typically present a disruption; they should tend towards melodic resolution contrary to the direction of the leap. I stress this in order to note that, even if one aims to create a cohesive and harmonious dynamic between forms to ensure its richness, it should always include some tensions, albeit gentle.

Adopting this perspective in cinema can prove highly beneficial, offering opportunities to intermittently disrupt the static nature of the narrative and introduce minor events that refresh the viewers' experience, guiding them towards new developments. I believe the best way to achieve this effect, although a perfect correspondence is impossible, would be with the help of sudden cuts, abrupt sounds, changes of space, among other factors that can break a certain monotonous enunciative continuity. In split-screen cinema it is possible to draw the viewer's attention to a particular event by suddenly changing a location, by using an intense sound that highlights a certain event, or simply by performing a jump cut that redirects our gaze to the desired screen.

3. Timbres and registers

In instrumental composition, there are instruments that have a more soloistic character than others. This categorization cannot be attributed to a single feature but is closely related to the instrument's timbre and register (which can be high, middle, or low registers). To make a particular melody stand out, it should be played by a so-called solo instrument in its most appropriate register, which generally corresponds to its high range. While there are no strict rules, it is more common to find the melody in higher/brighter instruments, as it tends to stand out more in a musical context. Certainly, melodies can be played on lower/darker instruments, but in such cases, the weight of the other instruments must be compensated somehow (for example by diminishing their intensity, reducing the number of instruments, or by playing in lower registers than the soloist). Using terms borrowed from visual techniques, but which are part of the musical lexicon, we may say that brighter instruments and registers stand out over darker alternatives. This type of lexicon, commonly used when discussing different kinds of timbres, is not merely a metaphor that facilitates communication; it is based on a sense of synesthesia inherent in our perception of the harmonics that constitute a particular timbre (Wallmark and Kendall n.p.). This association between light and timbre, dating back to Aristotle, is one of the oldest ways to describe this feature. Although it may seem too subjective at first glance, the synesthesia between our auditory and visual perceptions has proven to be clear and helpful for better communicating the sensations produced by different timbres.

With this in mind, the relationship with split-screen cinema becomes evident to me—we may treat different screens as different instruments, some with brighter and others with

darker timbres (or luminance, in the case of cinema). However, this transposition between timbre and lighting is not exclusive, being applicable to other elements of the visual medium, such as colour saturation (e.g., fuller/stronger timbres would correspond to more saturated tones). Similarly to the instrumental example mentioned earlier, a brighter shot draws greater interest from viewers, as does one with more saturated colours. However, I should note that, like in music, this is not a universal truth; myriad variables compete for the viewers' attention (such as a cut to a dark location, an intense noise in a poorly lit frame, etc.).

4. Dynamic variations

The term "dynamics" in music refers to what we commonly call sound intensity or volume, which naturally assumes a very important role in the polyphonic context. In music, intensity plays a central role in representing the emotionality and organicity of a particular melody or musical passage, with subtle or abrupt variations as one of the factors that most contributes to the construction of the musical "phrasing" (which is akin to speech and human expression). In a melodic line, the control over dynamics and their fluctuations is crucial for emphasizing (not necessarily by playing louder) or de-emphasising specific moments, in accordance with the musician's interpretation of the composer's conceptual intentions (Barenboim). However, when layering multiple melodies, these variations also play an equally important role in their interrelationship. Louder sounds (called *forte* in music) tend to mask quieter sounds (known as *piano*) through the phenomenon of auditory masking over time (Holman 29). By this token, the variations in volume not only serves to create a fluid melodic construction, but also contribute to the composition of an equally organic whole, in which different melodies interact with each other through fluctuations of intensity, alternating the protagonism among themselves. For this reason, the most common use of these variations is to decrease the intensity of one melody when the other becomes more intense, and vice versa, precisely to build this dynamic alternation and foster clarity in musical discourse. This does not preclude both melodies from being intensified or attenuated simultaneously, even though the musical result will certainly be different in that case.

Managing intensities to build a balanced relationship over time can certainly be adapted to split-screen cinema. For example, musical dynamic variation may be transposed to the variation of the soundtrack's intensity in each of the frames in the split-screen. As I already mentioned, this directs the viewer's attention: by intensifying certain sounds, certain events in one of the frames are emphasised. Just like in music, balancing the volume of two screens interchangeably may be a way to induce shifts of attention in the viewers and help bring some clarity to the chaotic nature of multiple images (Garwood n.p.). By exploring a similar connection to what's found in a polyphonic composition split-screen cinema can orchestrate its soundtrack in a manner reminiscent of musical compositions.

5. Rhythmic Contrast

Together with the melodic element, rhythm is the other factor that most determines the character of the melody, and, for this reason, it is expected to be one of the fundamental components of polyphony. Essentially, polyphony can only exist if there is rhythmic contrast. If the notes of the different melodies were played with the exact same rhythm, we would obtain a homophonic texture present in the Franz Schubert's *Deutsche Messe,* particularly in *Zum Sanctus* which is almost entirely homophonic (that is, a set of notes played simultaneously, forming chords). On the contrary, polyphony emerges when there is a low value of onset synchronicity between notes, allowing all melodies to interchange fluidly. This means that the melodies occasionally coexist while maintaining distinct rhythmic components that both unite (as a texture) and separate them (as individual lines) throughout the duration of the piece. Therefore, it is very common to have melodic passages that are rhythmically more active or faster, and others that are a bit less active or have a slower rhythm. I use the word passages here because a melody may not be entirely characterized by fastness or slowness, but rather by an oscillation between these two poles. As in the variation of intensity, what is at stake here is the relationship between different melodies. When one accelerates, generally holding greater prominence over the rest, the others should slow down to provide space for the momentary prominence of the main melody, and vice versa. Similarly to what happens in relation to the dynamic variation, this relationship is the basis for building cohesion and clarity in polyphonic music, avoiding the possible cacophony that an intricate and complex similar rhythmic ensemble could generate.

Once again, a parallel can be drawn with cinema, especially considering that the concept of "rhythm" is part of its vocabulary. As stated by Kulezic-Wilson, rhythm is one of the common denominators between music and cinema, though it manifests differently in each medium. While rhythm in music "can be defined as the relationship between durations and accents", in cinema, there is a spatial dimension that alters our perception of time and rhythm. Consequently, rhythm in cinema heavily depends on "the content, composition, framing, camera movement of the shot and its 'density'," considering that "two shots of the same length might be perceived as being different in duration" (Kulezic-Wilson 38–40).

Despite these differences, the possible analogy between the two is still applicable, albeit not directly. In the case of polyphonic rhythmic contrast, this feature must be present not only in the rhythm and length of each shot on each screen but also in the spatial dimension of cinema, incorporating the rhythm of actors, camera movements, sounds, etc. Essentially, any cinematic feature capable of inducing rhythmic can reinforce this analogy. This would involve considering the rhythm of each frame in relation to the others, always clarifying what is seen by exerting control over the viewer's gaze in an alternating and dynamic manner. This technique is fundamental for managing two concurrent entities in time, resulting in the coordinated *mise en scène* of the multi-protagonists on the screens.

6. Canon and repetition

The canon technique, immensely used in polyphonic music, deserves particular attention in regard not only to its specificity but also to its predominance throughout all historical periods. Basically, this technique is the offset of a repeated melody that is overlaid over the original, resulting in a polyphony composed of the same melody being repeated in delay. To illustrate, a melody would start playing and, at a certain point, a second voice would begin to play that same melody from the beginning, creating a polyphonic complexity between two versions of the same melody played out of phase. This technique is not necessarily limited to a single repetition; multiple offsets of the same melody may occur, as is the case, for example, with the composer György Ligeti, who uses an excessive number of delayed melodies to create a complex and chaotic texture.

This could be one of the elements that may impart a sense of musicality to cinema when the technique is transposed to it, considering that repetition is one of the key elements that confer pleasure to our musical experience, especially in tonal music (but also in many modal music), a device that is not as systematically used in narrative film (Kulezic-Wilson 57–8). The canon can be easily imported into a split-screen narrative through the phased repetition of certain events or, more commonly, through a kind of delayed semblant motion between the screens. It may involve a relationship between a certain event that is mimicked on the adjacent screen after a while, overlapping with the original action of the first and, consequently, creating a polyphonic relationship between the images.

7. Unisons

Contrary to the other techniques I have presented, the unison is the only one that does not properly fit within polyphonic music. Nevertheless, I have a good reason to include it in this article. In brief, a unison occurs when multiple voices play the same melody simultaneously, resulting in a single isolated melodic line composed of a multiplicity of timbres. Having said this, and considering the definition of polyphony I presented, it is evident that there is no relationship between two independent lines here. Instead, there is a unification of several voices into one, resulting in monophony rather than polyphony. According to the texture space developed by Huron, this implies that all melodies should have high values of onset synchronicity (sharing the same rhythm) and high semblant motion (playing the same pitches). However, as Souza notes, a musical piece does not necessarily need to maintain the same texture throughout. It is common (and, in my opinion, interesting) to observe small variations among these textures through changes in the values of onset synchronicity and semblant motion. In a polyphonic musical context, for instance, it is common for moments of unison to appear throughout the works (especially in more recent centuries) to create a dynamic between more intricate and complex passages where polyphony is present, and others that are calmer and more sober represented by monophonic simplicity. In essence, a work that may be considered interesting in terms of the relationship between different

forms—such as the case study of this article—should not be based exclusively on the polyphonic technique, but may and should counterpose more active moments with others of greater simplicity, in order to enhance, through contrast, the richness and complexity of the polyphonic moments, which play the key role in a work of this genre.

There is an evident analogy to be established with the split-screen cinema. If melodic multiplicity is associated with the plurality of framings, then monophony should be transposed to one frame only. By this I mean that in a polyphonic film, as previously mentioned here, a moment of unison occurs at the end of the split-screen and the unification of the different framings, as is the case with *Conversations With Other Women* (Hans Canosa, 2005) where, after making us watch all the film in split-screen, the director chooses to end with a monophonic moment of an almost imperceptible union of both frames in one.

Gaspar Noé's *Vortex* (2021)

Gaspar Noé's film *Vortex* (2021) is a good example of the analogy I have been trying to establish in this article, not necessarily because it is almost entirely made in split-screen, but rather because it is an excellent example to explore the relationship between just two simultaneous narratives/perspectives. On the one hand, this reinforces the simplicity of the device, as the frame is only divided into two inner screens; on the other hand, there is a wondrously rich interchange in this dual relationship.

Vortex addresses the life of an elderly couple who, for different reasons—the woman has dementia, and the man has a heart condition—slowly deteriorate until death. The film begins without split-screen, presenting the couple relatively happy in a nostalgic style, conveyed by the aspect ratio and the analogue look of the image. However, shortly after there is a rupture between them created by a line slowly descending from the top to the bottom in the middle of the screen, which separates the couple into two frames that remain independent until the end of the film. Interestingly, this rupture occurs with the onset of the woman's dementia, signifying, for both individuals, the beginning of a painful journey towards the end. Their son, Stéphane, tries, unsuccessfully, to help the couple by advising them to go to a nursing home where the woman could be properly tended. After several events that increasingly distance the couple from each other and slowly exhaust the husband, he dies of a heart attack. Shortly after, the woman, because of her dementia, or grief, commits suicide.

The use of split-screen in the film *Vortex* is not only entirely justified but also fundamental to involve us in the narrative of this couple. As I mentioned, at the beginning of the film the screen is one, much like the couple, yet both undergo a physical separation from which there is no escape. From that moment on, we follow each perspective independently, always with

occasional audiovisual points of convergence but never again completely unified. Besides, the split-screen corroborates the director's personal inscription with which the film opens: "*To all whose brains decomposed before their hearts*". Indeed, the split-screen reinforces the idea of a mind that is deteriorating, getting lost in the labyrinthine *décors* of the film and where, through the fragmentation of space on screen, it may also be formally lost.

For reasons of coherence, in my ensuing analysis of the film, I will follow the same order in which I presented features of polyphony, focusing on passages that I consider to be more enlightening of that technique. It is important to note that the analogy that I will present is inherently subjective and should not be regarded as a definitive metaphor. This analysis reflects only a few possible transpositions between polyphonic techniques and split-screen cinema, without intending to limit the numerous other alternatives that may be applicable.

The oblique, semblant, and contrary motions are, in my view, the basis of the relationship between the different images in the film, just as in the musical context. In practically all polyphonic moments, it is possible to establish a comparison such as I previously defined, which ultimately proves the richness of the relationship between the two screens in *Vortex*. An example of the oblique motion, where one of the forms is static and the other is in movement, may be found at minute eight into the film [00:08:50], when the man is still lying in bed while his wife begins to get ready to start the day. Here, the viewers' attention is clearly drawn towards the woman walking around the house, although it may change occasionally because of the man coughing and/or the woman stopping at certain moments. This motion not only denotes the beginning of her journey through the confusing corridors of the house, which anticipates her getting lost later when she goes out, but also emphasizes the man's helplessness in rescuing his wife from her mind's deterioration.

Fig. 2. Oblique Motion
Screengrab (*Vortex*, Gaspar Noé, 2021) – 00:10:46

The semblant motion, on the other hand, is the most recurring of these polyphonic features throughout the film, with numerous moments of visual comparison between both screens. The moment I believe to be the most interesting occurs at 01:43:23, when the man and his son walk on the street, in each of the side-by-side frames of the split-screen, heading in the same direction and at a similar pace, establishing an evident parallelism. This is particularly interesting because, until then, no comparison had been drawn between the two characters. In fact, through a simple formal mimicry, Noé plants a doubt in the viewer's mind as to the real nature of this parallelism, which becomes evident upon brief reflection. Essentially, both characters, father and son, are heading towards a degrading end while being totally powerless in regard to the situation of the demented woman. The son is trapped in drug trafficking, while the father is trying to escape from his wife by reconnecting with an old flame. Without this semblant motion, the relationship between both characters might have been blurred.

Fig. 3. Semblant Motion
Screengrab (*Vortex*, Gaspar Noé, 2021) – 01:43:41

The contrary motion is the one that appears less frequently throughout the film, at least in the form that I have interpreted the analogy. While there are numerous instances of contrast between the two screens, which engender a certain dynamic between the two narratives, mere contrast alone is insufficient for there to be a contrary motion, as it happens, for instance, in oblique motion. In this case, there must be a clear opposition of ideas, a formal and/or conceptual antagonism at a specific moment, in which both events point in diametrically opposite directions. Although there is significant contrast in the film, there are few moments where a real antagonistic opposition arises, and for that reason, when it does appear, it strongly impacts the viewers. I wish to exemplify this type of motion with the sequence that occurs at 01:49:42. Although it may seem like a formal parallelism—which

I do not deny—it presents an evident opposition of ideas representing, on the one hand, the agony of a man having a heart attack and, on the other hand, a woman in an utterly peaceful moment, asleep. Both characters are poised similarly, yet experiencing diametrically opposite emotions, profoundly isolated and separated by the split-screen. This clash of ideas reinforces one of the main premises of the film, that of the isolation in which this couple walks separately towards their end, with reconciliation being forever impossible.

Fig. 4. Contrary Motion
Screengrab (*Vortex*, Gaspar Noé, 2021) – 01:49:42

Regarding an eventual connection between the melodic leaps and cinema, Noé uses a correspondence that I deem perfect for this polyphonic feature. As previously explained, although there is no direct transposition, melodic leaps can be related to either small discursive ruptures or abrupt changes. In the case of *Vortex,* Noé resorts to jump cuts to achieve the desired effect. Nevertheless, just like in his other films, the director chooses to leave a few frames in black after making a cut, emphasising it even more as a sort of eye blink that extends the cut. Therefore, and because it is an assumed disruption of cinematic realism, this produces the same effect as a melodic leap, a factor that centers the viewers' attention on the rupture and directs their gaze to achieve a fluidity in the relationship between the images. As this is a technique that is literally used throughout the film, it is hard to pinpoint a particular moment; the director consistently chooses to use this method in pretty much every cut.

In terms of timbre, Noé uses lighting and the character's motions throughout space to emphasize the prominence of one screen over the other. By gradually, and subtly, darkening or brightening one of the screens or hastening or halting the characters' motions, he directs the viewer's attention in a once more highly organic way, thus expanding the possibilities of the relationship between the two perspectives. An example of this takes place at 01:47:11, when the man suffers the heart attack. In this scene, the man, feeling a chest pain, walks

through the house, possibly in search of help. Throughout this action, he traverses mostly dimly lit areas that make his screen less attention-grabbing in comparison to his wife's, who sleeps more illuminated. Yet, there is a strong dynamic component (the auditory intensity of the man's breathing) that balances this relationship, giving considerable sound weight to the man's frame. To ensure that he does not completely monopolize the moment, tough, it is important for the viewers to also be interested in the woman's image, and not just the man's distress. Since her action is entirely irrelevant (she is just sleeping), Noé uses lighting to balance the weight of both images, bringing emphasis to the simultaneous relationship between both events, enhancing their contrast.

Fig. 5. Timbres and Registers
Screengrab (*Vortex*, Gaspar Noé, 2021) – 01:47:07

It may be argued that the dynamic variation is, alongside the movement, the technique most used by the filmmaker to convey the prominence of one screen over another. Numerous examples can be found throughout the film, mostly using variations in the intensity of the soundtrack. There are many moments when our attention is drawn by a particular sound impulse, or by one of the screens having a higher soundtrack volume, but I highlight the moment that occurs at 01:40:20, where the woman is washing dishes while the son is dealing drugs and talking to his clients. I consider it a significant moment because, although there is dialogue on the son's screen, there are sound punctuations from the dishes that give presence to the ordinariness of the woman's actions, contrasted with the son's illicit sales. Nevertheless, at 01:40:41 the soundtrack of the woman becomes less intense, causing a spectatorial change of attention towards the son's screen, so much so that when she turns on the faucet, the flowing water is hardly heard. Tremendous care is taken in these small sound impulses that redirect our attention, yet rarely competing for prominence between screens at the same time (that is, with low onset synchronization value). By this I mean that, just like in polyphonic

music, if there is a particular action of importance in one of the screens, naturally the other will not include noises that disturb that prominence.

Fig. 6. Dynamic Variation
Screengrab (*Vortex*, Gaspar Noé, 2021) – 01:40:41

Rhythmic contrast is sometimes felt across both screens. As formerly explained, this may be found in the editing pace and/or in the characters' movement, which could be like the oblique motion mentioned above. However, for the oblique motion to occur there must be stillness in one of the sides and movement in the other, whereas rhythmic contrast only requires rhythms that are significantly different from each other that can be induced by various cinematic features, not only movement. Naturally the idea of oblique motion fits within what I call rhythmic contrast, but there may be types of relationships in the latter that are not necessarily oblique. An example of this situation is found at 00:22:00 when the man searches for his wife who got lost in the convenience store. Here, there is a clear contrast between the man moving quickly in search of the woman and her wandering around the store with a lost look on her face. Once again, this contrast demonstrates the growing gap between the couple. Although this relationship is less evident than the contrast between stillness and kinesis, I take this segment to make the distinction between oblique motion and rhythmic contrast within the analogy I establish between music and cinema.

Turning our attention to the technique of canon, it is fascinating to observe that there is a flawless example of it right at the start of the film. I am referring to the sequence in which the couple alternately prepares to start the day. Just as in a musical canon, in which a melody is repeated asynchronously, creating polyphony, here the delay occurs in the exposition of the routine of both characters. The woman wakes up first, gets dressed, goes to the bathroom, goes to the kitchen, finishes dressing herself, and sits down to write. While the woman is in the kitchen, the man repeats almost all the steps of her routine, asynchronously. This repetition

Fig. 7. Rhythmic Contrast
Screengrab (*Vortex*, Gaspar Noé, 2021) – 00:22:58

creates a very compelling relationship between the screens, which, in addition to creating a complex and interesting dynamic, induces in the viewers a certain depth in the bond between these characters, who already have their morning routine perfectly staged. This canon, in essence, corroborates what was shown in the prologue: that, until then, this couple lived in harmony, but now they will face a separation which they will not be able to overcome.

While not polyphonic, the unison as I defined only appears in the prologue, metaphorically representing the union of the couple before being separated by the line that divides the frame in two halves. Subsequently, there is no more full unison, considering that everything is shown in two separate frames. It is interesting to note that, just as a polyphonic musical work tends to start in unison or with a single voice and end in a similar way, so does the film follow a comparable path. It initiates with a simplification (full screen) that evolves into complexity or tension (the split-screen), only to return to a simple monophonic screen, though not a unison. Despite their being moments with only one frame after the man dies, I do not consider them unisons, since this musical texture is characterized by being a single melody played by multiple voices. Thus, these moments in the film showing only one of the frames are closer to *solos* than unisons (where there is indeed only one voice playing a melody).

Still in this regard there is an issue that I consider of enormous relevance for the formal analysis of *Vortex*, which is the distinction between polyphonic and monophonic moments. On the one hand, there are moments which are purely polyphonic, with total independence between both images. Yet, there are many other moments that occur when these melodies from different universes intersect, creating a convergence that, while not a perfect unison, often bears a striking resemblance to one. This incomplete convergence emerges through a high onset synchronization value, as both shots were filmed and are played in complete synchrony, however, it also features a semblance of motion with only a medium-high value,

due to subtle changes in the camera perspective. I am referring to sequences in which there is a kind of simultaneous shot/reverse shot or a partial continuation of the same frame, but always reinforcing the irreparable division between the couple through the maintenance of the two-screen apparatus. These are moments of a *false* unison, of an approximation to monophony, but never fully achieving it. Just like in music, these sequences, contrary to the polyphonic complexity, present moments of greater clarity and objectivity. In them, the characters are conveyed through the dialogues, as seeking to transparently solve the film's issue. Just as in music, it is necessary to reduce the number of simultaneous melodies to better understand the main melody. Noé feels the need to highlight moments where the intimacy of the dialogue is the narrative center, instead of distracting the viewers with formal complexities.

Fig. 8. "Unison", example 1
Screengrab (*Vortex*, Gaspar Noé, 2021) – 00:43:50

Fig. 9. "Unison", example 2
Screengrab (*Vortex*, Gaspar Noé, 2021) – 00:57:59

To conclude

As cinema evolves rapidly as a medium, it is natural for new forms and devices to emerge, thereby challenging the very language of film. The split-screen is an emblematic example of this issue, a consequence of the plurality of screens presently competing with each other in advertisements, television channels, computer monitors, tablets, mobile phones, or multiple windows within these devices. This article aimed to demonstrate that it may not be necessary to innovate the language of cinema to keep up with the times, but rather to look at other mediums that have already addressed the issues cinema now faces. In such a landscape, it is evident that the issue (and uniqueness) of polyphonic music is akin to what is encountered in split-screen cinema and thus, cinema has much to import from this art form already so developed in this regard. I do not mean to suggest that this will be the definitive solution to simultaneous narrative multiplicity, nor that the examples I provided are objectively unavoidable; however, it is undoubtedly a path that I believe holds relevance and potential for yielding valuable results.

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