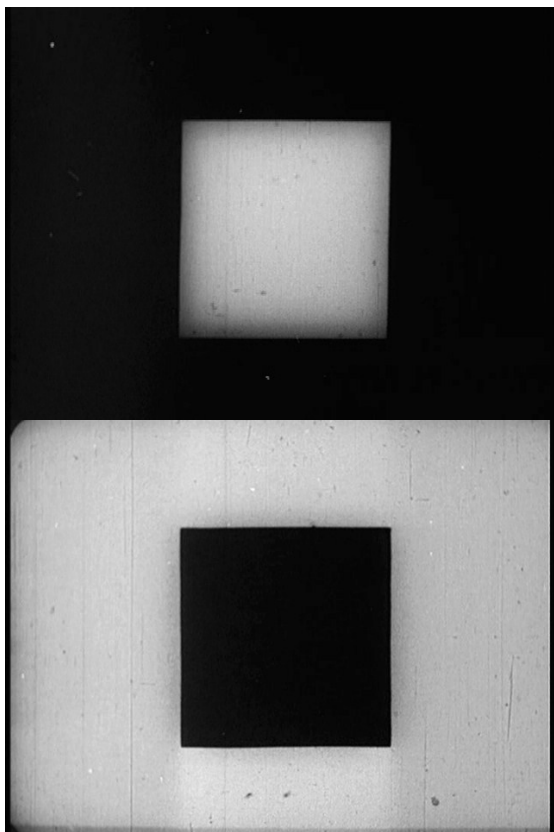


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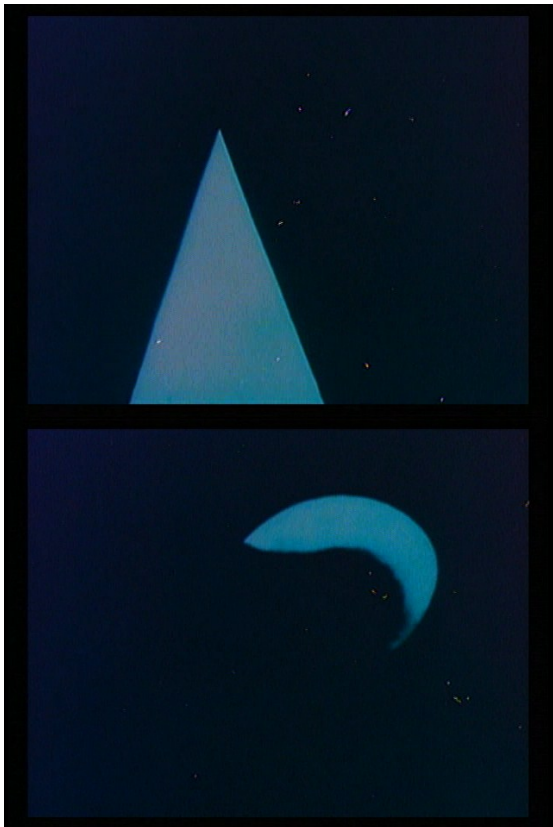
Figures 1-2 *Rythmus 21*

Figures 3-6 *Opus 1*

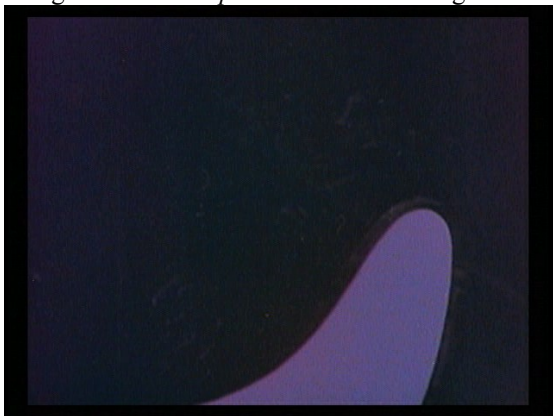
Figures 7-10 *Symphonie Diagonale*



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Figure 5 *Opus 1* Languid organic protrusion

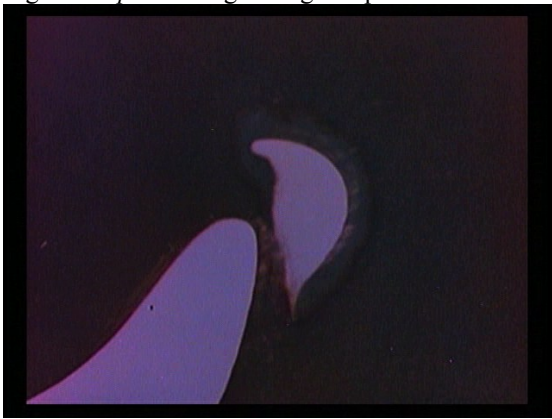
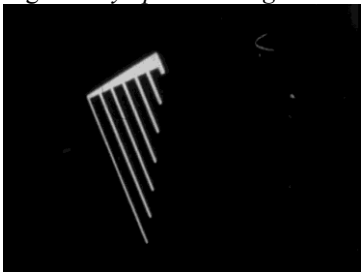


Figure 6 *Opus 1* Aquatic shapes caress the protrusion



Figure 7 *Symphonie Diagonale* Gestalt Form only apparent in stills



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Figures 8, 9 and 10 *Symphonie Diagonale* pan-pipes, combs, swirls: forms broken down to basic components

## Visual Music in Film, 1921-1924: Richter, Eggeling, Ruttman

The early 1920s saw considerable activity in the field of what may be called “visual music”. Hans Richter, Viking Eggeling and Walther Ruttmann produced a series of abstract animated films whose focus on qualities such as movement, rhythm, tempo, mood, counterpoint, harmony and composition was more akin to the concerns of music than the representational narratives that were characteristic of cinema in this period. Music was a central influence on all the artists discussed here; Richter’s interest in counterpoint was provoked by discussions with composer Ferruccio Busoni; Busoni also proved an influence on Eggeling who was a pianist and whose father owned a music shop; Walther Ruttmann was a cellist and violinist.<sup>1</sup>

Beneath this apparently simple unity of intention, however, lay a number of complex and at times oppositional issues. The influence of music can be understood in two very different ways; on the one hand the non-representational quality of music can be seen as an inspiration to explore the unique qualities of the artist’s own medium, music serves as an analogy for the interrogation of the non-representational qualities of painting or film. In contrast music can be tightly integrated into the film in an attempt to synthesise the visual and the aural, to create a synaesthetic mingling of the senses which denies the differences in art forms that the music as analogy approach erects. This essay will examine the work of three key practitioners of visual music in the period 1921-1924: Eggeling, Richter and Ruttmann, to identify how each addressed these issues, both in their discussion of their films but particularly with regard to the films themselves. Furthermore it will argue that these issues should not be considered simply as aesthetic choices, but as intimately linked to broader cultural concerns, Richter’s and Eggeling’s work embodying the “separation of the senses”, described by Jonathan Crary, that resulted from nineteenth century scientific investigation of vision. In contrast Ruttmann’s films can be seen to reflect not only nineteenth century aesthetic concerns with synaesthesia and the Gesamtkunstwerk, but also the emergence of Gestalt psychology.

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<sup>1</sup> Bernd Finkeldey “Hans Richter and the Constructivist International” in *Hans Richter: Activism, Modernism and the Avant-Garde*, ed. Stephen C. Foster (Cambridge, Mass: The MIT Press, 1998), 94; Louise O’Konor *Viking Eggeling, 1880-1925: Artist and Film-maker, Life and Work* (Stockholm: Almqvist & Wicksell, 1971),; Robert Russett and Cecile Starr *Experimental Animation: Origins of a New Art* (New York: Da Capo Press, 1976), 34.

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My chosen period begins in 1921 with the earliest extant abstract animation films, Ruttman's *Lichtspiel Opus 1* and Richter's *Rhythmus 21*. While there is some doubt over the provenance of Richter's *Rhythmus* films, the question of primacy is unimportant as there are a number of precedents which indicate that these films belong to a cultural continuum rather than marking a paradigm shift.<sup>2</sup> The abstract co-ordination of colour and music can be traced at least as far back as 1725 and French Jesuit monk Louis-Bertrand Castel's *clavecin oculaire*, a colour harpsichord which displayed coloured light on a screen above the harpsichord when a note was played; similar colour organs have been experimented with since that time.<sup>3</sup> Equally the treatment of visual art in analogy with music has a long history as far back as 1647, even if full abstraction did not emerge till much later.<sup>4</sup> Twentieth century relations can also be found in the scroll paintings of Duncan Grant (1914), and Werner Graeff (1922), as well as early kinetic light sculptures and theatrical performances.<sup>5</sup> It is beyond the scope of this essay to examine these parallels in detail, however there are two lost or unrealized film projects which I would like to examine in more depth, as they highlight the distinction between music as an analogy for purely visual work and as a synaesthetic impulse to cross sense boundaries.

Between 1910 and 1912 brothers Arnaldo Ginna and Bruno Corra, who were associated with the Italian Futurist movement, produced a series of films by applying coloured paint directly to film strips. Although the films have since been lost, their work is documented in Corra's article "Abstract Cinema – Chromatic Music".<sup>6</sup> The films emerged out of their experiments with a colour organ, on which they "translated, with a few necessary modifications, a Venetian barcarolle by

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<sup>2</sup> William Moritz suggests that the film now titled *Rythmus 21* was produced in 1927-1928 along with most of *Rhythmus 23*, with only the middle section of that film containing elements of Richter's 1921 work, albeit in combination with material added in 1925. See William Moritz "Restoring the Aesthetics of Early Abstract Films" in *A Reader in Animation Studies* ed. Jayne Pilling (London: John Libbey, 1997), 221-222. Ruttman's *Opus 1* was thought to be lost until 1976, when a partial print was discovered in a Moscow archive. The version I have referred to is that released on DVD alongside Ruttman's *Berlin, Symphony of a Great City* by Image Entertainment in the USA. This is accompanied by Timothy Brock's adaptation of Max Butting's score. I believe both the print and score are as accurate as possible, however it should be borne in mind that they are reconstructions. For further information on the reconstruction see William Moritz, 1997, 223-224.

<sup>3</sup> Olivia Mattis "Scriabin to Gershwin: Colour Music from a Musical Perspective" in *Visual Music: Synaesthesia in Art and Music Since 1900* ed. Kerry Brougher, Jeremy Strick, Ari Wiseman, Judith Zilcer (New York: Thames and Hudson, 2005), 213.

<sup>4</sup> Andrew Kagan "Ut Pictura Musica to 1860", *Absolute Art* (St. Louis: Grenart Books, 1995), 73-99.

<sup>5</sup> See Wulf Herzogenrath "Light-play and Kinetic Theatre as Parallels to Absolute Film" in *Film as Film: Formal Experiment in Film, 1910-1975* Arts Council of Great Britain (London: Arts Council of Great Britain, 1979), 22-26.

<sup>6</sup> Bruno Corra, "Abstract Cinema – Chromatic Music" (1912), reprinted and translated in *Futurist Manifestos* ed. Umbro Apollonio (London: Thames and Hudson, 1973), 66-70.

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Mendelssohn, a rondo by Chopin, a Mozart sonata".<sup>7</sup> The attempt to make direct translations of music into colour indicates an impulse towards synaesthesia, and thus relates to my first distinction, between music as an analogy and attempts to synthesise or mimic music.

Synaesthesia is primarily a medical term which describes the condition in which the stimulation of one sense causes a perception in another. The most famous example is "colour hearing", hearing a particular sound producing a perception of visual colour, although almost all combinations of senses are known, from tasting sounds to seeing smells. Many artists are thought to have experienced synaesthesia, and have tried to translate their experience in their artwork, for instance Russian composer Aleksandr Scriabin (1872-1915), whose symphony *Prometheus – The Poem of Fire Op 60* (1908-1910), features not only musical notation but also colour notation to be performed on a colour organ.<sup>8</sup> Other artists, particularly poets, have embraced cross-sensory metaphors, even if they are not known to have experienced synaesthesia, or only a drug induced psychedelic equivalent. Charles Baudelaire's poem "Correspondances", which played an important role in the Symbolist movement, expressed a clear belief in a correspondence of the senses, that "perfumes, sounds, and colours correspond".<sup>9</sup> Arthur Rimbaud established a direct relationship between colours and vowels in "Voyelles", whose opening line is "A black, E white, I red, U green, O blue".<sup>10</sup> Similar use of synaesthetic metaphor may equally be found in the work of the Romantic poets, such as John Keats and Percy Bysshe Shelley.<sup>11</sup> Despite these examples, Richard Cytowic argues that synaesthesia's "phenomenology clearly distinguishes it from metaphor, literary tropes, sound symbolism, and deliberate artistic contrivances that sometimes employ the term "synesthesia" to describe their multisensory joinings".<sup>12</sup> Nevertheless the term synaesthesia is in common currency in describing any artwork which attempts to cross sensory boundaries.<sup>13</sup> Ginna and Corra's experiments can be seen as synaesthetic because they do not simply take inspiration from music, but attempt to translate music into colour,

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<sup>7</sup> Bruno Corra, 1973, 67.

<sup>8</sup> Simon Shaw-Miller, *Visible Deeds of Music: Art and Music from Wagner to Cage*, (New Haven & London: Yale University Press, 2002), 56-72.

<sup>9</sup> "Les parfums, les couleurs et les sons se répondent", Charles Baudelaire, *Les Fleurs du Mal*, (Paris: Calman-Lévy, 1857), reprinted in Charles Baudelaire *Oeuvres Complètes* (Paris: Gallimard, 1961), 11.

<sup>10</sup> "A noir, E blanc, I rouge, U vert, O bleu", Arthur Rimbaud "Voyelles" (1871), reprinted in Arthur Rimbaud *Oeuvres* (Paris: Garnier, 1960), 110.

<sup>11</sup> Lawrence E. Marks, *The Unity of the Senses: Interrelations among the Modalities*, (New York: Academic Press, 1978), 236-243.

<sup>12</sup> Richard E. Cytowic, "Synesthesia: Phenomenology And Neuropsychology", *Psyche* Volume 2, July 1995 <http://www.theassc.org/files/assc/2346.pdf>. See also Richard E. Cytowic, *Synesthesia: A Union of the Senses 2<sup>nd</sup> ed.*, (Cambridge, Mass: The MIT Press, 2002).

<sup>13</sup> The title of *Visual Music: Synaesthesia in Art and Music Since 1900* is but the most recent example. Kerry Brougher et al, 2005.

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demonstrating a belief in a direct correspondence between the senses, a belief repeated through the Futurists' manifestos and works: consider the titles of Carlo Carrà's article "The Painting of Sounds, Noises and Smells" (1913), and Enrico Prampolini's "Chromophony – the Colours of Sounds" (1913).<sup>14</sup>

In contrast to the Futurist synaesthetic impulse, the work of Léopold Survage, who was associated with the Cubist movement, highlights the alternative, the use of music purely as an analogy for abstract animation. Survage explicitly rejected the idea of a synaesthetic correspondence "[my work] is in no way an illustration or an interpretation of musical work. It is an autonomous art, although based on the same psychological premises as music".<sup>15</sup> Working in Paris around the same time as Ginna and Corra were producing their films in Italy, Survage produced a series of paintings which were intended to serve as "key frames" for a full animated film which he titled "Coloured Rhythm". Unfortunately, despite discussions with the Gaumont Company, the film was never produced.<sup>16</sup> Nevertheless, it is clear from both Survage's descriptions and those of others that music served purely as a model for an independent art of kinetic colour and form, rather than an attempt to mimic or accompany music. In the words of Guillaume Apollinaire "one can compare Coloured Rhythm to music, but the analogies are superficial, and it really is an independent art having infinitely varied resources of its own".<sup>17</sup> For Clement Greenberg, it is this treatment of music as the ideal art form, its use as an analogy, which is the defining characteristic of the move towards abstraction in twentieth century painting. In 1940 he wrote,

Only by accepting the example of music and defining each of the other arts solely in the terms of the sense or faculty which perceived its effect and by excluding from each art whatever is intelligible in the terms of any other sense or faculty would the non-musical arts attain the "purity" and self-sufficiency which they desired ... the other arts can also be sensuous, if only they will look to music, not to ape its effects but to borrow its principles as a "pure" art, as an art which is abstract because it is almost nothing else except sensuous.<sup>18</sup>

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<sup>14</sup> Carlo Carrà, "The Painting of Sounds, Noises and Smells", (1913), and Enrico Prampolini "Chromophony – the Colours of Sounds" (1913), reprinted and translated in Umbro Apollonio, 1973, 111-118.

<sup>15</sup> Léopold Survage, "Coloured Rhythm", *Les Soirées de Paris* July-August 1914, reprinted and translated in Robert Russett and Cecile Starr, 1976, 36.

<sup>16</sup> Robert Russett and Cecile Starr, 1976, 35.

<sup>17</sup> Guillaume Apollinaire "Coloured Rhythm" *Paris-Journal* 15 July, 1914, reprinted and translated in Robert Russett and Cecile Starr, 1976, 38.

<sup>18</sup> Clement Greenberg, "Towards a Newer Laocoon", *Partisan Review*, July-August 1940, reprinted in *The Collected Essays and Criticism - Vol.1: Perceptions and Judgments 1939-1944* Clement Greenberg, ed. John O'Brian (Chicago: University of Chicago Press, 1986), 31-32.



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Greenberg's comments raise an important adjunct to the relationship established between music as an analogy and synaesthetic fusing of the senses. A notion of "the arts" and the criteria for their categorisation has a long history and is a topic which deserves attention in its own right, however there are two approaches which are important to our discussion.<sup>19</sup> The first approach is that used by Greenberg, who makes the distinction on the basis of the senses; "defining each of the other arts solely in the terms of the sense or faculty which perceived its effect".<sup>20</sup> The arts have often been divided on the basis of the sense they primarily address, a concept that remains evident today, as Hermès' perfumer Jean-Claude Ellena states, "the painter learns to see, the pianist learns to listen, I learned to smell".<sup>21</sup> For Greenberg music serves as a model for the other arts to explore the unique qualities of their medium in relation to the sense they address. A synaesthetic approach, such as that of the Futurists, which explores relationships and parallels between the senses, and therefore the arts, clearly stands in direct opposition to this approach. Ultimately this distinction must address the question of perception and the scientific understanding of the human senses. If the senses are understood as five discrete channels, then Greenberg's approach may seem appropriate, although not inevitable. However, if the cross-sensory experiences of synaesthetes are taken to suggest that the senses are not discrete, then Greenberg's distinction can be considered arbitrary.

The arts are not always divided purely on the basis of the senses, and there is an equal tradition of dividing them between the spatial and temporal, music being concerned purely with changes over time, painting being concerned with changes over space.<sup>22</sup> Such an approach often returns to the senses and the division between them, as Jean-Jacques Rousseau suggests: "the field of sound is time, that of sight is space".<sup>23</sup> As with the sensual division of the arts, the temporal/spatial distinction is undermined by a synaesthetic approach to visual music, as it introduces temporal aspects to the visual. Clearly cinema poses a significant challenge to this distinction, encompassing as it does both the spatial and temporal, and poses a problem for the use of film by artists who wish to work purely in analogy with music.

It can be seen that the aesthetic context in 1921 in which Richter, Eggeling and Ruttman were working provided two very different models. On the one hand the idea of music as an analogy for visual art, on the other a synaesthetic

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<sup>19</sup> Simon Shaw-Miller discusses the categorisation of the arts further, see Simon Shaw-Miller, 2002, 1-4.

<sup>20</sup> Clement Greenberg, 1940, 31.

<sup>21</sup> Quoted in Chandler Burr, "The Scent of the Nile", *The New Yorker* 14 March, 2005, 82.

<sup>22</sup> See Simon Shaw-Miller, 2002, 7-11.

<sup>23</sup> Jean-Jacques Rousseau, "Sounds and Colours", *Essai sur l'origine des langues* (1753), quoted and translated in Olivia Mattis, 2005, 215.

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correspondence of the senses. It is common to divide the work of Richter/Eggeling (treated as an inseparable pair), and Ruttman as embodying this split; Richter/Eggeling concerned with music purely as an analogy, Ruttman creating a synthetic union of colour, form and music. As Standish Lawder writes "Ruttman's film of pictured music depended upon a sensual fusion of image and sound ... whereas Richter and Eggeling used music as a structural model to analyze the movement through time and space".<sup>24</sup>

It is certainly the case that Richter and Eggeling used music as an analogy for their work. They were both painters working around the Dada movement in Zürich when they were introduced, in 1918, by Tristan Tzara.<sup>25</sup> Already by this time, Richter had expressed a desire to paint "according to principles like those in music".<sup>26</sup> Discussions with composer Ferruccio Busoni had led him to compare his notion of counterpoint, "a balance and counter-balance of the white paper with the black spots of ink" with Bach's music and its "up and down, the movements and countermovements all leading to a definite unity".<sup>27</sup> Equally Eggeling had been developing his own theory of linear relationships, a "language of linear forms" which Hans Arp suggests was called a "symphony" even at this point, identifying a musical influence that would be explicitly acknowledged in the titles of Eggeling's *Horizontal-Vertical Orchestra* (1921), and *Symphonie Diagonal* (1924).<sup>28</sup> Richter and Eggeling's theories were similar enough that they joined forces and worked together at the estate Richter's parents owned in Klein-Kölzig, near Berlin. Between 1919 and 1921, their shared interest in movement and progression led to a natural development, first from painting and drawing to scroll paintings, and then to film. That music remained an influence is confirmed by Theo van Doesburg, who visited Richter and Eggeling in late 1920 and wrote the following in *De Stijl* in 1921:

It is helpful to compare abstract film-making with visual music, because the whole composition develops visually, in its open field of light, in a manner more or less analogous to music. The spectator sees the composition (already worked out by the artist in a "score") come into being, attain a clearly defined form, and then disappear into the field of light, from which a new composition of totally different structure is built up again.<sup>29</sup>

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<sup>24</sup> Standish D. Lawder, *The Cubist Cinema*, (New York: New York University Press, 1975), 62.

<sup>25</sup> Hans Richter, 1949, 220. Also Standish D. Lawder, 1975, 42.

<sup>26</sup> Justin Hoffmann, "Hans Richter: Constructivist Filmmaker", Stephen C. Foster, 1998, 74.

<sup>27</sup> Hans Richter quoted in Bernd Finkeldey, 1998, 94.

<sup>28</sup> Standish D. Lawder, 1975, 39; Hans Arp quoted in Standish D. Lawder, 1975, 39.

<sup>29</sup> Theo van Doesburg, *De Stijl*, IV, no. 5, June, 1921 quoted and translated in Standish D. Lawder, 1975, 48.

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Despite this historical evidence, the use of music as an analogy is not always immediately apparent when watching Richter and Eggeling's films. The films are rigidly visual, and the only element that may be considered musical is the temporal aspect the medium of film introduces. Despite Richter's titles, there is little sense of rhythm or tempo in the sense one would experience in music; it would be impossible to tap out the rhythm of these films afterwards, as one is able to after a piece of music. A better understanding of the films is found when they are viewed in the spirit in which they were made; as they were made in analogy with music, so they should be viewed in analogy to music. There are of course many different aspects to understanding music, but we might highlight a particularly important and overarching division, the examination of vertical and horizontal relationships. The vertical relationships are those in the same moment, in music examples are harmony (and dissonance), and the relationship between different instruments; in Richter and Eggeling's films this equates to the spatial relationships between the multiple shapes which appear on screen at the same time. The horizontal relationships are those that occur over time, for example in music melody is understood as the relationship of notes over time. In Richter and Eggeling's films this equates to the relationship between the visual elements over time, such as those between shots. Such an analysis must still acknowledge the fundamental differences between music and these purely visual films. In Richter's *Rhythmus 21* there is a section where a white square on a black background becomes a black square on a white background (figs. 1, 2). This change strikes one as inherently visual, there is no equivalent reversal that could be achieved in sound. Thus while a reading of the films in analogy with music is useful, it must be noted that it serves as much to highlight the differences between them as the similarities.

Walther Ruttmann, like Richter and Eggeling, started his career as a painter, however for him the influence of music was more than purely analogous, following instead the Futurists' concern with the correspondence of music with colour and moving form. Relatively little is known about Ruttmann's intentions or how he made his animated film, yet is clear from the completed film that he was more technically accomplished than Richter and Eggeling, who by their own admission knew nothing more "about cameras than we had seen in shop windows, and the mechanized technique of photography frightened us".<sup>30</sup> Ruttmann's film is more proficiently animated, using primitive versions of many of the animation techniques that would become institutionalized ten years later at the Disney Studio, such as "squash and stretch" and "slow in and out".<sup>31</sup> In addition Ruttmann was

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<sup>30</sup> For a brief description of Ruttmann's working practise see William Moritz, 1997, 222; quote from Hans Richter, 1949, 221. It should be noted that Richter is speaking on behalf of Eggeling, who died in 1925.

<sup>31</sup> Frank Thomas and Ollie Johnson, *The Illusion of Life: Disney Animation* (New York: Disney Editions, 1981), 47-71.

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able to co-ordinate colour and sound with his film. While the colour techniques of tinting, toning and hand colouring used by Ruttmann were common in this period, the precise co-ordination of sound required Ruttmann to notate visually Max Butting's musical score to allow the players to ensure the music coincided precisely with the intended visual.<sup>32</sup>

While these differences can be attributed to Ruttmann's technical accomplishment, importantly they are also indicative of the very different concerns Ruttmann had in making his film. Each of the three qualities, animation, colour and music, is synthesized into the overall experience of the film. The use of sound and colour to complement the moving shapes in *Opus 1* indicates Ruttmann's inheritance of the synaesthetic tradition, his belief that there is a correspondence between these elements or the senses they address, although he does not establish a fixed relationship between them. Ruttmann rejects, for instance, any rigid or precise colour-tone or colour-pitch correspondence of the kind Scriabin had used in his work, preferring instead a more impressionistic relationship between the elements.<sup>33</sup>

The second of the three "movements" in *Opus 1* most clearly illustrates this aspect of the film. The movement begins following a black screen and a silence, already a form of correspondence, an absence of light and sound. Its first sequence depicts an abstract yet anthropomorphized battle between a triangle which stabs into the screen with increasing violence (fig. 3), and a number of aquatic organic shapes which swim around the triangle (fig 4). The opposition in the qualities in these two elements finds equivalence in the music accompanying the sequence. The graceful fluid movement of the aquatic shapes find a partner in the smoother legato notes, the triangle's fixed, geometric shape and its stabbing motion equally find a partner in the shrill staccato notes in the music. As the triangle's stabbing becomes more erratic, protruding from top or bottom and penetrating the screen to a greater or lesser extent, so the music also becomes less melodic, and the aquatic shapes disappear, an apparent victory for the geometric and staccato over the organic and legato in both image and sound. The whole sequence is tinted and toned in a cold blue colour which again would seem to correspond with the nature of the sequence, a battle in which the harsh elements are victorious over the mild.

Such a reading is given further strength by the following sequence in this movement. Again the sequence establishes a relationship between a protrusion from the top or bottom of the screen and a free-floating aquatic shape, but where in the first sequence the relationship was antagonistic, here it becomes a mating dance. The protrusion is no longer a fixed geometric shape, rather an organic form which languidly moves across the screen (fig. 5). The aquatic elements, rather than trying to avoid the aggressive movements of the triangle, instead caress the

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<sup>32</sup> William Moritz, 1997, 223.

<sup>33</sup> Simon Shaw-Miller, 2002, 67.

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protrusion, sensuously tracing its shape (fig. 6). Both the music and colour reflect this shift. In opposition to the cold blue of the first sequence, the mating dance is shown in a warm orange/red colour, with the music emphasizing the harmonic and legato over staccato and dissonance. In *Opus I* geometric forms, the colour blue, and shrill staccato tones are grouped together in opposition to organic shapes, the colour red, and deeper legato tones; thus Ruttmann may be seen to be establishing a relationship or correspondence between colour, form and music.

While I have characterised Ruttmann's work as fitting into the tradition of synaesthesia, his later films can equally be seen in relation to the musical analogy approach I identified as characteristic of Richter and Eggeling's work. After finishing *Opus I* Ruttmann produced a further three shorter abstract animated films *Opus II* (1922), *Opus III* (1923), and *Opus IV* (1924). These did not have a co-ordinated score and used only basic tinting, in contrast to the complex score and variety of tinting, toning, and hand colouring used in *Opus I*. Some commentators have interpreted this shift as a progression from the nineteenth century concern with synaesthesia found in *Opus I* to the modernist concern with form in *Opus II/III/IV*. Malcolm Le Grice suggests there is a progression in these three later films, from the anthropomorphic, through the geometric to the optical, a progression which mirrors the wider trajectory of abstract art in the twentieth century.<sup>34</sup> Yet the shift away from the complexities of *Opus I* can equally be seen more simply as a result of the difficulties of producing a film with co-ordinated music and colour in the early 1920s, a position taken by William Moritz.<sup>35</sup> The planning, production, post-production and performance of *Opus I*, with the technology available to Ruttmann in 1921 would have been difficult, time consuming and expensive. Repeating the experiment may have proved too difficult, whatever Ruttmann's aesthetic aims. Technology can thus be seen as an important factor in the aesthetics of the films discussed.

Richter and Eggeling's work equally presents contradictions and complications which undermine characterising them as simply opposing the synaesthetic approach. One such contradiction is in the use of music to accompany Richter and Eggeling's films. It is usually assumed that these films were shown unaccompanied, in contrast not only to Ruttmann's *Opus I*, but also to most "silent" cinema which would have had some form of musical accompaniment. This is given additional weight by contemporary accounts, such as the following by Adolf Behne

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<sup>34</sup> Malcolm Le Grice, "German Abstract Film in the Twenties", Arts Council of Great Britain, 1979, 32.

<sup>35</sup> William Moritz, 1997, 223.

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It is characteristic that the film [*Horizontal-Vertical Orchestra*], a technical collaboration between Eggeling and Hans Richter, not only exists without musical accompaniment but quite rejects the need for one.<sup>36</sup>

For Behne the lack of musical accompaniment is not simply a technical issue but fundamental to the aesthetic of the film, its treatment purely as an analogy rather than as an element to be synthesized into the film. Yet writing in 1949 Hans Richter suggests that, at least at some screenings, *Symphonie Diagonale* was accompanied "with fragments of Beethoven's symphonies as a musical background" and elsewhere that "Stephen Volpe [sic] ... accompanied my film with his atonal music".<sup>37</sup> Stefan Wolpe's involvement is confirmed by the appearance of *Filmmusik zu Rhythmus* in the list of the composer's lost compositions for 1925.<sup>38</sup>

Furthermore it is not clear that these artists made the strict division I have made between music purely as analogy and the synaesthetic impulse to combine the arts and senses. Theo van Doesburg, following his visit with Richter and Eggeling in 1920, wrote the following in *De Stijl*: "this abstract dynamic plasticism is mechanically realized, and will be accompanied by musical compositions in which the instrumentation as well as the content would have to be totally new".<sup>39</sup> It is not the synthesis with music which van Doesburg objects to as much as the particular type of music. Later in the same article, van Doesburg, goes further, saying,

this motion-picture composition cannot only serve as a medium for the collaboration of all the arts according to a new harmony, but it can also release the modern artist from the old primitive method of manual oil-painting.<sup>40</sup>

If the arts are divided by the sense they appeal to, then the "collaboration of all the arts" embodies the synaesthetic impulse, yet Van Doesburg considers this compatible with the modernist project of Richter and Eggeling. For van Doesburg the strict use of music purely as analogy was secondary to the importance of experimentation and the creation of new forms. Considering Richter's and Eggeling's work as synaesthetic was not problematic as long as they were synthesizing new forms of musical and visual language.

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<sup>36</sup> Adolf Behne, "Der Film als Kunstwerk" *Sozialistische Monatshefte*, 15 December 1921, quoted and translated in Standish D. Lawder, 1975, 55.

<sup>37</sup> Hans Richter, 1949, 223- 224.

<sup>38</sup> The Stefan Wolpe Society "List of Works" <http://www.wolpe.org/>

<sup>39</sup> Theo van Doesburg, *De Stijl*, IV, no. 5, June, 1921 quoted and translated in Standish D. Lawder, 1975, 48.

<sup>40</sup> Theo van Doesburg, *De Stijl*, IV, no. 5, June, 1921 quoted and translated in Louise O'Konor, 1971, 48.

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Eggeling and Richter's films also challenge the other method of dividing the arts, that between the temporal and spatial. By progressing to scroll paintings and then to film Richter and Eggeling introduced temporal aspects not just to the perception of the work, to be discussed later, but also to the work itself. The result of this can clearly be identified in their films, particularly Hans Richter's *Rhythmus 21* and *Rhythmus 23*. One possible result of the music as analogy approach is the elimination of figuration, the focus on pure form without reference to the objective world, and particularly the elimination of the illusion of depth. Within Richter's paintings, and even within his scrolls, the flat planes achieve this, there is a concentration on the surface relationship between elements and no illusion of depth. The introduction of time in his film does not simply allow him to explore these depthless relationships across time as well as space, but reintroduces an illusory depth to the image. Richter shows a number of rectangular forms, growing and shrinking, yet while this may be intellectually interpreted as depthless forms changing over time, it is almost inevitable that they are immediately perceived as the object moving closer or further away from the spectators, and thus implying a depth to the screen.

An equal illusion of off screen space is implied by the movement of forms across the edge of the screen. Again while these may be interpreted as forms simply stretching on screen, it is more easily perceived as a constant shape travelling from or to an imaginary off screen space. In a static painting a form abutting the frame would only imply a space beyond the frame if the object were recognizable. On the whole, within an abstract painting the spectators have no prior knowledge of the forms visible and therefore a shape abutting the edge of the frame will simply emphasize the frame rather than implying a space beyond it. The introduction of time to space, that is, movement within Richter's films, allows the spectators to gain knowledge of the form and thus when it abuts the edge of the screen and gets smaller, the implication of an off-screen space is greater than the idea that the shape is simply changing shape.

It is these two qualities which most distinguish Richter's films from Eggeling's. *Symphonie Diagonal* implies neither off-screen space nor depth; instead its time lapse changes remain much closer to the painterly concern with the viewers' perception of the artwork in time than the introduction of temporal elements into the artwork. Yet this concern with perception was not the starting point of Eggeling's project but one of the implications brought about by the initial impulse of his work, the investigation of a universal language.

Viking Eggeling's work (and to some extent Richter's work with him), was motivated by a single aim, to investigate and delineate an understanding of a language and grammar of form. Richter describes "its almost scientific method [which] led him to analyze how elements of form "behaved" under various

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conditions".<sup>41</sup> This involved not only reducing form to its basic components, but also examining the relationships between them. This led firstly to scroll painting and then to film, as the impact of changing elements dynamically most clearly revealed their bearing upon the whole. This shift introduced the question of perception, as Richter explains:

without intending to, we had arrived at a kind of dynamic expression which produced a sensation rather different from that possible in easel painting. This sensation lies in the stimulus which the remembering eye receives by carrying its attention from one detail, phase or sequence, to another that can be continued indefinitely ... in so following the creative process, the beholder experiences it as a *process*, not as a single *fact*. In this way, the eye is stimulated to an especially active participation.<sup>42</sup>

In this aspect of Richter and Eggeling's work we can see a strong connection with the modernist painters that preceded them, particularly the Cubist movement, for whom a concern with time and perception was central.<sup>43</sup> According to this interpretation, cubist paintings placed increased emphasis on the spectators' role in perceiving over time, the eye passes over the multi-faceted surface of the paintings that gave Cubism its name. More broadly this shift in attention, from the scientific examination of an object external to the observer, to an awareness of the role of perception in comprehending and constructing experience provides a direct connection with changes in the scientific examination of vision in the nineteenth century.

Jonathan Crary claims many accounts of visual modernism and modernity identify a rupture in representation and perception in the late nineteenth century, whether in the work of Manet, the impressionists or post-impressionists. Crary argues against such a reading, instead arguing that visual modernism is the product of earlier scientific investigation, rather than a reaction against it. He suggests that in the seventeenth and eighteenth centuries the camera obscura was the dominant paradigm for a model of vision, where "observation leads to truthful inferences about the world".<sup>44</sup> With the camera obscura the observer stands apart from the observed, a *tabula rasa* for information. During the nineteenth century, increased attention was paid to the physiology of the human body, especially vision, and the role of the observer in constructing their perception. For Crary, the stereoscope

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<sup>41</sup> Hans Richter, *Art and Anti Art* quoted in Bernd Finkeldey, 1998, 95.

<sup>42</sup> Hans Richter, "Easel-Scroll-Film", *Magazine of Art* February 1952, reprinted in Robert Russett and Cecile Starr, 1976, 52. Italics in the original.

<sup>43</sup> For one discussion see Mark Antliff and Patricia Leighton, *Cubism and Culture*, (London: Thames and Hudson, 2001), 64-110.

<sup>44</sup> Jonathan Crary, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century*, (Cambridge, Mass: The MIT Press, 1992), 29.



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became the dominant model for vision in this period. When viewing with a stereoscope the observer is no longer distinct from that which is observed, but rather becomes the focus of attention. Of particular importance to our discussion, Crary suggests that this increased "empirical isolation of vision" led to a "pervasive 'separation of the senses'", a shift from a unified sensory model of human perception to understanding the human sensorium as a collection of independent senses.<sup>45</sup>

Richter and Eggeling's films can thus be seen as typically modern, not only in the context of the visual modernism of impressionism, post-impressionism and cubism, but also a broader cultural modernity predicated upon the notion of the active observer and a separation of the senses. In contrast, viewed from this perspective, Ruttman's films, particularly *Opus 1*, would seem antiquated, harking back to nineteenth century conceptions of synaesthesia which were debunked by the scientific rationalism described by Crary. Standish Lawder gives such a reading of *Opus 1*, arguing "it was, quite literally, an exercise in visible music, fulfilling the nineteenth-century urge for a *Gesamtkunstwerk*".<sup>46</sup> Nineteenth century interests in synaesthesia, whether in Wagner, Symbolism or Romanticism, are an important aesthetic context for Ruttman's films, but there remains a closer context which Ruttman's film can be considered in relation to, and which also stood in opposition to the separation of the senses: Gestalt psychology.

The roots of Gestalt psychology can be found in observations made by Max Wertheimer in 1912, at that time working in Frankfurt.<sup>47</sup> Wertheimer noticed that when two lights placed together are alternately lit, there is a perception of movement, that is rather than seeing two alternating lights we see a single light moving from one position to another. For Wertheimer this observation contradicted the prevailing scientific position that human perception was the product of individual sensory inputs. Instead Wertheimer argued it illustrated that it is the whole that is perceived first, and only broken into its parts afterwards. Wertheimer expressed the fundamental precept of Gestalt theory as follows,

there are wholes, the behaviour of which is not determined by that of their individual elements, but where the part-processes are themselves determined by the intrinsic nature of the whole.<sup>48</sup>

This observation became the basis for a wide ranging study, particularly with regards to, but not limited to, human perception. With regards to our discussion of synaesthesia and the senses, Erich von Hornbostel's 1927 paper "The Unity of the

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<sup>45</sup> Jonathan Crary, 1992, 19.

<sup>46</sup> Standish D. Lawder, 1975, 51.

<sup>47</sup> Duane Schultz, *A History of Modern Psychology* 2nd ed. (New York: Academic Press, 1975), 266.

<sup>48</sup> Max Wertheimer, "Gestalt Theory" (1925), reprinted and translated in *A Source Book of Gestalt Psychology*, ed. Willis D. Ellis (London: Routledge & Kegan Paul, 1938), 2.

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Senses” is the most useful in outlining a Gestalt understanding of the senses. Hornbostel writes,

what is essential in the sensuous-perceptible is not that which separates the senses from one another, but that which unites them; unites them among themselves; unites them with the entire (even with the non-sensuous) experience in ourselves; and with all the external world that there is to be experienced.<sup>49</sup>

Hornbostel goes on to identify the same implication for art identified earlier in relation to synaesthesia, that the unity of the senses makes arbitrary any categorization of “the arts” on the basis of them. He writes,

the unity of the senses is given from the very beginning. And together with this the unity of the arts ... In the mask-dance, music and painting, sculpture and poetry, are not yet separated from one another; colours and forms are still drawn into the sounding whirl of human action and its cosmic meaning.<sup>50</sup>

In Gestalt psychology and theory, we find a cultural context for Ruttman’s synaesthetic films. It is unclear whether Ruttman was directly aware of the Gestalt psychologists’ work. Certainly, the initial Gestalt experiments of Wertheimer, in conjunction with Wolfgang Köhler and Kurt Koffka, were carried out in Frankfurt, Ruttman’s home town and the location for the first screening of *Opus 1*.<sup>51</sup> Furthermore, both Wertheimer and Köhler were working in Berlin when Ruttman moved there in late 1922.<sup>52</sup> Ruttman’s films certainly embody the same spirit as Gestalt theory.

My earlier reading of *Opus 1* emphasised the synaesthetic qualities of it, and in many ways this same reading may be used equally as a “Gestalt” reading, however there remains an important distinction between synaesthesia and the Gestalt understanding of the senses outlined above. Synaesthesia, both as a medical condition and as a more general artistic metaphor, may be considered *cross-sensory*, the senses are understood in relation or comparison to each other, they are intermingled. In contrast, as the quotation from Hornbostel above suggests, a Gestalt approach is *trans- or meta-sensory*. It is concerned with those qualities which are not unique to an individual sense, which Hornbostel suggests are in the majority.<sup>53</sup> Whether such a distinction can be made with regard to the films under discussion is questionable. Much of the distinction rests at the level of language.

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<sup>49</sup> Erich M. v. Hornbostel “The Unity of the Senses” (1927), reprinted and translated in Willis D. Ellis, 1938, 214.

<sup>50</sup> Erich M. v. Hornbostel, 1938, 216.

<sup>51</sup> Duane Schultz, 1975, 265; William Moritz, 2004, 4.

<sup>52</sup> William Moritz, 2004, 8.

<sup>53</sup> Erich M. v. Hornbostel, 1938, 211.

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One might argue that such a discussion reveals the imprecise nature of language and communication, that there is an experiential difference between a warm touch and a warm sound, but that the attempt to communicate that difference tests the limits of language. Yet language is such a fundamental part of the way that we experience the world that non-specific sensual concepts like intensity or brightness seem natural. Such discussions consume both scientists and philosophers, and are clearly beyond the scope of this essay to solve, but it remains useful to understand that such discussions were precisely what provoked the filmmakers under discussion to make their films. I would argue that Ruttmann's *Opus 1* clearly demonstrates a concern with these issues, even if it ultimately does not fully resolve them. In the second movement of the film, Ruttmann makes a strong case for the Gestalt approach, the qualities of the "sharp" strings coinciding with the "sharp" geometric shapes, while the "smooth" strings coincide with the "smooth" forms. When Max Wertheimer, in 1925, said "one finds many processes which, in their dynamical form, are identical regardless of variations in the material character of their elements", he could easily have been describing *Opus 1*.<sup>54</sup>

Just as Ruttmann's *Opus 1* embodies the concerns of the Gestalt approach, so Eggeling and Richter's films, especially *Symphonie Diagonale*, would seem to embody the atomistic scientific approach described by Crary that Wertheimer and the Gestalt psychologists attacked. Wertheimer's description of science could equally to be taken as a description of the operation of *Symphonie Diagonale*:

isolate the elements, discover their laws, then reassemble them, and the problem is solved. All wholes are reduced to pieces and piecewise relations between pieces.<sup>55</sup>

In watching *Symphonie Diagonale* the viewers experience this first hand. Stills from *Symphonie Diagonale* can be rather misleading, giving the impression that the film presents a single, consistent gestalt form (fig. 7), which is then broken down to its constituent elements. It should be recognized that a version of this form only appears several minutes into the film, and that it never exists in a fixed state, unlike stills which purport to represent it. The experience of viewing *Symphonie Diagonale* is of each element of this form being presented in part, and being systematically divided into smaller and smaller elements. By the time the larger form appears the viewers see it not as a gestalt, but as being constituted of the individual elements: pan-pipes (fig. 8), combs (fig. 9), and swirls (fig. 10). These elements are in turn understood as being constituted of smaller elements down to the most basic straight and curved lines. The rhythmic and constantly shifting relationships between the elements further emphasizes their nature as individual parts. The viewers are unable to hold in place a simple relationship between any of the parts and instead

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<sup>54</sup> Max Wertheimer, 1938, 9.

<sup>55</sup> Max Wertheimer, 1938, 2.

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must accept their autonomy. Of course the intention of Gestalt theory was to describe the mechanisms of perception, not to prescribe a particular way art should be created, or provide a value system by which to judge it. Yet *Symphonie Diagonale* would seem to demand that it is perceived in pieces (and only with the eyes), and therefore can be seen to stand in opposition to Gestalt theories.

The notion of 'visual music' can be seen as a useful way of understanding the significant number of abstract animated films produced in Europe in the 1920s and 1930s. For each filmmaker the term can be understood in a slightly different manner: for Hans Richter and Viking Eggeling music served purely as an analogy of interrogating the qualities of visual media without recourse to representation. In contrast Walther Ruttmann integrated music into his film in attempt to synthesise them, to cross sense boundaries in a manner analogous to the medical condition synaesthesia. These ideas were not simply timeless aesthetic choices made by each artist, but rather intimately linked to social and cultural patterns. Eggeling and Richter's work can be seen to embody the separation of the senses established by scientific investigations of the 19th century. This atomistic approach to the human sensorium came under scrutiny by the Gestalt theoretical movement at the same moment that Ruttmann was producing films which rejected the rarefied purity of Richter and Eggeling's films, instead revelling in a hybridity that foreshadowed the arrival of sound cinema in 1928 .

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### Filmography

*Berlin, die Symphonie der Großstadt* [*Berlin, Symphony of a Great City*]. Dir: Walther Ruttmann, 1927, Silent, B&W. California: Image Entertainment, 1999.

*Filmstudie* [*Film Study*]. Dir: Hans Richter, 1926, Silent, B&W.

*Horizontal-Vertical Orchestra*. Dir: Viking Eggeling, 1921, Silent, B&W.<sup>56</sup>

*Lichtspiel Opus I* [*Lightplay Opus I*]. Dir: Walther Ruttmann, 1921, Live Score: Max Butting, Tinted/Toned/Hand-Coloured.

*Opus II*. Dir: Walther Ruttmann, 1922, Silent, Tinted/Toned/Hand-Coloured.

*Opus III*. Dir: Walther Ruttmann, 1923, Silent, Tinted/Toned/Hand-Coloured.

*Opus IV*. Dir: Walther Ruttmann, 1924, Silent, Tinted/Toned/Hand-Coloured.

*Rhythmus 21* [*Rhythm 21*]. Dir: Hans Richter, 1921, Silent, B&W. New York: Kino International, 2005.

*Rhythmus 23* [*Rhythm 23*]. Dir: Hans Richter, 1923, Silent, B&W.

*Rhythmus 25* [*Rhythm 25*]. Dir: Hans Richter, 1925, Silent, B&W.

*Symphonie Diagonal* [*Diagonal Symphony*]. Dir: Viking Eggeling, 1924, Silent, B&W. New York: Kino International, 2005.

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<sup>56</sup> Eggeling's *Horizontal-Vertical Orchestra* is now lost, and may never have been completed to his satisfaction due to technical difficulties. See Louise O'Konor, 1971, 51.