

ADELHEID HEFTBERGER (WIEN), YURI TSIVIAN (CHIGACO)  
AND MATTEO LEPORE (TORINO)

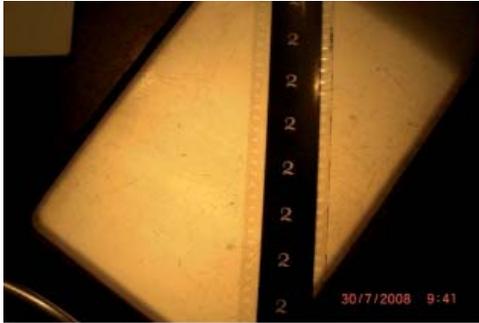
## *Man with a Movie Camera* (SU 1929) under the Lens of Cinematics

This text is a series of extracts taken from an ongoing conversation, started at [http://www.cinematics.lv/movie.php?movie\\_ID=1780](http://www.cinematics.lv/movie.php?movie_ID=1780) in June 2008.<sup>1</sup> The conversation started after submitting a shot list of Dziga Vertov's *Man with a Movie Camera* (SU 1929)<sup>2</sup> into the database of Cinematics. This measurement is a frame-by-frame count. The count is based on a 35 mm print, preserved in the Vienna collection (provenance: Gosfilmofond of Russia), digitized and annotated using the software Anvil. Adelheid Heftberger was in charge of annotating this digital copy and locating five splits between the film's six reels in the 'Vienna copy'. Later, Gunars Civjans submitted each reel separately. A rough comparison between the 'Vienna print' and a print from the RGAKFD (Krasnogorsk) was made at the TV Archive in Riga. While in the 'Vienna print' and the full frame print preserved in the Netherlands Filmmuseum ('Dutch print', provenance: RGAKFD) only the number '1' rises in the first reel, more (although not complete) animated cutout numbers can be found in the 'Riga print' (provenance: RGAKFD). We can assume that every reel was originally meant to have a number 'rising' at the beginning of a reel and a number 'falling' at the end of a reel. Below are some examples, taken from the Riga print:

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1 More than the three of us took part in it at this or that point, and more questions were tackled than this essay can handle. Barbara Wurm and Gunars Civjans were instrumental in raising questions concerning methodology, interpretation and statistical accuracy of what we were doing. Our thanks to all of them.

2 Hereafter quoted as *MWMC*.



The extracts of the conversation we present here are of a work in progress. The *MWMC* submission as a whole and reel by reel is the first step in a sequence. We plan to go on submitting timing data and segments thereof in both simple and various advanced modes, and discuss the results in comment boxes as we go along. This look-and-talk sequence is part of the project *Digital Formalism: The Vienna Vertov Collection*.

Yuri Tsivian: Moving ahead is moving towards Vertov and the interpretation of his film. To pave the way towards this, I want to ask the following question: What does the Average Shot Length (ASL) tell us? What makes some film directors cut their films faster and others cut their films slower? There can be two answers to this, long and short. The short answer is: nothing. Nothing ‘makes’ you take this or that road. It will always be your free stylistic choice. But one can also say: Of course, but then, even when you have opted for your cutting style to be fast or slow, your shot lengths still vary within the duration of a film. What is it that makes some shots longer and some shots shorter – and this, speaking about one and the same film? Another way of asking this is: what is it that makes the film’s pace accelerate at some sections and slow down at other sections? To answer this, we’ll need to think about ‘storytelling

conventions' – conventions that shape the expectations most film viewers share as they go to the movies to watch films. Can one pinpoint and name at least some of the storytelling conventions that can be said to influence the length of this or that shot? After having looked on a weekly basis for more than two years at most of the graphs submitted to Cinemetrics so far, I think I can. I'll try to now. Tell me if this makes sense. We'll then try to figure out which of these conventions works for *MWMC*. I suggest that we first single out three categories of storytelling conventions that tend to bear on internal fluctuation of cutting rates within what Semen Timoshenko calls a "normal" film:<sup>3</sup> 1) Event-driven ones; 2) Story-flow related; 3) Conventional editing patterns. Let me explain what I mean by each. 1) As you may have noticed, some events in our daily life appear to have a built-in kinetic program of sorts dictated by what they are about. When people are alive, they normally move; the dead don't. It may be because of this undeniable fact that most of the funerals I happened to attend were slow-moving affairs, as were the marches and violin pieces played at them. Likewise, I do not recall too many films in which a funeral procession would be the liveliest piece of editing in the film – other than in René Clair's *Entr'acte* – but then again, it is exactly because it is based on contrasts that this film is called a Dada movie. Take two Griffith movies I once submitted: *Isn't Life Wonderful?:* (6)  ASL 6.9 and *America:* (6)  ASL 4.8.<sup>4</sup> In my comments below these films, you will find explanations, like: slow-cut death scene; slow-cut romance scene. This is what I've proposed to call 'event-driven cutting rates' (or the ED-factor). Try to find a car chase or a showdown that would be cut as slowly as a funeral afterwards. 2) Storytelling is not an uninterrupted string of words or events. As Aristotle tells us in his *Poetics*, a story is always a cycle, for every story has a beginning, a middle, and an end. This is, of course, the roughest and the most obvious thing you can tell about a story, but we cannot afford dismissing it as a truism, for this is one of the conventions film editors reckon with. You may find the credits sequence attached to the beginning or (less frequently) to an end of a movie, or you can have a brief prologue preceding them, but I do not recall many cases in which the credits appeared right in the middle of the film. Or, less obviously, but as importantly, a typical (Timoshenko's "normal") narrative or drama will likely begin calmly – then something happens – then someone counteracts – complications – impasse – climax – resolution – and, relax, slow down again. This narrative up-and-down translates to shot-lengths, and consequently, to the cutting rates. Because one

<sup>3</sup> On Timoshenko, see also Barbara Wurm's text in this issue.

<sup>4</sup> The numbers and graphs refer to the Cinemetrics Database at [www.cinemetrics.lv](http://www.cinemetrics.lv).

of the functions of editing is to articulate stories visually, ‘story-flow related cutting rates’ (or the SF-factor) matter more than we tend to think. There are more types of sub-cycles the big story cycle consists of than I can possibly mention in one comment, but one of them is silent film-related and is therefore important to our case. In the silent era, films came in (roughly) 10–15 minute ‘reels’ and if a movie theater was not equipped with two projectors (as all theaters nowadays are) there were breaks every 10 or 15 minutes for the projectionist to load the new reel into the projector. For those technical breaks not to interfere with the flow and the tension of a film, filmmakers observed the following rule: Make a reel a quasi-independent unit with its own little climax, and end each reel so that each technical break coincides with a narrative pause. To see whether Vertov’s editing counted with this rule, we’ll need to submit each reel to Cinematics separately – in order to see whether or not our trendline curves follow a certain common pattern.<sup>3</sup>) Stable editing patterns exist, which ‘normal’ filmmakers use in certain scenes. In dialogue scenes, this is the reverse angles editing. For instance, there is crosscutting in chase or rescue sequences, or “montage sequences”<sup>5</sup> to briefly cover a larger span of time. Each of these comes with its own kinetic characteristics in the trail. This is what I called ‘conventional editing patterns’ (or the CE-factor). What I suggest are the following three tasks: Look at the *MWMC* graph with an eye on the ED-factor. Are there things in this film – slower cutting rates, faster cutting rates – that can be explained as ‘event-driven’? Are there perhaps also spots whose cutting rates are CE-factor dictated? And we’ll ask Gunars to submit the film reel by reel to figure out if reels mattered to Vertov. If Heidi is ready with the six-part mapping of the film, it is time to provide this, too. This way we’ll know more about the SF-factor significance in *MWMC*.

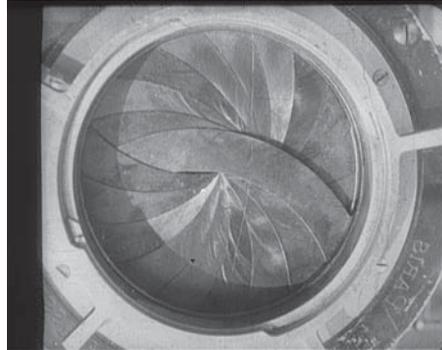
Adelheid Heftberger: Here are the screen shots of the single reels’ beginnings and endings just before and after the numbers indicating a reel change. They are named according to the reel number and with an ‘A’ for beginning and ‘B’ for the ending.

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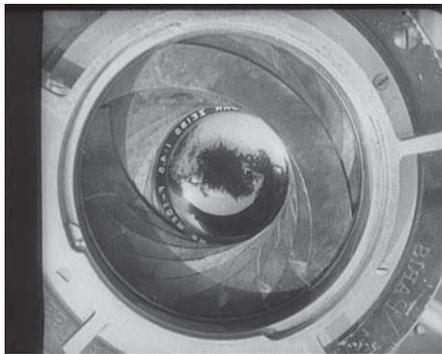
<sup>5</sup> On a definition of these „montage sequences“, see Stavros Alifragkis’ text in this issue.



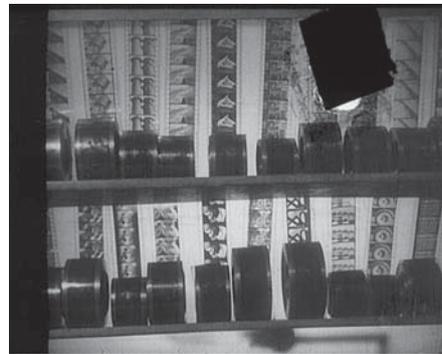
1A



1B



2A



2B



3A



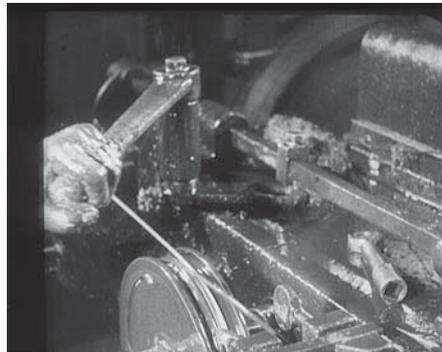
3B



4A



4B



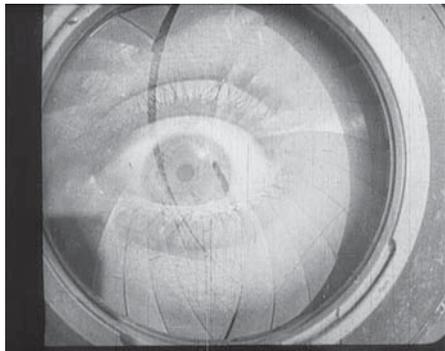
5A



5B



6A



6B

YT: Let me recap in a few words the few things we have established about the story flow of *MWMC* – something never brought up about this film before. Now we know that *MWMC* was originally edited with an eye on being shown in six legs with five breaks in between, not in one fell swoop as had earlier been assumed. We know that in order for the viewer not to experience these breaks as so many abrupt and unwitting interruptions, Vertov has bracketed the reels with corresponding numbers ‘rising’ at the beginning of a reel and ‘falling back’ at its end; and we know that alongside these kinetic-numeric brackets there appear to be other visual means to say to the viewer that each consecutive reel is both a whole in itself and a part of a larger whole. We can tell this by looking at Heidi’s picture-record of the very first shot each reel begins with and of the last shot which closes it. Are there perhaps fluctuations in the film’s cutting tempo that would be matched to the openings and the closures of each reel? To find this out we’ll need to take a look at reel graphs. But before we go there, let us think a little more about the falling and rising numbers and about the twelve shots Heidi pasted above. Let me pose two questions I want us to think about, one about the numbers, and the other about the pictures.

1) This first one helps us to realize how many things we tend to take for granted. I am sure it did not take Vertov a lot of thinking in order to decide that rising numbers should be spliced to the beginning of each reel, while the falling ones should be used to signal the reel end nor do we perceive this as a strange thing to do. Still, it makes sense to ask: Why did he do this the way he did? Why not the other way round, for instance: number ‘3’ falls and reel 3 begins; reel 3 ends and number ‘3’ stands up?

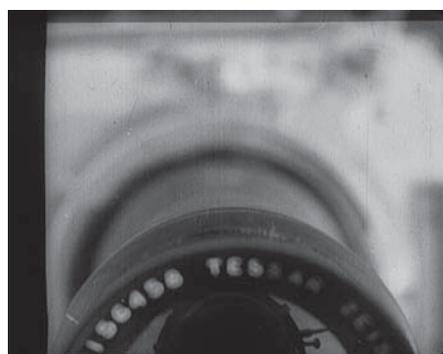
2) The other question is about the pictures above, and is related to their function. It would be an easy question to answer, if each reel started and ended with the same emblematic shot, like the lens iris opening and closing, for instance. Then, these would be – like those numbers – mere reel dividers. Instead, Vertov makes us part of a consistent, but by no means uniform, game of repetitions, mirror symmetries, recurrent motifs and visual matches. Can we do something to crack this game – to find a trend in the way Vertov selects what he thinks is the best frame to end and to begin this or that reel with?

AH: Thoughts on question number 1: It is hard to think of a good answer to that question, because one tends to draw quick conclusions, like that it would be ‘natural’ or ‘normal’ for an audience. One could compare it to the theater convention, where the curtain is drawn in the beginning of a play and is closed at the end. In one shot, in the Dutch print, we can actually see that. Thus, Vertov is clearly referring to an

audience situation, showing us the ‘typical’ experience of a cinema goer. Vertov demonstrates this, but he also performs his experiments with other forms of indicating a change of acts.<sup>6</sup> Look, for example, at his earlier film *Stride, Soviet!* from 1926, where at the very beginning we can see the Roman numeral ‘I’, first completely black and then, as the shot continues, using animation to fill the middle part up slowly with the color white. Perhaps the animated numbers in *MWMC* are also another way of playing with both conventions and an experimental approach. Furthermore, the lens of the camera is likewise rising and falling at the beginning and end of reel 4.



Taken from *Stride, Soviet!*



4A



4B

<sup>6</sup> On the interrelation between acts (as units organizing narration) and reels (as technical units of film projection) see Ivan Klimeš, “Narativ optikou projektoru. Přednáška o pěti aktech” [The Narrative Viewed through the Projector: Lecture in Five Acts], in: *Illuminace*, 20, 4/2008, pp. 5-18.

YT: I fully agree with the point that Vertov did it this way, because he knew it was more ‘normal’ and ‘natural’ (your words) to announce the beginning of a reel, by making its number rise, and its end, by making it fall. I also support the parallel you have drawn between the rising and falling reel numbers, on one hand, and the camera lens raising its eye at the beginning of reel 4 and lowering it before the reel ends, on the other. And your example from *Stride, Soviet!*, in which reel numbers that open reels are filled with white, is just great. You are right: in all those cases we can say – it looks more ‘natural’ to announce something that begins with rising, filling or brightening and something that ends the other way round. But is it all we can say? Why does it seem so natural to you, to me, to Vertov? This question is not as academic as it may sound. The same can be asked about *MWMC* as a whole or about the genre of documentary ‘city symphonies’, in general. Why does *MWMC* begin with the shots of a city sleeping, then of a young lady waking up – and why has Vertov chosen to take us through the city’s daily cycle? Why does *Berlin, the Symphony of a Great City* show us this town’s life from dawn to dusk? One way of explaining the ‘natural’ is to turn to nature. There are some things all human beings share. Two of them are relevant to our subjects. We, human, are diurnal animals and we are bipedal. ‘Diurnal’ means that we all, more or less, wake up in the morning and go to bed after sunset. ‘Bipedal’ means that when we go to bed, we become horizontal, and we become vertical (‘get up’, ‘aufstehen’, ‘rise’) when we begin our day. When we are babies, we crawl; when we are corpses, we fall. See where I am heading? Are there cognitive scientists or Gestalt psychologists that have already experimentally proven that the human mind more readily associates rising and brightening objects with the beginning, and falling and darkening with closure than the other way round? Let us consider Vertov’s films proof enough then. Vertov is human, so his number ‘1’ in *MWMC* is rising like a bright numeric sun against the pitch-black darkness; and this is also why his number ‘1’ in *Stride, Soviet!* grows white, not black.

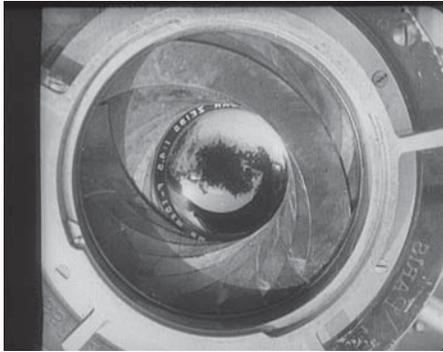
One last remark on question number 1: Count how many films you have seen that start with an alarm-clock going off. A rather standard beginning for your run-of-the-mill film, isn’t it? Philologists tell us that ‘morning’ and ‘evening’ are one of the most ancient and most common ways to start and end a poem, a story, a drama – something they call a ‘topos.’ Latin poets used this a lot, and even Book Two of Homer’s *Odyssey* starts with this passage: “Now when the child of morning, rosy-fingered Dawn, appeared, Telemachus rose and dressed himself.” And do you remember the last line? Of course: “Thus, then, the ship sped on her way through the watches of the night from dark till dawn.” Read Robert Browning’s drama in verse *Pippa Passes* – what are Pippa’s opening and closing monologs addressed to? Then,

see D.W. Griffith's 1909 screen version of *Pippa Passes* – the first film in film history, that I am aware of, to use the dawn-to-dusk story structure and lighting schemes.

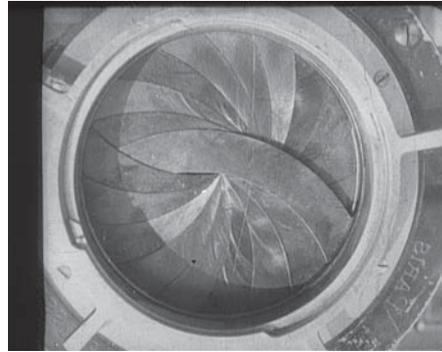
AH: On question 2 ('best frame to end and to begin this or that reel?'): Where do we begin with our analysis? With the first shot after 'number' 1 rising? Or with the first shot after the credits? I chose the first shot after the credits for the moment. As for ends and beginnings: All starts and ends include references to filmmaking, be it the cameraman himself, the camera lens, or the editing room. But: not the beginning of reel 5 and 6. Here we have a machine detail and the sea. What do you think?

YT: I have only a general idea, which I import from poetry studies (not irrelevant here – for Vertov did write poetry, and to think of them, the end/beginning frames we are discussing do look like 'visual rhymes', don't they?). I am speaking about the rule of intermittent consistency. What does this rule say about verses? Metric verses are typically consistently regular – they have regular stresses, separated by regular numbers of syllables, and in addition, their lines often end with rhymed words. Poetry studies, which is not averse to counting, has established that poets thoroughly avoid being consistent – for, paradoxically, if a poem is fully consistent with a chosen pattern of regularities, it becomes predictable, and its very consistency loses its impact. To avoid this, poets break their own rules from time to time misplacing an accent or adding an extra syllable, for instance. My theory is that the shots that begin reels 5 and 6 are such consistency breakers. Now – look again at the consistency pattern in the twelve shots, which 'sandwich' the 6 reels. They are all about consistency forming and un-forming. Ten shots out of twelve are thematically linked to filmmaking, eight to filming, two to editing. We can also say that in all the eight 'filming' shots, we see a camera lens looking in our direction. But, importantly, none of the eight filming shots is an exact repetition of any other one. They vary in terms of shot scales and in terms of movement. Let us take a quick look at some of Vertov's 'rhymes.' 2A is the same shot as 1B with the iris blades moving in opposite directions. The subtle joke these two shots play on us is that these are the proverbial 'iris-in' and 'iris-out', only glimpsed from the other side of the fence. 4A and 4B turn the camera lens into a semblance of the sun rising from the horizon in A and setting in B. Intended, perhaps, to repeat, in a nutshell, the day-cycle structure of the film as a whole. 6B combines two opposite movements: As the eye widens, the iris narrows – the climax and closure in the same shot.

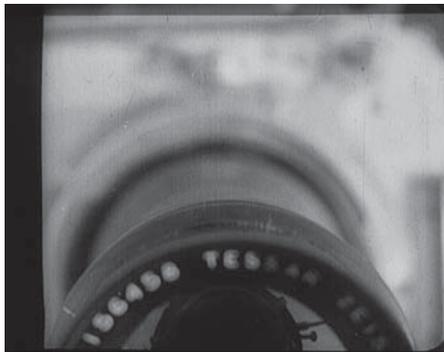
Let us assume we have spoken enough about the numbers rising and falling, have established their connection with cognitive preferences of the human brain, as well as the fact that they chime in with the day-cycle story format, which Vertov has



2A



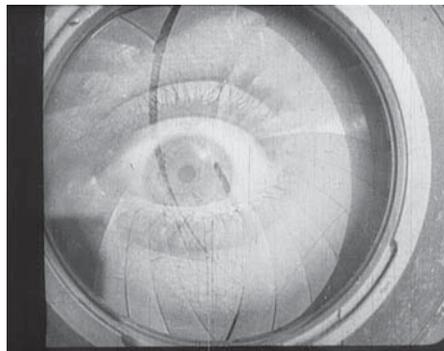
2B



4A

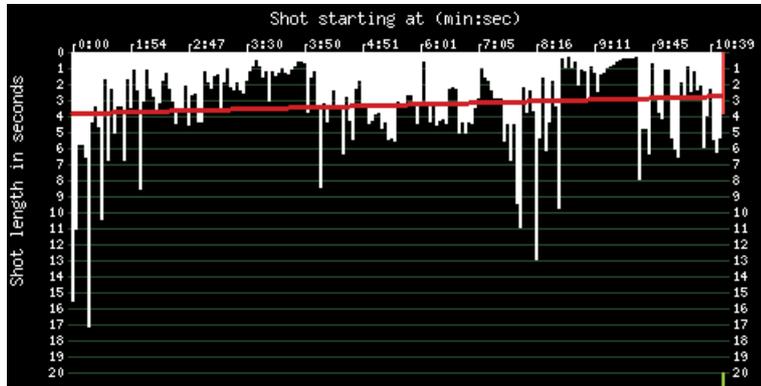


4B

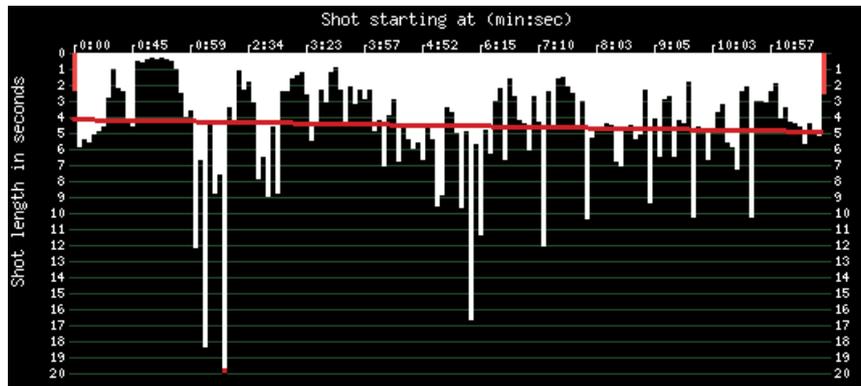


6B

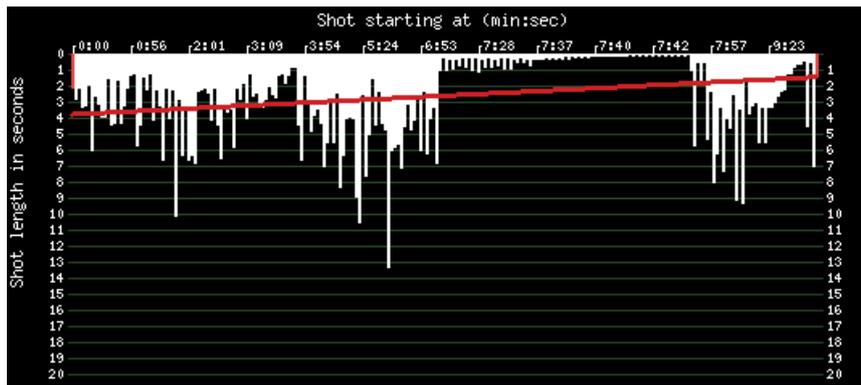
chosen for his film as a whole; we also observed, we recall, that the latter, in its turn, chimes in with the time-honored topos in literature (Homer, Browning) and film (Griffith, Ruttman). So, we now move on to the inner 'reel brackets.' We now turn to reel graphs. Here are the six reels of *MWMC*:



Reel 1



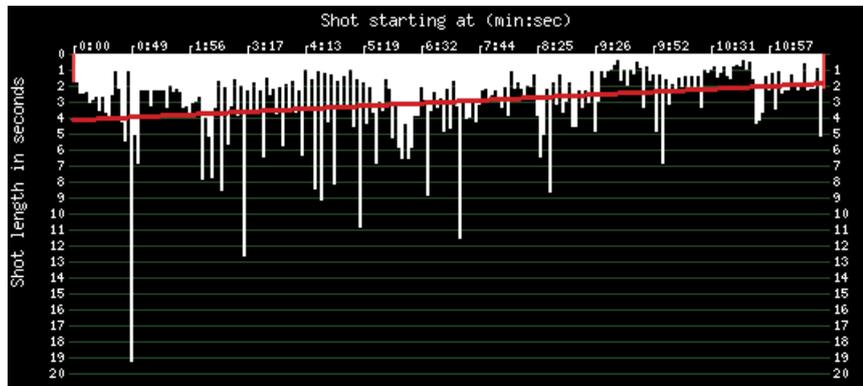
Reel 2



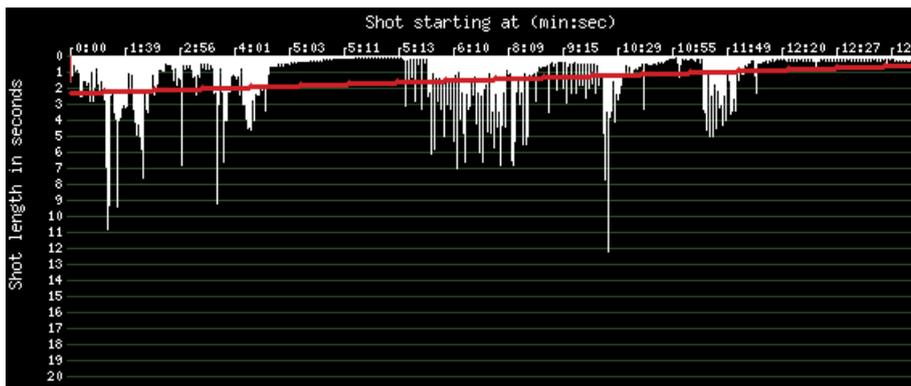
Reel 3



Reel 4



Reel 5



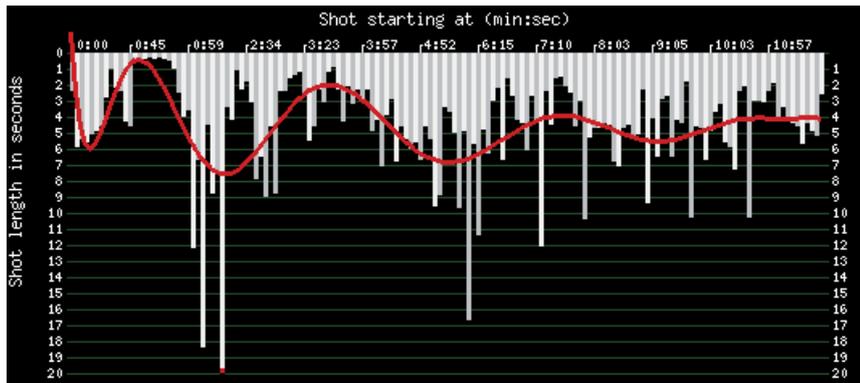
Reel 6

Let us not be distracted by the fact that the graphs do not look uniform in scale. The program is set up that way. Cinematics counts the ‘length of the film’ in terms of the number of shots the film consists of, rather than of evenly-calibrated time flow – hence, different x-axis length. In addition, the reels vary slightly in terms of footage. As we look at the six trendlines alone, is there a tendency we can speak of?

AH: All six trendlines have a positive slope, except for reel 2. In that part, the cameraman travels through the streets (filmed with a low angle), the city wakes up, machines are set to work, traffic starts, people go to the market, the cameraman shoots from a ‘camera-car’, while following another carriage with people who have just arrived on vacation. The reel ends with freeze frames of the images and Svilova (Vertov’s wife and the editor of, and in, the film) working in the editing room, suggesting it is her editing them at that very moment. The shots are quite long and we can nearly find a kind of narrative structure to describe life in the city, introducing places and people. Let’s presume that the audience perceived this part of the film as quite ‘normal’, comparable to other movie narratives, and not yet severely interrupted by Vertov playing his fast-cutting-game.

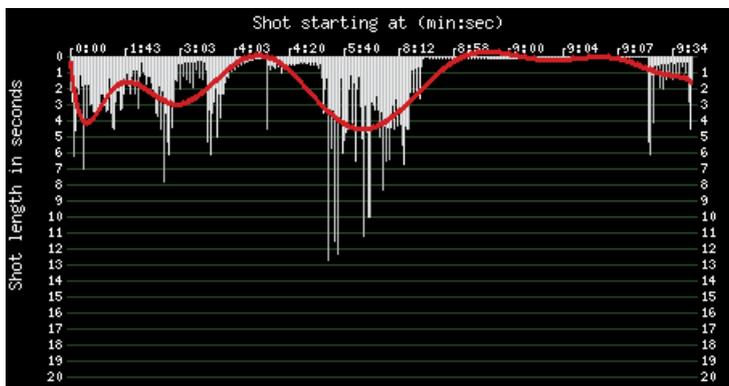
YT: This is what I found worth thinking about, too: Five trendlines out of six have a ‘positive slope’ (the official term used in statistics for lines that go up, left to right) and only one has a negative one. And I agree: Once we have established that there is an 83.3% pronounced acceleration trend (five reels accelerate, one reel slows down) the next question to ask is: What is it that could have caused the exception? Exceptions do often tell you more about rules than the rules themselves might. I believe it was Francis Bacon who advocated the value of ‘absence’ for science: if you want to study the qualities present in the air, start with studying the vacuum. Put a mouse in a retort, pump out all the air and see if the mouse lives – induction method. So, you are right when you say: ‘Let’s have a look at what is happening in the movie in reel 2.’ But what is it? What weighs the trendline down at the end of reel 2? You suggest that perhaps Vertov’s editing is more ‘event-driven’ there (the ED-factor) than it is elsewhere in the film – for, indeed, for the most part of *MWMC*, Vertov makes life follow the tempo of cutting, rather than letting the cutting follow the tempo of life. You are right: Reel 2 is somewhat different in that sense. But that explanation only accounts for the fact that the cutting rate of reel 2 lingers somewhere between four and five seconds (which is slower than the overall ASL), but does not explain why the trend looks down instead of looking up as the rest of them do... Let’s have another look: What happens at the end of reel 2 that makes it a maverick among the rest of Vertov’s optimistic reels?

AH: Time to remember (and recall) how trendlines work in Cinemetrics. I changed the 'degree' of the trendline to its upper limit – 12 – in order to make the line more sensitive.



Reel 2

Compare it, for example, to reel 4 (where I said the positive slope was the steepest), with degree set to 12 as well:



Reel 4

The trendline in reel 2 never goes below zero, and not even below 4 in the second half. So, from the second half onwards the shots must all be of similar extended length and not interrupted too often by shorter ones. Here the cameraman is standing on a car, cranking his camera and following another carriage. Intercut with railway images, wheels and trains. And at the very end, the frozen images, literally freezing time in the movie, form a connection to the editing room. Altogether, we

have nine shots depicting various images, people and streets, apart from the first image (a horse running) all around 100 frames long. We can also see that in the graph.

YT: That is what I think, too: it must be that sudden stillness at the end that makes reel 2 unique among the film's reels. And you were also right in pointing out that the merry and lively labor shots at the beginning of the reel must have been responsible for the faster cutting rate at the beginning of the reel. Let's take a brave step into the unknown and try to formulate a tentative rule that might more or less apply to editing in general. The observation you just made about the labor shots being cut faster and the frozen shots being cut slower fits pretty well within the 'event-driven cutting rates' (ED-factor) of the three categories of storytelling conventions. Indeed: - if we look at the amount of 'within-the-shots agitation' (how quickly or slowly objects and people move) in the section showing people and machines in full-speed action and then connect this to the between-shots agitation of cutting; - if we look at the lack of any 'within-the-shots agitation' in the section showing how these activities come to a sudden halt and then connect this to the slow-down of cutting;- if we recall that Vertov's own music score for *MWMC* instructs that all music stops as soon as the frozen shots appear on the screen in order to create the impression of all temporality suddenly gone;<sup>7</sup>- then we are reasonably entitled to formulate what can be called the ED-rule that film editing tends to obey. When we observe a direct correlation between the tempo of movement within shots and the frequency of cuts between them, chances are we are dealing with the ED-rule of Cinematics at work. In its more general form, the ED-rule links cutting rates to the dynamic characteristics of the event this or that sequence relates to. If we look at the upward thrust of the 1st degree trendline for *MWMC* as a whole, for instance, we can say that, among other factors, this acceleration is explained by the fact that in the beginning, the city sleeps, and is very much awake in the end. The ED-rule is only one of a number of rules responsible for fluctuations of cutting rates within the duration of a film; in addition, as any rule it allows for exceptions.

Matteo Lepore: The ED-rule seems to be linked to a narrative concept of film quite familiar in Western film (and here the word 'Western' comes not by chance, since it is very easy to think about the dilatation of time before the gunshot in Leone's movies), starting with early American movies, in particular, of course, with the parallel

<sup>7</sup> Yuri Tsivian, "Dziga Vertov's Frozen Music: Cue Sheets and a Music Scenario for *The Man with the Movie Camera*," in: *Griffithiana*, 54/1995, pp. 92-121.

editing of Griffith. It is definitely connected to a very precise concept of time in film, which could be defined as linear. Especially if we keep in mind that the debate about the concept of time in cinema was already very advanced at that time. I have in mind Jean Epstein, Jean Vigo and the extremists of French Impressionism, especially their obsession with water.

YT: When people discuss films, they operate with opinions; when they study them, they operate with hypotheses. This is what we do in Cinematics. In the comments I posted, I proposed two hypotheses about film editing. These hypotheses are based on what I have managed to observe looking at the Cinematics data for more than two years of its existence. Let us call these observations 'premises':

Premise 1. It is an established fact that, at certain points, each given film is cut faster or slower than its average shot length (ASL) figure indicates.

Premise 2. There is little doubt that these are not random fluctuations. The film's cutting becoming faster at one point or slower at another must be caused by certain factors.

Question: What are these factors?

Hypothesis 1: As I suggested there must be three kinds of factors at work: 1) Event-driven (ED) factors, 2) Story-flow (SF) related factors, 3) Conventional editing (CE) related factors. I proposed to take a closer look at the first group of the three kinds of factors mentioned above. What I did was to form a specific, ED-factor related hypothesis. This second hypothesis is based on the following premises:

Premise 1: Because all life as we know it manifests itself in a form of movement, every observable event can be mapped onto a grid of dynamic properties. On a map like this, running will not overlap with sleeping; likewise, funeral corteges on this map will occupy a position much different from stock exchange activities, etc.

Premise 2: As the medium of cinema (as distinct, for instance, from the arrested medium of painting) renders movement by means of movement, it stands to reason that some dynamic properties that go with certain events correlate with what Eisenstein termed the dynamics of film form, in our case, cutting rates.

Hypothesis 2: There must be a rule, let's call it the 'ED-rule of editing', in compliance with which editors tend to cut fast shots faster. As with all rules, particularly those found in art, the ED-rule is not binding; if it indeed exists, it exists as a norm one can either observe or violate. Violations never vitiate the norm, they reinforce it.

ML: Maybe Vertov applies the ED-rule in *MWMC*, but moreover, he is able to show how to mock it, to get rid of it, to be free of certain ‘formalized’ standards of narrative cinema. This could be the reason for the series of freeze scenes, depicting fast action movement. Maybe he wants to show that the rule is reversible, or better yet that it is possible to define dynamics through editing?

YT: It may be a little too early to ask that question, for we don’t even know if the ED-rule exists, and if so, to which extent it applies to Vertov. On the other hand, you are right in saying that Vertov’s editing exercises are more self-reflexive than Griffith’s, that he plays and experiments with cutting rather than using it as a means to an end. *MWMC* is all about self-reflexivity. I fully agree.

AH: I remember somebody pointing out that images frozen on the screen also meant danger, the film stuck in the projector, being exposed to the lamp and therefore easily set on fire. So stopping the film that way meant not only a surprise for the audience, but a potentially dangerous situation. How often do these frozen frames appear anyway? – And I mean real frozen ones, because Vertov also uses immobile objects, like when he shows the film strip (and in my opinion this has the same function). This happens at the end of reel 2, as we already said, and later on in two occasions, and interestingly, in the sequences where we see the hurdlers and the horse racing in reel 5. These sport scenes are very much connected to slow motion, maybe in order to bring movement into focus, comparable to the ‘motion study’ Vertov himself had done with his often-quoted “jump from the Grotto”<sup>8</sup>, in order to capture not only motions but also e-motions. Before we take a step further to the other rules: I am still confused by the distinction of events that are slow ‘per se’ (like a funeral) and the slow cutting vs. actions that are fast (like horse racing, sports), making it slow with filmic techniques, and slow cutting. Vertov uses both.

ML: It looks as if the dynamics of the actions somehow determine the shot rate of a certain sequence. Let’s give an example and say that a fight scene in *Spiderman 2* has an average amount of 50 shots per minute (SPM) (quite high), while the romantic interlude between the hero and his kitty has only an average amount of 15 SPM (if a sequence like this could possibly last more than 30 seconds in a film like that). But my point is that although this is undeniably true for all (or almost all) mainstream/

8 See: Österreichisches Filmmuseum/Thomas Tode/Barbara Wurm (eds.): *Dziga Vertov. The Vertov Collection at the Austrian Film Museum*, Vienna: Synema 2006, pp. 82-83.

narrative movies, this rule becomes 'playable', a sort of toy in the hands of some filmmakers experimenting with formal structures. In my opinion, Vertov literally plays with time and action, decomposing and analyzing the essence of the action, just like Muybridge and Marey did with their scientific experiments. I would say that Vertov is more of a political anatomist. He does that with great irony, and also with the intent of revolting (maybe revolutionizing?) the common narrative practice of cinema. Is there a better example for showing a rule than giving its mechanics to the audience?

YT: In Vertov's case, this does not seem too hard to sort out. We can agree to disregard the 'subject matter' of the shot (be it a horse race or a track-and-field race) and go by whether there is some real, physical movement in the shot. But your question reveals a certain weakness in the ED-rule hypothesis that deserves more thought than I had given it. We cannot always go by the speed of the actual shot. Take two examples – imagine a landscape sequence introducing a Belgian village in which the film's action is going to take place. It's full of windmills, whose wings turn merrily. Still, this will hardly impact the cutting rates, won't it? Example two – as we glimpse from some Cinematics submissions, classical showdown scenes in Western films (like Bud Boetticher's *Ride Lonesome*: (6)  ASL 7.8) tend to have higher cutting rates; but there is not much movement in these scenes other than the shot when the two Western heroes draw their guns; before this happens they just look at each other intensely, and this intensity is reinforced by faster reverse angles cutting (remember Sergio Leone?), but again: here we may be dealing with the CE (conventional editing) factor. The main thing is to go case by case, rather than trying to find a formula that fits all cases. We are talking rules, not laws. So, to test the ED-rule hypothesis it may make sense to start with asking: Is there really a correlation of sorts between the speed of movement within the shot and the frequency of cutting?

AH: I agree, but: Is there a way of visualizing that? It might be useful to take two diagrams and overlap them. Let's say we have the usual Cinematics graph (shots and shot length) and another one with a very rough measurement of object motion within the shots ('Motion Types'). I already did something similar in *Anvil*, but was focusing more on the direction, rather than the intensity of the object motion within the shot. If we had, for example, categories like 'slow', 'average' and 'fast', then I could try to annotate every shot in that way. And we would be able to prove the rule.

YT: A brilliant thought – all the more so, because if you rate the internal shot speed as ‘slow’, ‘average’ and ‘fast’ (don’t forget ‘still’ and ‘frozen!’), we can talk of ‘statistical correlation’ (in statistics, correlation only works for meaningful quantifiable data, and your rating scales provide a good ground for such a quantification). If you do this in *Anvil* and if it turns out that the ED-factor is statistically significant, it will become known as the ‘Heftberger Correlation’, I promise.<sup>9</sup>

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9 Nick Redfern, Does the Heftberger Correlation exist, <http://nickredfern.wordpress.com/2009/04/09/does-the-heftberger-correlation-exist/>, April 9, 2009. Redfern’s text is a very sound criticism of our discussion. He argues and demonstrates that there is statistical evidence for a relationship between shot length and motion intensity, however, what is called the ‘Heftberger Correlation’ in our discussion, does not exist, he argues, simply because – statistically speaking – we are not dealing with a ‘correlation’ at all here: “[...] it is not possible to calculate a correlation for pairs of data when the number of categories of motion intensity is seven and the number of shots in the film is 1729 – there are no pairs of data to correlate.”