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Source: *Critical Inquiry*, Vol. 34, No. 4 (Summer 2008), pp. 754-776

Published by: [The University of Chicago Press](#)

Stable URL: <http://www.jstor.org/stable/10.1086/592543>

Accessed: 14/08/2013 11:52

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“What Is Cinema?” An Agnostic Answer

Yuri Tsivian

Initially, this essay was not intended to stand alone. I wrote it in response to a questionnaire conducted by Raymond Bellour for a special issue of the film theory journal *Trafic*. The only question on the questionnaire was, What is cinema? More than seventy film critics, filmmakers, and film scholars gave their versions of an answer.¹ I was asked to reflect upon this question from the point of view of film history. It took me a little too long to do so, and I missed the deadline. Generously, Bellour offered me a second chance in a later issue—on the condition that rather than giving a page-long answer I contribute a more elaborate text. I did. The present essay is a more detailed and expanded original of what earlier appeared in French translation in *Trafic*.²

That I called my answer agnostic does not mean that I stand for a concept-free, facts-only kind of film history or that the spirit of philosophical inquiry fails to intoxicate my sober mind. To be agnostic does not entail being antiphilosophical, anti-intellectual, or antitheoretical—no more than being sober entails being antialcohol. Simply, we need to keep in sight the price we pay for philosophical insights and be aware of their blinkering side effects. We have seen histories of cinema written by people who know what cinema is as well as by those who know what history is. The results may be as brilliant and revelatory as are the perspectives on film

I thank Doron Galili, Mikhail Gronas, Richard Neer, Paolo Cherchi Usai, and Gunars Civjans for their input on the subject of this paper.

1. See *Trafic*, no. 50 (Summer 2004).

2. See Yuri Tsivian, “‘Qu’est-ce que le cinéma?’ Une Réponse agnostique,” *Trafic*, no. 55 (Autumn 2005): 108–22.

history sketched for us by thinkers like Sergei Eisenstein, Walter Benjamin, or André Bazin, but more likely than not they also date as fast as theirs.

The thing is, in the course of cinema's history what cinema is has changed enough times for a history of cinema's identities to be written. That history is not the aim of this essay, however. All I plan to do is to question three assumptions that underpin three views on film history: (a) that the course of film history is defined by cinema's technology; (b) that film history is defined by cinema's photographic nature; (c) that cinema is first and foremost a narrative art whose history is defined by problems and tasks specific to audiovisual means of storytelling.

I'll begin by taking stock of some of the tools we use in constructing film histories, pointing to some that may have been underused so far and to some blunted by being used too often. But before giving our toolkit a closer inspection let me say how proud it makes me feel. The sheer variety of things found in it shows how lucky we are—to have inherited some tools that may have taken others decades or centuries to perfect. We have borrowed terms used in theater studies, as in both arts some people write, others direct, and others perform. Art history and the history of photography gave us optics to talk about shot composition, iconography, or light. That no film history is complete without a history of film music is perhaps too obvious to be mentioned, as is the fact that the terms *film hero* or *film narration*, which we use as a matter of course, have been imported from the history of literature. If a label is needed, we can say that cinema is a composite medium, and its history should be as composite as we can make it.

On the other hand, I can easily understand those of us who complain they become instantly, instinctively apprehensive when a knowledgeable scholar of comparative literature applies the word *text* to a movie by D. W. Griffith with the same unquestioning ease as he does, on the same page, to a poem by Charles Kingsley or to a drama by Robert Browning and goes on from there to explore what he calls intertextual links between literature and film. I remember the time when *the text of film* was a bold, eye-opening metaphor, but today, let us face it, it has become a device of convenience, a win-win victory, like that chess competition from Pudovkin's *Chess Fever* (1925) in which the hero is shown playing a game against himself.

And we know how uneasy one becomes when an expert in theater his-

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tory wonders why Dickens's novel *A Tale of Two Cities* should even be considered as a possible source for Griffith's *Orphans of the Storm* (1921) when a British dramatization of this novel existed ready and willing to be turned into a film. These are two different scholars from two different fields saying two very different things, but I believe what they say stems from one and the same tacit assumption—that the field in which Griffith worked, and the way he saw it, cannot possibly be too different from their own.

Life would be easy, if somewhat dull, if things were that simple, but thankfully they are not. What makes work in film history interesting is finding out not only what cinema takes up from other arts but how it changes what it has taken up. In this respect the question of film style is one of change.

I am pleased to say that in the last ten or twenty years we have made good progress in the study of this kind of change. Today we see better what technical pressures and necessities made various things change as they shifted from the stage to the screen; we can list and explain how exactly this or that technical property of the film medium—optics, photography, field of vision, or point of view—made the staging and blocking in films different from the staging and blocking on stage; largely thanks to the long-term labor many of us volunteered for on the Griffith Project, we can draw with higher precision than before the complex curve of emerging screen acting and explain how it dovetails with changes in camera distances and the increase in film footage.³ And we are very close to discovering the precise formula of the change that takes place when a nineteenth-century stage melodrama is transformed into a script for a silent film.

Some may call this development neopositivist, but I do not think we quite deserve this compliment yet. If something deserves to be called positivist it is less we who study cinema than the very medium we study—because of the role of science and technique in the formation of cinema's unique style. If a study could ever be conducted that determined something like the relative degree of dependency of style on technique across different arts, there is little doubt that the history of cinema would be at the top of the list (perhaps followed by photography), while the history of literature would find its place far below. We know how much cinema can change whenever a new camera or a new printer is invented, but is there a parallel to this in the history of literature?

3. See *The Griffith Project: A Companion to the Multi-year D. W. Griffith Retrospective*, ed. Paolo Cherchi Usai, 10 vols. (London, 1999–2006). The complete creative output of Griffith is explored in this multivolume collection of contributions from an international team of film scholars, including myself.

There must be some kind of parallel, of course, for, as we hear from people like Walter Ong or Marshall McLuhan, literature changed quite a bit with the invention of writing or of the printing press. But did the style of writing change each time the writer shifted from a stylus to a quill, from a quill to a pen, to a fountain pen, a ballpoint, or a typewriter? Maybe it did, but it may take an exceptionally keen ear to detect the change. (I once asked my friend, historian of literature Roman Timenchik, what he thought of Vladimir Sorokin, my favorite modern author in Russian; he said he enjoyed his books, too, but of course, he added, it is *this* kind of literature—and made a quick movement with his fingers tapping on an imaginary computer keyboard.)

Probably this or that kind of give-and-take between style and technology is to be found in every art, and some histories do focus on it, like the indispensable *Film Style and Technology: History and Analysis* by Barry Salt or the remarkable study by Frederick Penzel, *Theatre Lighting before Electricity*, which shows how acting and mise-en-scène changed when stage candles gave way to limelight and limelight to gas; in the fine arts we often hear about the role of tints and prints, but let me say it again: I cannot think of any other art in which the style and the tool are intertwined as tightly as in ours.

This unique property of the art form we study, its technological dependency, is very easy to notice, but making too much of it may prove as dangerous as paying it no attention. Looking back at the history of film studies, I venture to say that the most common mistake we have made in the past has been to begin with a definition. We have tried to define the art of film by analogy with other arts and have tried to define it by distinction, and it is hard to say which of the two definitions is more deceptive. Later on I will speak of the deception of analogy, but let me first point to the fallacy of contrast, of defining cinema against the older arts, using them as a foil to set out cinema's newness.

Imagine a philosopher who takes a quick look at the history of cinema, asks him- or herself, What is cinema? and answers, Cinema is the art of this technical age. What is this seemingly innocuous, commonsensical, some might even say commonplace answer pregnant with for the historian of film? Ironically, one of the philosophers that gave us this answer turns out to be Ludwig Wittgenstein, who in his early period was known for his critique of broad unverifiable categories like God or Spirit. In the statement I am going to quote, he appears to be hoist with his own petard. Here is an entry from Wittgenstein's notebook, dated 1930:

I recently said to Arvid, after I had been watching a very old film with him in the cinema: A modern film is to an old one as a present-day motor car is to one built 25 years ago. The impression it makes is just as ridiculous and clumsy & the way film-making has improved is comparable to the sort of technical improvement we see in cars. It is not to be compared with the improvement—if it's right to call it that—of an artistic style. It must be much the same with modern dance music too. A jazz dance, like a film, must be something that can be improved. *What distinguishes all these developments from the formation of a style is that spirit plays no part in them.*⁴

Wittgenstein is saying that cinema has nothing in common with changing styles in art because every change it undergoes can be accounted for in technical terms. It is not my task to enter into a polemic with Wittgenstein (it must be said to his credit that he never attempted to publish this observation), though I would be curious to hear what Arvid's reply was, for by 1930 it was more or less clear to everyone that cinema was an art, not a motorcar, and even if it were true that this art had some kind of a motor, no one doubted that it deserved to be approached and studied as art.

But, on the other hand, if we ignore the history of the motor we will hardly do better than Wittgenstein. Sooner or later, we will need to account for the fast changes in the way films look, and unless we know the technical causes behind these changes (or make sure that no technical cause exists that helps to account for this or that change in film style) we are bound to summon some kind of spirit or *Geist*. Not necessarily Hegel's absolute spirit, which Wittgenstein found lacking in the movies, but possibly one of its relatives and descendents—the spirit of realism, for instance, or the spirit of narrative, whose relentless and purposeful development carries film history ahead.

I am speaking of folk etiology, as one may label our understandable

4. Ludwig Wittgenstein, *Culture and Value: A Selection from the Posthumous Remains*, trans. Peter Winch, ed. Georg Henrik von Wright and Heikki Nyman (Oxford, 1997), p. 5. In the original:

Ich sagte neulich zu Arvid [Sjögren] mit dem ich in Kino einen uralten Film gesehen hatte: Ein jetziger Film verhielte sich zum alten wie ein heutiges Automobil zu einem von vor 25 Jahren. Er wirkt ebenso lächerlich und ungeschickt wie diese und die Verbesserung des Films entspricht einer technischen Verbesserung wie der des Automobils. Sie entspricht nicht der Verbesserung—wenn man das so nennen darf—eines Kunststils. Ganz ähnlich müsste es auch in der modernen Tanzmusik gehen. Ein Jazztanz müsste sich verbessern lassen, wie ein Film. *Das*, was alle diese Entwicklung von dem Werden eines *Stils* unterschiedet ist die Unbeteiligung des Geistes. [Ludwig Wittgenstein, "Vermischte Bemerkungen," *Wittgenstein Über Gewissheit*, 8 vols. (Frankfurt am Main, 1990), 8:454]

human tendency to fill up gaps in knowledge with makeshift explanations. Take the gradual increase in film footage in the first twenty years of cinema's existence or the addition of sound in its third decade. One can point to a whole gamut of causes and circumstances behind these changes—technical causes, economic causes, litigation-related and culture-related ones, and so on—but I do not think that nowadays we will find many film historians who would seriously contend that these technical changes were caused or dictated by some kind of artistic necessity. Nor are we likely to point to this or that artistic discovery and say, Look, it has been caused by this or that technical innovation. Rather, we will try to eschew any etiological explanation and instead speak of two film histories within one: cinema's technological history and its history as an art, which may mutually interfere, sometimes for better, sometimes for worse, but which do not determine or cause each other. (Here I think Marxists have a point when they say that science develops in its own temporal continuum, which is not the same as society's. I think if we substitute the word *technology* for *science* and *art* for *society* the concept of two temporal continuums instead of one may clarify for us how cinema evolves. By clarifying I do not mean simplifying but making it interestingly complex, interestingly difficult to explain.)

Imagine you are a newcomer to film history with no idea about all its complex backstage machinery and you have just learned that in 1894 Edison's films were only twenty seconds long, that a year later Lumière's films lasted for almost a minute each, that then there followed a period of one-reelers, two-reelers, and so on, till by the midteens the standard size of the film became more or less what it is today. More likely than not you would be tempted to picture early film history as cinema's nursery, in which the movies were kept till they grew up, and that around the time when they turned twenty they reached full height, even though by and large they were still mentally immature. Why immature? Because of course these movies could not speak. To learn this they needed another ten or so years.

This version of history (which I've proposed to call its folk etiology) is not specific to cinema. Nor is it new to art. As Ernst Gombrich has reminded us more than once, art's organic growth is, after all, a metaphor that goes back to Giorgio Vasari and, applied to theater, as far back as Aristotle. What makes cinema's growth metaphor more pervasive, however, and more difficult to undo is that here the folk version of history appears to be supported by a body of evidence that only a dissection can disprove. The statement that I've just cited, that silent cinema is a cinema that is still learning to speak, why does it sound natural to us? It happens as

a result of three category confusions, which I propose to examine step by step.

Step one. The fact that cinema is a recent medium is interpreted not as its newness but as its youth. People born around the time when cinema was invented were perhaps more prone than others to slip up here, as we can judge from such book titles as *When the Movies Were Young* by Griffith's first wife Linda Arvidson, *Movies in the Age of Innocence* by Edward Wagenknecht, or (to adduce a Russian memoir from 1928) Vladimir Chaikovsky's *Infant Years of the Russian Cinema*.⁵

Step two. The image of young movies is dovetailed with the fact that the first films were short; the moment this happens the metaphor of growth acquires an illusory, almost hallucinatory quality the likes of which it never attained in the case of Aristotle's ages of tragedy or Vasari's ages of painting. Cinema grows, and its narrative musculature gets stronger. And, look, here is a new proof: young movies don't talk; instead they wave their hands. Wait till they grow up and they'll talk. This was step three. Three steps, three slips, and the history of film becomes much like that imagined museum from Eisenstein's favorite joke in which next to a skull of Alexander the Great we are shown the skull of this great man at the age of ten.⁶

The mistake made by the folk etiologist of film history is that he or she asks the right question from the wrong end. Instead of asking what made earlier films shorter than they are now (for which a number of concrete, period-specific answers can be given) he or she asks what made later films longer, and to find an answer to this misformulated question feels the need to find a trigger, a germ cell, an internal necessity, the one and only acorn from which the oak tree of film history has grown.

It is at this moment, once again, that the serpent of philosophical inquiry approaches the film historian and says, Ask yourself what cinema is and you will know what it grows out of. Call it montage, and you will be tempted to pin the beginning of film art to a fateful day in 1896 when a piece of film jammed in a movie camera operated by Méliès, as Eisenstein did in his 1933 essay "George Méliès's Mistake;"⁷ or say that the nature of cinema is its fidelity to nature, as Siegfried Kracauer did in 1960, and you

5. See Edward Wagenknecht, *Movies in the Age of Innocence* (1962; New York, 1997), Linda Arvidson, *When the Movies Were Young* (1925; New York, 1968), and Vladimir Chaikovsky, *Infant Years of the Russian Cinema* (Moscow, 1928).

6. Eisenstein used this joke in a different context in his essay "Dva cherepa Aleksandra Makedonskogo," *Izbrannye proizvedeniia* [Selected Works], 6 vols. (Moscow, 1964), 2:280–82; for an English translation, see S. M. Eisenstein, "The Two Skulls of Alexander the Great," *S. M. Eisenstein: Selected Works*, trans. and ed. Richard Taylor, 4 vols. (London, 1988), 1:82–84.

7. See Eisenstein, "Oshibka Georga Mel'e," *Sovetskoe kino* 3, no. 4 (1933): 63–64. In this essay Eisenstein speaks of the fateful mistake that ostensibly led Méliès to his discovery of

will discover the germ of film art in the clouds of smoke coming from the Lumière train engine or in that remark by a nineteenth-century journalist, Henri de Parville, that what fascinated him most about Lumière's *Baby's Breakfast* (1895) was the sight of trembling leaves seen behind the baby and its parents. All Kracauer needed to do to turn de Parville's comment into a cornerstone of his theory was to present it as inevitable. "It was inevitable that, in the comments on Lumière, 'the ripple of leaves stirred by the wind' should be referred to enthusiastically."⁸ The art of film, Kracauer concludes, is realist by birth.

As his footnote to this passage indicates, Kracauer came across de Parville's response to Lumière's movie in the first volume of the *General History of Cinema* by Georges Sadoul. It so happened that some twelve years later another scholar, the late Yuri Lotman, the outstanding philologist and semiotician I was fortunate to work with and study under in the 1970s and 1980s, opened Sadoul's volume, read de Parville's account of *Baby's Breakfast*, and was intrigued by the same question as Kracauer: what made this first-time viewer of the early cinema more interested in the trees moving in the background than in the baby being fed in the foreground? But the explanation Lotman offered is interestingly different from Kracauer's.

This account is another reminder, Lotman wrote in his book on film semiotics published in 1973, that what we call realism is a relational category, not a property inherent in a medium or in an art form. Realism is an effect created in one's mind, not a property inherent in the real world or its image. It is true that de Parville noticed the trembling leaves and was surprised to see how lifelike they looked. We must not forget, however, that what we notice is not what we see but rather the give-and-take between what we see and what we expect. The mental background against which the first viewers perceived the first films in their darkened viewing halls, Lotman claims, was not real life but the theater stage. There was nothing surprising in the fact that people on a stage could move and act, but that a stage set representing a garden behind them would suddenly start moving was more than expected, and this more accounts for the effect of extrarealism de Parville's report tells us about.⁹

cinema's trick potential. For an English translation, see Eisenstein, "George Méliès's Mistake," *S. M. Eisenstein*, 1:258–60.

8. Quoted in Siegfried Kracauer, *Theory of Film: The Redemption of Physical Reality* (Princeton, N.J., 1997), p. 31; Kracauer takes the quotation from Georges Sadoul, *L'Invention du cinéma, 1832–1897*, vol. 1 of *Histoire générale du cinéma* (Paris, 1946), p. 246.

9. See Yuri Lotman, *Semiotika kino i problemy kinoestetiki* [Semiotics of Film and the Problems of Film Aesthetics] (Tallinn, Estonia, 1973), p. 111.

A true successor to the Russian formalist school, Lotman was wary of the photographic realism theory, which he knew not from Kracauer's book (it only appeared in the Soviet Union in 1974) but from Bazin's *What Is Cinema?*—a book whose brilliance Lotman admired but whose premises he was unwilling to share. At the same time, Lotman never questioned the legitimacy of the question, What is cinema? and never had second thoughts about going to the beginnings of cinema to ask this question. On the contrary, I remember him saying how lucky film scholars were for being able to see the entire history of their art like the palm of their hand, adding, "I sometimes wish we philologists too could push a button and hear the first song ever sung or the first fictional story ever told."

Now, Lotman's own answer to the question of what cinema is was one of a literary historian; for him, cinema was a narrative art conceived in visual terms.¹⁰ A train in a photograph is a train in a photograph, but the moment the photograph is set in motion it becomes a story—the arrival of a train. The inventor and the technician have done their job and may step aside. From now on the filmmaker, whose task is to master narrative techniques, takes over. It was from this view that Lotman and I looked at the history of film some fifteen years ago when he and I wrote a book together, *Dialogue with the Screen*.¹¹ This book is not on cinema's history but on the poetics of cinema; I am still proud of what we did, but it does contain a history chapter in which cinema is shown mastering Dickens at one point in its history and reaching the notch of Dostoyevsky at another. Today I am not so sure.

The weight of the story factor in film history is nowadays an issue in debate. Is what happens next the main question that occupies our minds in front of the screen? According to one school of thought in film studies it is. As David Bordwell and Kristin Thompson have shown beyond any doubt in their remarkable studies of Yasujiro Ozu, Eisenstein, and Carl-Theodor Dreyer, contrary to what a naïve observer might anticipate our narrative expectations are at work not only when watching a Hollywood movie but also when we are faced with films that aim beyond a ready set of familiar plots.¹² Whether a filmmaker chooses to meet it, evade it, or leave it unan-

10. To support this view Lotman went back as far as the Theatrograph (the British variation of the Lumière brothers' cinematograph), quoting the description that its inventor, Robert W. Paul, used to patent it: "The purpose of this new machine is the telling of stories by means of moving pictures" (Lotman, *Semiotika kino i problemy kinoestetiki*, p. 48; my trans.).

11. See Lotman and Tsivian, *Dialog s ekranom* [Dialogue with the Screen] (Tallinn, Estonia, 1994).

12. See David Bordwell, *The Films of Carl-Theodor Dreyer* (Berkeley, 1981) and *Ozu and the Poetics of Cinema* (London, 1988); and Kristin Thompson, *Eisenstein's "Ivan the Terrible": A Neoformalist Analysis* (Princeton, N.J., 1981).

swered, the question, What happens next? will guide us through what otherwise might appear a series of disconnected scenes. Filmmakers can go as far as they wish against the grain of narrative expectations, but it is not in their power to obliterate them. The viewer's mind as a tabula rasa is a theoretical fiction.

Others say that the very concept of narrative expectations needs to be revised and historicized. It may well be true that today we cannot but expect every movie to tell a story, but have things always been this way? In recent years Tom Gunning has succeeded in isolating and describing an extinct population of early films (which he and his collaborator André Gaudreault dubbed, after Eisenstein, "the cinema of attractions") whose point of interest appears to be not in what happens next but rather in what happens now.¹³ While some of these shorts have a semblance of a storyline, the latter only serves to piece together a series of self-contained visual events: metamorphoses, explosions, dances, and various kinds of movement-related tricks. That the first film viewers found the Lumière train film so exciting was not because its engine looked so real (as according to Kracauer) or because its arrival was a minimal narrative event rendered by means of motion pictures (as according to Lotman) but because in 1896 the diagonal movement of the train across the screen was fraught with a novelty effect that proved to be strong enough to top the bill of a vaudeville or a fairground show.¹⁴

It is not hard to imagine a media philosopher who might argue that nowadays when moving images have entered the video and digital age the cinema of attractions is experiencing a revival. Though this may not quite apply to modern-day Hollywood (which, all changes granted, remains as story-driven as it has always been) are we not less likely to be surprised today than we might have been two or three decades ago by a film or a sequence in which, say, a purely audiovisual motivation has fully replaced a narrative one?¹⁵ In his groundbreaking *Poetics of Cinema* David Bordwell called narrative "a contingent universal of human experience," reminding us that "children only two years old can grasp certain features of narrative, and there's evidence from 'crib monologues' that the narrative ordering

13. See Tom Gunning, "The Cinema of Attractions: Early Film, Its Spectator, and the Avant-Garde," in *Early Cinema: Space, Frame, Narrative*, ed. Thomas Elsaesser and Adam Barker (London, 1990), pp. 56–62.

14. See Gunning, "An Aesthetic of Astonishment: Early Film and the [In]Credulous Spectator," in *Viewing Positions: Ways of Seeing Film*, ed. Linda Williams (New Brunswick, N.J., 1995), pp. 114–33.

15. See Bordwell, *The Way Hollywood Tells It: Story and Style in Modern Movies* (Berkeley, 2006).

process is emerging even earlier."¹⁶ This may be true,¹⁷ but we should be careful not to transfer this truth to cinema's crib, as it were. Even if we as humans are genetically predesigned for narrative comprehension we do not need to assume that narration runs in the genes of the film medium itself. I still doubt if it is correct to call *The Arrival of a Train* (1895) a story film on the strength of the fact that the train arrives.

What is cinema? If a single definition were needed, twenty-first-century cinema could only be defined as a time-bound medium with or without narrative motivation—much like modern painting could be called a space-bound medium with or without recognizable figurative motifs. Needless to say, applied to nineteenth-century art a definition like this would sound a trifle too broad.

This may be a good moment to recall what Kazimir Malevich once said about cinema. People familiar with Malevich's vehement attacks on figurative art will not be too surprised to hear that he dismissed narrative cinema on the same grounds as he did narrative painting. Here as there, Malevich claimed, the means and tools peculiar to the medium (form and color in painting, movement and montage in film) have been tamed to serve external goals—depiction and narration. In an essay published in 1925 Malevich addressed those who believed that film was by its nature a narrative art: "to say that cinema was born to tell stories is like saying that nature created camels in order for Kirgiz people to ride them."¹⁸

This comment is a polemical witticism of course, but can we really rule out a possibility that somewhere, not necessarily in Kyrgyzstan, a nomadic mythology exists that explains the existence of camels in the same way as Malevich mockingly suggests? What I am trying to say is that oftentimes what we take for a history of cinema may in fact be its myth of origin. For what else if not prelogical thinking turns *Baby's Breakfast* or *The Arrival of a Train* into a magic crystal in which we preview the future history of cinema? What is it that makes us think that the origins of cinema will yield more about its history than, say, the origins of soup about the history of this culinary art?

16. Bordwell, *Poetics of Cinema* (New York, 2007), pp. 85–86.

17. "Development scientists claim an ability to tell a narrative is a separate fundamental capacity that develops in infants around the age of three" (Daniel N. Stern, *The Interpersonal World of the Infant: A View from Psychoanalysis and Developmental Psychology* [New York, 2000], pp. xxiii–xv).

18. Kazimir Malevich, "I likuiut liki na ekranakh" [And Visages Are Victorious on the Screen], *Das weisse Rechteck: Schriften zum Film*, ed. Oksana Bulgakowa (Berlin, 1997), p. 38. Unsurprisingly, the only film director Malevich held in esteem was Dziga Vertov. See Malevich, "Pictorial Laws in Cinematic Problems," in *Lines of Resistance: Dziga Vertov and the Twenties*, ed. Tsivian (Pordenone, Italy, 2004), pp. 341–48.

With all due respect for the art form we study, isn't the history of film styles a little similar to the history of soup or, to carry on the nomadic metaphor, to the Mongolian kind of soup that boils day and night, changing its taste and flavor each time someone comes up to the bowl and throws in something new? In the beginning was the water; this is all we can say about the origins of soup. But here comes a pilgrim from Thailand, adds some coconut milk, and, voila, it is Thai soup that is boiling. Then a camel comes up and spits in the soup—and we film historians are once again faced with the problem of the substance that defines the history of film.

I began this essay by taking stock of the tools for the existence of which we in film studies ought to thank other, older disciplines, such as art history, the history of literature, or the history of still photography. There is, however, one aspect of filmmaking for which we have to draw upon our own resources. I am talking, of course, about editing—arguably the only artistic technique born and developed within the film medium itself.

We know a good deal about theories of editing (mainly from Soviet montage theories of the twenties), but, ironically, what we normally hear about editing as a practice amounts to a handful of famous examples taken up from these theories. There is a reason for this. Studying editing is not an easy matter. Editors are like tailors; before they cut, they measure. Footages and meters are staples of cutting-room talk. In this sense editing can be said to be an exact art, and not every student of film history is ready or eager to masquerade as a scientist. In addition, film scholars are more used to working at a desk or in a film viewing hall than they are at an editing table provided with a frame counter.

It is little wonder therefore that not too many of us are willing to acknowledge, let alone make use of, the fact that cinema, much like the sartorial and culinary arts, but also like the arts of poetry and music, is a quantifiable medium. We know that a number of major filmmakers like Abel Gance and Dziga Vertov in the twenties or Peter Kubelka and Kurt Kren in the sixties used to count frames when editing, but let us face it—how many of us have had the time and the patience to sit down at an editing table and find out the number of frames in every shot of a mammoth (four hour and thirty-three minute) movie like Gance's *The Wheel* (1923)?¹⁹ Or even do this for the runaway train sequence that Gance's film is famous for—the one for which Gance said he had developed a numeric cutting algorithm that would convey the maddening rhythm of engine wheels going out of control?

19. See Dziga Vertov, "Montage Table of the Flag-Raising Scene in Kino-Eye," in *Lines of Resistance*, pp. 109–10.

Not that students of film are uninquisitive or lazy. Research like this would likely involve a daunting amount of measuring and calculations. Would computers perhaps help to make editing patterns, simple or complex (such as we find in *The Wheel*, in Vertov's *Man with a Movie Camera* [1929], or in Griffith's *Intolerance* [1916]), easier to explore than they were before the digital age?

Not long ago I managed to interest Gunars Civjans, a computer scientist from Latvia, in the problem. As a result of our collaboration a digital tool called cinematics was developed, which allows us to glimpse yet another one of cinema's multiple selves, cinema as an object in time. Only two years of age, this tool is mainly known among film people and web theorists.²⁰ Defined in brief, cinematics is an open-access interactive website designed to collect, store, and process digital data related to film editing. At the moment cinematics is programmed to handle the aspect of editing known in film studies as cutting rates.

What are cutting rates? A peculiar thing about the film medium, noticed by many, is that it bridges the gap between spatial and temporal arts.²¹ On the one hand, filmmakers, like painters or architects, deal with recognizable spatial shapes; on the other, films unfold in time, as do poems or musical compositions. Though we tend to perceive their unfolding as continuous, most films consist of segments called shots separated by instant breaks called cuts.

With rare exceptions, films contain a number of different shots. Shots differ in terms of space and in terms of time. We know enough about space-related distinctions between shots, which are easy to name (shot 1: baby playing; shot 2: man looking) and categorize (shot 1: medium-long, high angle shot; shot 2: facial close-up). Time-related differences between shots are more elusive and harder to talk about, for, unlike in music or poetry with their scaled measures and feet, variations in shot length are not of distinction but of degree. The only distinction a critic is safe to make when discussing shot lengths is between brief and lengthy.

Shot lengths are sometimes convenient to present as the frequency of

20. See www.cinematics.lv. Film critic Roger Ebert gives a plug to cinematics in a review on his site; see Roger Ebert, "The Shaky-Queasy Ultimatum," review of *The Bourne Ultimatum*, rogerebert.suntimes.com/apps/pbcs.dll/article?AID=/20070822/COMMENTARY/70822002; and computer theorist Tim O'Reilly offers an analysis of cinematics as a hybrid (bionic/automatic) form of collective intelligence on the web; see Tim O'Reilly, "Movie Shot Lengths and Attention Deficit Disorder?" radar.oreilly.com/archives/2007/08/movie_shot_leng_1.html

21. See Erwin Panofsky, "Style and Medium in the Moving Pictures," in *Film Theory and Criticism: Introductory Readings*, ed. Gerald Mast, Marshall Cohen, and Leo Braudy (New York, 1992), pp. 233–48.

shot changes, or cuts, hence the term *cutting rates*. The shorter the shots the higher the cutting rate. Unsurprisingly, cutting rates are linked to the story and its space-time articulations; car chases are cut faster than park rambles, conversations shot in close-ups faster than ones shown in medium shots; likewise, montage sequences meant to cover larger spaces of story time will have higher cutting rates than will sequences shown in real time.

The character of a narrative event is not the only factor that defines cutting rates, of course. French impressionist filmmakers used to coordinate cutting tempo with characters' states of mind, for instance, and what Malevich admired about Vertov's nonnarrative documentaries was that in them cutting rates were treated as an element of pure form.

Less evident but as important is the relationship between cutting rates and the history of film. What factors make cutting rates change across film history? We still do not know enough about this, and it is this gap in our knowledge that cinematics should help us to fill up. What we already know, however, allows us to link changes in cutting rates to various aspects of film history, including the history of film style, the history of the film industry, film's cultural history, and the history of cinema as technology.

It was due to technology, for instance, that the first films/shots produced by cinema's French inventors, the Lumière brothers, were all around fifty seconds each—for such was the capacity of their 1895 camera and projector (the technological fact that gave rise to the baby-movies phantom that, as we recall, still haunts some books about film) or that cutting rates jumped each time a new editing device was introduced in more recent eras—Scotch-tape splicing in the 1960s, editing on videotape in the 1980s, or digital editing in 1994.²² But to explain why it was in the United States that the fast-paced “American cutting” was born in the 1910s, or how it happened that some ten years later French and Soviet films managed to outstrip American cutting rates, one needs to address, as has been done, the state of the film industry—the specific mode of production then dominant in Hollywood and the nondominance of this mode in post-World War I Europe.²³

Factors of style and culture further complicate the picture. Looking, for instance, at prerevolutionary Russia with its taste for slow, languorous film

22. See Bordwell, *The Way Hollywood Tells It*, p. 155.

23. See Janet Staiger, “The Central Producer System: Centralized Management after 1914” and “The Division and Order of Production: The Subdivision of the Work from the First Years through the 1920s,” in *The Classical Hollywood Cinema: Film Style and Mode of Production to 1960*, ed. Bordwell, Staiger, and Thompson (New York, 1985), pp. 128–53, and Thompson, “Early Alternatives to the Hollywood Mode of Production: Implications for Europe's Avant-Gardes,” in *The Silent Cinema Reader*, ed. Lee Grieveson and Peter Krämer (London, 2004), pp. 349–67.

melodramas we find Russian film trade papers campaigning against "American cutting," for here it was felt that "psychological" or pictorial acting styles—the main asset of Russian film divas—called for "full scenes" that must not be cut up.²⁴ The 1917 October Revolution turned the tables. Young Soviet directors like Eisenstein and Vertov took over, declaring that the cinema of the future would need no actors at all—anything an actor could convey would be much better communicated by means of cutting or montage. It was this idea that fueled some of the fastest-cut pictures in the entire history of film as well as Soviet montage theories that claimed that the true constituent of the film is not the shot but the cut.

To distinguish between cutting rates of films made by different directors, in different countries, or in different epochs, historians of film style use what is known in film studies as a film's Average Shot Length (ASL)—a mean figure obtained by dividing the length of the film in seconds by the number of its shots.²⁵ Thousands of ASL data, one per film, have been obtained in the last thirty years by Barry Salt, David Bordwell, and (more recently) Charles O'Brien, and the more numbers we learn, the more detailed and interesting the picture of fluctuating cutting rates across film history. I too once applied the ASL method in order to compare the last film made by the prerevolutionary Russian director Evgenii Bauer with the first film made by his Soviet successor Lev Kuleshov, and when I put the obtained ASLs side by side with the international data collected by others I felt my heart beat faster, for it turned out that between 1917 and 1918 the cutting tempo in Russia had jumped from being the slowest to being the fastest in the world.²⁶ Not that the difference could not be sensed without all the counting, but I felt excited that now we could not only assume but also demonstrate this.

An obvious limitation of the ASL index is that it can only be used to relate films. Looking at it the only thing we can learn is, for instance, that Vertov's 1929 *Man with a Movie Camera* (ASL 2.1 seconds) is cut slightly faster than Eisenstein's 1926 *Battleship Potemkin* (ASL 2.8 seconds) or that these Soviet movies run ten times faster than Bauer's prerevolutionary masterpiece *After Death* (1915), whose ASL reaches 21.2 seconds—but none

24. Tsivian, "New Notes on Russian Film Culture between 1908 and 1919," in *The Silent Cinema Reader*, pp. 339–48. See also Tsivian, *Immaterial Bodies: A Cultural Analysis of Early Russian Films*, CD-ROM (Annenberg Center for Communication, 1999).

25. For more details, see Barry Salt's and Bordwell's articles on cinematics, www.cinematics.lv/salt.php and www.cinematics.lv/bordwell.php

26. See Tsivian, "Cutting and Framing in Bauer's and Kuleshov's Films," *Kintop* 1 (1992): 103–13.

of these three numbers will tell us much about each film's internal dynamics.

The latter is something cinematics is designed to do. Instead of reducing film's cutting rate to a single average figure it stores in the computer memory the exact length of each individual shot and shows as a diagram the tides and ebbs of cutting within the duration of a film. As it registers the length of each shot and the position of each cut, cinematics is also a handy tool to explore complex editing patterns.

Take Griffith's *Intolerance*, one of the most ambitious and influential films in cinema's history. *Intolerance* is a tale of tales. To get across a homily summarized in the film's title Griffith shows us four stories from four ages in human history. The idea of using multiple narratives to bring home a moral they have in common is not new in literature or film; what was new and unusual about *Intolerance* was that rather than present its stories one by one Griffith kept cross-cutting between the four. Those who have seen the film will recall that towards the end the back-and-forth between its stories tends to quicken its pace and that this quickening is reinforced by the fact that individual shots tend to become shorter and shorter.

The question that concerns me about *Intolerance* is not what moved Griffith to experiment with a complex and potentially confusing structure like this or what goals he was trying to achieve. Not that I consider such questions unimportant, but this aspect of Griffith's film has been addressed and well explained. The most famous analysis of the cross-story cutting in *Intolerance* comes from Eisenstein, who (like, by the way, Vertov) considered this film seminal for what he and the rest of the Soviet montage-school filmmakers did in the 1920s. By cutting between several stories rather than within one, Eisenstein claims, Griffith has shown to us young Soviet filmmakers that editing was not about storytelling but about shaping ideas. What remained for us to do was to take up Griffith's discovery and turn it into what the American director could hardly have dreamt it would become: an ideological weapon. This, in a nutshell, is what Eisenstein wrote in his essay "Dickens, Griffith, and Ourselves."²⁷

Two other powerful explanations of editing in *Intolerance* come, I am proud to add, from two of my colleagues at the University of Chicago, Miriam Hansen and Tom Gunning. Gunning says in a study published in 1991 that if we trace cross-cutting back to *The Lonely Villa* (1909)—the first film in which Griffith cuts back and forth across distant spaces to connect two simultaneous lines of action—we will be able to see to what extent the use of this cinematic technique was prepared and conditioned by a num-

27. See Eisenstein, "Dickens, Griffith, and Ourselves," *S. M. Eisenstein*, 3:193–239.

ber of other new technologies that made turn-of-the-century people feel triumphant over distances and spaces: telephony, telegraphy, speeding cars, and railway trains. Cross-cutting is part of the modernity package. Had people living in 1916 not been familiar with the wonder of telephones, the wonder of jumping between ages would have been harder for them to take in.²⁸

It was in the same year that Miriam Hansen's *Babel and Babylon: Spectatorship in American Silent Film* came out. One chapter of this book is about Griffith's cross-cutting between ages. To understand its cultural roots we must look at *Intolerance* in the context of two ideas that occupied many a turn-of-the-century mind, Hansen explains. One of these is the millennialist belief in the forthcoming restitution of the universal language—the return of the pre-Babel world of tolerance and mutual understanding, hints at which Hansen has shown permeate the Babylon story of *Intolerance*. The other is the thought (voiced in Griffith's interviews and shared by a number of writers on cinema in those days) that it was silent cinema—the language of pictures not words—that would eventually become the universal language of the future. In Hansen's view, the four stories of *Intolerance* should be seen as Griffith's attempt to rebuild the tower of Babel. Had he not thought his mission was to turn the new medium into a better language than that of words Griffith could hardly have hoped that, cut as he may between them, the four stories from four epochs would cohere.²⁹

Nothing of substance can be added to these well-argued accounts, two by historians of film and culture, one by a major player in the field. It was less an interpretative need that urged me to use cinematics on *Intolerance* than a curiosity about film metrics as such, about its limits of relevance. I wanted to see what would happen if I gathered the shot-length data about *Intolerance* as a whole, about each of its stories separately, and assessed their fluctuations within the duration of the film. Would this result in a disorderly (and therefore irrelevant) array of data or show a set of regularities, a pattern? And, if it did, would it complement what we already knew about the editing of this film?

The first—and simplest—question that cinematics allows us to ask is about the average shot of *Intolerance*. It is six seconds long—nothing unusual for an American movie of the teens (though if one weighs this number against 21.2 seconds, the average shot length of *After Death*, made in

28. See Tom Gunning, "Heard over the Phone: *The Lonely Villa* and the de Lorde Tradition of the Terrors of Technology," *Screen* 32 (Summer 1991): 184–96.

29. See Miriam Hansen, *Babel and Babylon: Spectatorship in American Silent Film* (Cambridge, Mass., 1991).

Russia one year prior to *Intolerance*, one will be able to see what Russian prerevolutionary film journalists meant when they wrote, with a touch of slight, about hurried American cutting).

A more interesting question to ask might be whether or not the average shot length varies depending on the kind of the story Griffith deals with and on the epoch in which it is set—in other words, if there is a correlation between cutting rates and subject matter. If there is none, the average shot length within each story will be the same as it is throughout the film, but, if there is, it may be worth asking which story is the fastest—the modern, the Judean, the French, or the Babylonian?

As it turns out, a discrepancy is present. Almost a second-long gulf separates the average speed of the more modern stories (one set in the twentieth-century U.S., the other in sixteenth-century Paris) from the ancient ones (Judea, first century AD; Babylon, fourth century BC), whose pace is below the average six:

- 1st place: the French story (4.9 seconds)
- 2d place: the modern story (5.6 seconds)
- 3rd place: the Babylonian story (6.5 seconds)
- 4th place: the Judean story (6.7 seconds)

Though there seems to be a trend in this distribution of cutting rates, these data are not always easy to interpret. I do not think many will be surprised to find out that the Judean story, which takes Jesus Christ from the wedding at Cana to the cross, is the slowest, but that the modern story loses 0.7 seconds to the French one is counterintuitive; those who know *Intolerance* will likely say the modern story feels more dynamic. I do not think it is our intuition that cheats us here but rather the averaging of numbers, for each time we strike an average we level the extremes. The reason the average speed of the modern story is lower than that of the French one is not that it is poorer in short shots—there are enough short shots in both—but that it is richer in long ones; the longest French shot runs for thirty-two seconds, the longest modern one for fifty-three. It is exactly due to a contrast between the fast and the slow (in cinematics jargon, the cutting swing, or the range between short and long shots, which varies from film to film and is distinct from the cutting rate, an index anchored in shot lengths alone) that the modern story feels more dynamic than its average shot length tends to show.

Yes, average numbers can be deceptive, but this does not rule cutting statistics out of court. As I mentioned earlier on, cinematics can represent data not only as a number but also as a graph that shows us the dynamics where naked numbers fail.

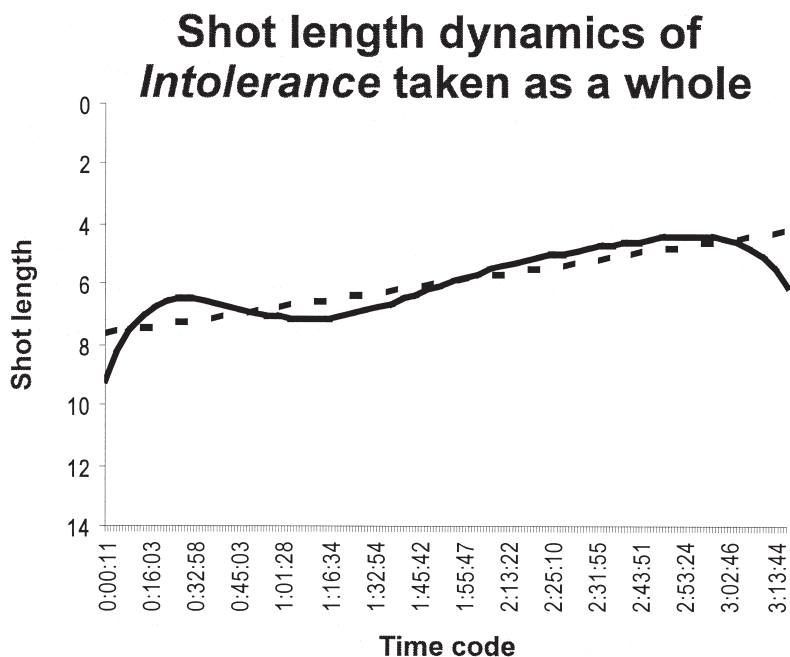


FIGURE 1.

The graph in figure 1 represents the dynamic profile of *Intolerance* as a whole, all its stories included. The straight dotted line (called trendline) shows that as a general tendency the cutting rate of *Intolerance* climbs during the film; the two-humped curve, the polynomial trendline, shows that this tendency is not steady; the film starts slowly, has two waves of activity, a minor and a major one, and slows down at the end—a dynamics that complies with a time-honored dramatic theory according to which a well-crafted drama (or story, or film) must start calmly, have two climaxes, and resolve in a quieter coda.

I find this graph useful but not indispensable, for most people who know *Intolerance* well can say without looking that there must be something like an upsurge in the film's tempo around the time when the troops attack the strikers in the modern story, another one when the Persian troops attack Babylon, and, of course, a peaceful apotheosis responsible for the slowdown in the end.

A more interesting picture will emerge if we look at the metric profiles of each of the four stories taken separately (fig. 2). While three of them comply with the film's general tendency to pick up the pace, the Judean story (the slowest of the four) slows down as it follows Christ from Cana to

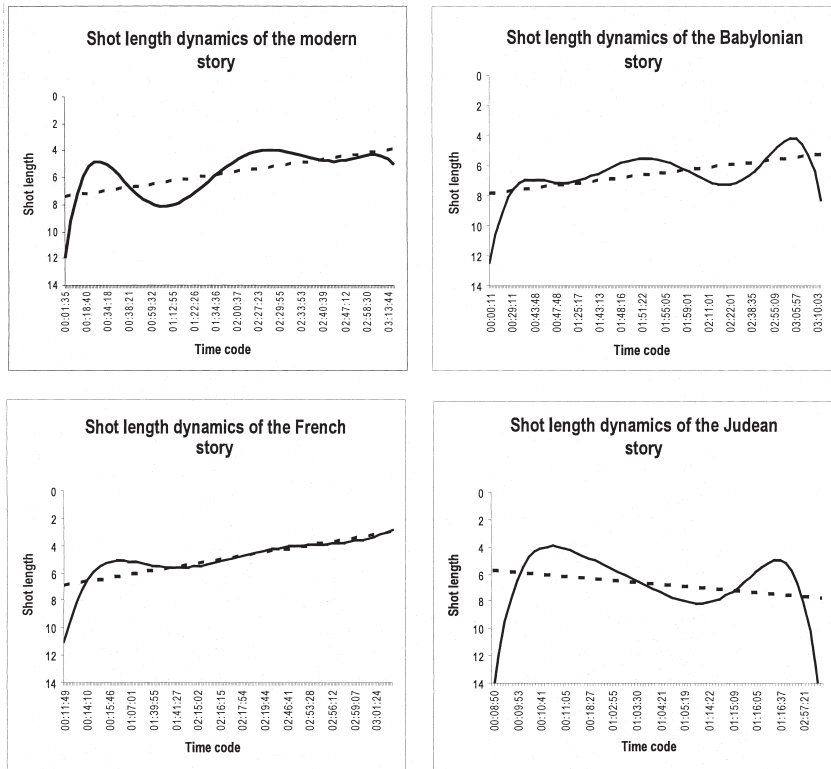


FIGURE 2. Metric profiles of the four stories taken separately

the cross. My guess is that this anomaly may be due to an interference of a generic norm to which every Christ story must conform. When enough Passion plays are submitted to the cinematics database (this was a minor genre in the cinema of Griffith's epoch, and not only that epoch), it may well turn out that Passion plays routinely tend to slow down their pace towards the end to be able to relate the last events of Christ's life in all their painful details.³⁰

There is an interesting similarity between the dynamic profiles of the modern and Babylonian stories: both go up and down, then again up and down. Does this pattern reflect some general rule of dramatic rhythm, or is it perhaps Griffith's trademark way of shaping the narrative flow of his films? Again, the future may show; to answer this we'll need to examine

30. The only Passion play submitted to the cinematics database thus far (July 2007) does not seem to support my hypothesis. See *From the Manger to the Cross*, dir. Sidney Olcott (1912), www.cinematics.lv/movie.php?movie_ID=440

metric data from more Griffith movies. So far (by July 2007) only thirty-three of Griffith's film titles have been submitted to the cinematics database—less than one tenth of his entire output. But, if there is a regularity to discover, I am willing to wait.

Note that the curve of the French story does not dive towards the end as the other three stories do—in other words, this story never slows down. This is not hard to explain, knowing that the French story ends in *medias res*, as it were. Griffith quits this story before the St. Bartholomew's Day Massacre is over. A trickier question might be what makes him do so; it is here I think the cinematics data can help us account for the subject matter instead of the other way round.

I do not think anyone will disagree if I say that leaving off in the heat of a battle is not Griffith's normal way of ending a story—so little so that his biographer Richard Schickel has tried to explain this anomaly by a mistake on Griffith's part: "as for the French story, it has a truncated feeling about it, as if, perhaps, Griffith shot more of it than survived the final cut."³¹ It seems more likely, however, that Griffith intentionally sacrificed a neat narrative closure of the French story to maintain the flow of *Intolerance* as a whole (see fig. 1). The French story ends nearly fifteen minutes before the rest of the film does, and if Griffith decided to close it off with his usual slowdown it would work against the general climax he was building. To borrow Wittgenstein's metaphor, *Intolerance* is a motorcar with a four-cylinder engine, and no good engineer would allow one of its cylinders to undermine the others.

It is this unique feature of the narrative style of *Intolerance*, the teamwork of its four stories, that the elegant sinuous line in figure 3 tells us about. Remember, what made *Intolerance* different from other multistory narratives until then was that Griffith kept jumping back and forth between his stories. The data summed up by this diagram are not shot lengths as in previous cases but the length of the story chunks that Griffith cuts between as the film evolves. The line heaves where the cuts between the stories become more frequent, and where they get less frequent the line sinks. See how clever Griffith's editing is. He begins with relatively brief story chunks in order to bring it home as early as possible that there is a connection between the four epochs. This done, Griffith can afford to linger on each of the stories longer, to give it time for a proper exposition (primarily on the modern and Babylonian ones, for these two are by far the longest), which is why the line ebbs until about the middle of the film. But the higher the tension within each of the stories, the more Griffith switches

31. Richard Schickel, *D.W. Griffith: An American Life* (New York, 1984), p. 314.

Story switch frequency across the four stories of *Intolerance*

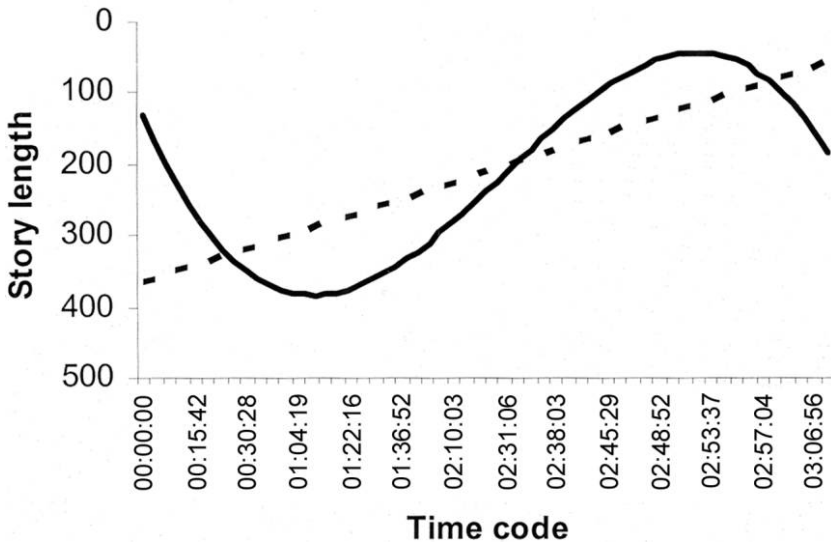


FIGURE 3.

between them. This, again, is followed by a slower coda. It is only when we see his editing at a glance—that is, as a graph—that we can see why *Intolerance* is a masterpiece of timing and temporal composition.

In conclusion I will quickly recall my earlier points. I talked about film history as seen from different views and about how our vision of film history changes depending on what terms we use and what questions we ask. I quarreled with some of these questions (like, What is cinema? or What happens next?) and questioned some of these terms (like calling a film a text)—not because I thought they were wrong but because they imposed a unifying image on what I believe to be a multiple, nonunifiable object (cinema) and a multiple, nonunifiable process (the history of film).

I also believe that films like *Intolerance* have not only multiple stories but also multiple selves. Alongside the cultural, social, and historical selves shown to us by Gunning, Hansen, or Eisenstein, *Intolerance* has an inner self whose life is made visible by cinematics. Neither cinema nor its history can be sighted or sized up from a single perspective. In this respect I am, as one of Griffith's intertitles characterizes Prince Belshazzar from the Babylonian story of *Intolerance*, "an apostle of tolerance and love." There is

a sad tradition in film studies of seeing analytical and interpretive procedures as competing rather than complementary; it would help the advancement of our field if neither analysis nor interpretation claimed a monopoly on it.

On the other hand I am not quite prepared to surrender the Babylon of film history by saying, actually, Babylon is whatever you think it is. Nor am I pushing towards some sort of additive, multidimensional image of film history, saying that cinema equals literature plus photography plus editing plus whatever other fields it has drawn upon. On the contrary, it was exactly this kind of spineless pluralism that I opposed when I said that the question of style is one of change.

Cinema changes everything it borrows. If an arithmetic operation existed that could help us get a better sense of the history of film it would be not addition but subtraction. Cinema equals theater minus the techniques and conventions used on the theater stage. Cinema equals literature minus all the talk about meanings and texts. Cinema is photography minus its congenital realism. If more slogans are needed to stage a small-scale cultural revolution in film studies I invite everyone to send in more.

What is cinema? It is a good question to keep in mind, but we must do our best to keep from answering it. This may sound like a truism, but it is one worth repeating. In science as in scholarship, progress is measured not by new answers given to old questions but by new questions put to old answers.