

What is Cinema?

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translated by
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caboose
Montreal

The Myth of Total Cinema

Georges Sadoul's admirable new book¹ on the origins of cinema leaves us with the paradoxical sense that the relationship between economic and technological developments on the one hand and the imagination of cinema's inventors on the other has been inverted, despite the author's Marxist beliefs. It seems to me that in this instance we need to reverse historical causality, which proceeds from the economic substructure to the ideological superstructure, and view fundamental technological discoveries as fortunate and propitious accidents essentially secondary to the initial conceptions of cinema's inventors. Cinema is an idealist phenomenon; men's idea of it existed fully equipped in their brains, as in Plato's higher world, and the tenacious resistance of matter to the idea is more striking than technology's prompting of the inventor's imagination.

Cinema, moreover, owes practically nothing to the scientific mind. Its inventors were not at all scientists (with the exception of Marey,^a and he was interested only in analysing movement and not in the inverse process of recreating it). Even Edison, in the end, was nothing more than a brilliant Jack-of-all-trades, a giant of the Concours Lépine.^b Niépce,^c Muybridge,^d Leroy,^e Joly,^f Demenÿ^g and Louis Lumière himself were obsessive eccentrics, handymen or, at best, clever industrialists. As for the marvellous and sublime

Reynaud,^h it is plain for all to see that his animated drawings were the product of his tenacious pursuit of a fixed idea.

Basing ourselves on the technological discoveries that made cinema possible gives us a very poor account indeed of its discovery. Rather, an approximate and complicated elaboration of the idea almost always precedes the industrial discovery, which alone enables the idea's practical application. Thus while it appears obvious today that cinema, even in its most rudimentary form, required a *transparent, flexible and strong* base and a *dry* light-sensitive emulsion capable of capturing an instantaneous picture (the rest is nothing but mechanical fine-tuning of a sort much less complicated than that involved in eighteenth-century clockwork), we can see that all the decisive stages of its invention were achieved before these conditions were met. Muybridge, thanks to the lavish caprice of a horse-racing enthusiast, was able in 1877 and 1880 to construct an elaborate system with which he recorded a galloping horse, the first-ever series of cinematic images.ⁱ He did so using wet collodion on a glass plate, thereby fulfilling only one of the three essential conditions (instantaneousness, a dry emulsion and a flexible base). After the discovery in 1880 of silver gelatin bromide, but before the first celluloid strips were put on the market, Marey constructed a true glass-plate camera: the photographic gun. Finally, Lumière himself, even after the commercialisation of celluloid film, made his first attempts with paper film.

And we are still only talking about the complete and definitive form of photographic cinema. Plateau's^j scientific study of the synthesis of movement had no need of the nineteenth century's industrial and economic development. As Sadoul rightly remarks, since Antiquity there had been no obstacle to the invention of a phenakistoscope or a zoetrope. Of course the work of Plateau, a true

scientist, can be seen behind the various mechanical inventions which made popular applications of his discovery possible. But while we have reason to be surprised, in the case of photographic cinema, at the fact that its discovery preceded in a sense the technological conditions necessary to achieve it, what remains to be explained is why, when all the conditions had long been in place (persistence of vision had been known for a very long time), Plateau's invention took so long to hatch. It may not be irrelevant to note that, despite the lack of any scientific connection between them, his work was more or less contemporaneous with Niépce's. It is as if, for centuries, inventors had waited for chemistry, quite independently of optics, to take an interest in the automatic fixing of an image before themselves becoming interested in the synthesis of movement.² I stress the fact that this historical coincidence does not appear to be explained in any way whatsoever by scientific, economic or industrial development. Photographic cinema could just as easily have attached itself around 1890 to the phenakisticope, which had been envisioned as early as the sixteenth century. The delay in inventing the phenakisticope is just as troubling as the existence of photographic cinema's precursors.

If, however, we were to take a closer look at these precursors' work and the direction of their research, as seen in the devices themselves and, more indisputably, in their writings and commentaries accompanying them, it would become apparent that they were more like prophets. Unhindered by obstacles, the first of which was physically insurmountable, most of them aimed straight for the top. In their imagination, they conceived of cinema as the complete and total representation of reality. From the outset they foresaw the creation of a perfect illusion of the outside world through sound, colour and three-dimensionality.

With respect to the latter, the film historian Georges Potonniée has even gone so far as to suggest that ‘it was not the discovery of photography but rather that of stereoscopy [put on the market shortly before the first experiments in moving photographs in 1851] which opened thinkers’ eyes. . . . When they saw their subjects immobile in space, photographers realised that they needed movement to create the image of life and a faithful copy of nature.’^k There was hardly an inventor who wasn’t trying to join sound or three-dimensionality with the moving image. This is true of Edison, who envisioned his individual Kinetoscope in combination with a phonograph and earphones, and of Demeny with his talking portraits. It was even true of Nadar^l who, shortly before carrying out the first photographic reportage on Chevreul,^m wrote: ‘My dream is to see photographs record a speaker’s changing posture and physiognomy while a phonograph records his words’ (February 1887). Colour was not yet present in this picture because the earliest experiments in three-colour photography came later. But Reynaud had been painting his little figurines for quite some time, and Méliès’ first films were coloured by stencil. Various fanciful texts abound in which inventors speak of nothing less than a total cinema capable of giving the complete illusion of life, something we are still far from achieving today. Recall the point in the novel *L’Ève future* when Villiers de l’Isle-Adam, two years before Edison began his first experiments in moving photographs, attributes to him this fantastic accomplishment:

The vision of transparent flesh, miraculously photochromed, performed a popular Mexican dance in a spangled dress. The technique of sequential photography can record ten minutes of

a being's movements on microscopic glass, which are then cast by a powerful lampscope. This made the vision's movements stand out from the flow of Life itself. . . . Suddenly a flat, stiff voice, a harsh voice lacking in intelligence, was heard. The dancer was singing the *alza* and *ole* of its fandango.ⁿ

The guiding myth of the invention of cinema is thus that it will accomplish the dominant myth of every nineteenth-century technology for reproducing reality, from photography to the phonograph: a complete realism, the recreation of the world in its own image—an image upon which the irreversibility of time and the artist's interpretation do not weigh. The earliest films did not have all the attributes of tomorrow's total cinema, but not for lack of trying; it was only because their fairies were technically powerless to endow them with such attributes, despite their desire to do so.

An art's origins provide us with a glimpse of its essence, and we might think of silent and talking film as stages in a technological evolution which is gradually bringing the precursors' primordial myth to fruition. In this light, it would be absurd to think of silent cinema as a kind of primitive perfection from which the realism of sound and colour has become increasingly distanced. The primacy of the image is a historical and technological accident; the nostalgia some still feel for the silent screen does not go back far enough in the childhood of the medium. Cinema's true early masters, alive only in the imaginations of a few dozen people in the nineteenth century, imitate nature completely. In this way, every new improvement to cinema merely brings it paradoxically closer to its origins. Cinema has yet to be invented!

To posit the scientific discoveries and industrial technologies that have had such a significant role in film's development as the sources of its *invention* is thus to invert, at least from a psychological point of view, the concrete order of causality. Those with the least confidence in the future of cinema were precisely the industrialists Edison and Lumière. Edison was satisfied with his individual Kinetoscope while Lumière, although he quite shrewdly refused to sell his patent to Méliès, undoubtedly did so because he thought it would be more profitable to market it himself, but as a novelty that the public would eventually tire of. As for true scientists such as Marey, they served cinema only incidentally; they had other goals and were content once these were achieved. The fanatics, the maniacs, the disinterested pioneers capable, like Bernard Palissy,^o of burning their furniture to obtain a few seconds of flickering images, were neither industrialists nor great thinkers, but men with imaginations. That cinema was born is due to the convergence of their obsession: the myth of total cinema. This also explains, on the one hand, Plateau's delay in applying the optical principles of the persistence of vision, and the consistent advance the synthesis of movement maintained over the state of photographic technology on the other. Both were dominated by the century's imagination. Of course, other examples of the convergence of research could be found in the history of technology and inventions, but we must distinguish those which are, precisely, the product of scientific advances and industrial (or military) needs from those which clearly precede these advances. The ancient myth of Icarus had to await the internal combustion engine before descending from Plato's higher world, but this myth has been present in every human being since we began to observe the birds. To a certain extent, we can say the same about

the myth of cinema, but its pre-nineteenth century forerunners are only distantly linked to the myth to which we subscribe today. This myth enabled the emergence of the mechanical arts which characterise the contemporary world.

Originally published as 'Le Mythe du cinéma total et les origines du cinématographe', a review of the volume by Georges Sadoul cited in note 1, in Critique 6 (November 1946) and reprinted with substantial modifications under the title 'Le Mythe du cinéma total' in volume one of Qu'est-ce que le cinéma? in 1958.

Notes

1. Georges Sadoul, *Histoire générale du cinéma*, vol. 1, *L'Invention du cinéma 1832–1897* (Paris: Denoël, 1946).

2. Egyptian frescos and bas-reliefs appear more interested in analysing movement than in synthesising it. Eighteenth-century automatons, for their part, are to cinema what painting is to photography. In any event, even if automatons foreshadowed the nineteenth century's machinery in the time of Descartes and Pascal, they did so only in a manner similar to the way *trompe l'oeil* in painting reveals an exaggerated taste for likeness. *Trompe l'oeil* technique, however, did not advance optics and photographic chemistry; it limited itself to mimicking them before the fact, in a manner of speaking.

The eighteenth-century *trompe l'oeil* aesthetic was located, moreover, as the word indicates, more on the side of illusion than of realism. It was closer to a lie than to the truth. A statue painted on a wall had to appear to be mounted on a pedestal in space. To a

certain extent, this is what film attempted at first, but this trickery quickly yielded to an ontogenetic realism (see the essay 'Ontology of the Photographic Image' included in the present volume).

On Jean Painlevé

When Muybridge^a and Marey^b created the first science films, they not only invented film technology, they created at the same time cinema's purest aesthetic. This is the miracle of the science film, and its inexhaustible paradox. Here, at the farthest reaches of interested and practical research, where the most absolute proscription of aesthetic intention as such reigns, cinematic beauty unfolds like a supernatural grace. Could any cinema of the imagination have conceived of and depicted the bronchoscope's fabulous descent into the nether regions, where all the laws of the dramatisation of colour are naturally present in the sinister bluish hue of a visibly fatal cancer? Could any trick effect have created the fairy ballet of the freshwater animalcules which, under the microscope, miraculously arrange themselves like a kaleidoscope? Is there a brilliant choreographer, a delirious painter, a poet who could imagine these patterns, these shapes, these images? The camera alone holds the key to this world, whose supreme beauty is that of nature and chance—in other words, everything that a certain aesthetic tradition views as the opposite of art. Only the Surrealists had a presentiment of its existence; in the almost impersonal automatism of their imagination, they sought the secret of an image factory. But Tanguy,^c Dalí and Buñuel remain at some distance from that surrealist drama in which the late Dr de Martel,^d in order to carry

out a complicated trepanning, began by sketching and hollowing out a face on the nape of a neck that has been shaved as bare as an egg. Whoever has not seen this does not know how far cinema can go.

Jean Painlevé occupies a unique and special place in French cinema. He understands that the most skilful trepanning can fulfil two simultaneous, incommunicable and absolute postulates: saving a life and depicting Père Ubu's^e machine for cracking skulls. His film *Le Vampire*, for example, is both a zoological document and the fulfilment of the great and bloody myth made famous by F.W. Murnau's *Nosferatu*. Unfortunately, this dazzling cinematic truth cannot be borne by everyone. From the viewpoint of current ideas about art and science, there is too much scandal about it. This may be why the audience of a neighbourhood cinema, as if before a sacrilegious profanation, protested against the jazz music accompanying the little underwater dramas found in *Assassins d'eau douce* (*Freshwater Assassins*).¹ How true it is that commonplace wisdom is not always capable of recognising that extremes can meet.

A fragment of the text 'Le Film scientifique: Beauté du hasard' published in Écran Français 121 (21 October 1947) and published in its present form under the title 'À Propos de Jean Painlevé' in volume one of Qu'est-ce que le cinéma? in 1958.

Note

1. This phenomenon has been confirmed and explained for me in Edgar Morin's book *Le Cinéma, ou l'homme imaginaire*: 'Ombredane carried out a simple but exhaustive experiment by projecting the struggle of larvae in *Assassins d'eau douce* with two different soundtracks. At the first screening, with jazz music, the Congolese natives saw the sequence as an amusing romp. At the second, to the sound of their own ritual song of decapitation, they saw murder and destruction, going so far as to suggest that . . . the victorious larvae were returning home with the decapitated heads of their victims.'

Morin then correctly remarks that music plays a very precise subtitling role, giving the image its meaning. The scandal around Painlevé's film in commercial cinemas also reveals another phenomenon: that of the way audience behaviour is determined by genres. For the average French viewer, scientific documentaries should be accompanied by so-called 'serious' music. *Le Cinéma, ou l'homme imaginaire* (Paris: Éditions de Minuit, 1956), 118. (This note was added by Bazin after the article's initial publication in 1947. An alternative translation of the Edgar Morin quotation can be found in *The Cinema, or the Imaginary Man*, trans. Lorraine Mortimer [Minneapolis: University of Minnesota Press, 2005], 177—Trans.)

inventor of photography.

e. In French, the camera obscura and the darkroom share the same name, *chambre noire*.

f. *Trompe l'esprit*, tricking the mind rather than the eye (*trompe l'oeil*).

The Myth of Total Cinema

a. Étienne-Jules Marey (1830–1904), French physiologist who began producing 'chronophotographic' images of human and animal motion in 1883.

b. The Concours Lépine, named after Louis Lépine, is an annual fair for amateur inventors held in France since 1903.

c. Joseph Nicéphore Niépce (1765–1833), French physician considered by many, with Louis Jacques Mandé Daguerre, to be the inventor of photography.

d. Eadweard Muybridge (Edward James Muggeridge, 1830–1904), British photographer resident in the United States. In 1872 he began work on a system for creating a series of still photographs to record animal motion, sponsored by the wealthy patron Leland Stanford.

e. Jean Aimé Leroy (1854–1932?), American photographer. Leroy claimed to have organised public film screenings (using Kinetoscope and other films) in New York in early 1895.

f. Henri-Joseph Joly (1866–1945), French inventor who joined with Charles Pathé in 1895 to construct motion picture cameras for Pathé's new firm.

g. Georges Demeny (1850–1917), Étienne-Jules Marey's principal assistant. Demeny went on to use his own invention, the Phonoscope, to record close-up images of a person speaking in 1892.

h. Charles-Émile Reynaud (1844–1918), French professor of natural science. Reynaud began public exhibition of his Praxinoscope

films (hand-painted images on strips of paper and later celluloid film) in 1882.

i. Muybridge's first successful series of photographs showing animal motion date from 1878; a single image showing a horse in mid-stride, now lost, was achieved in 1877. It is not clear what Bazin is referring to by mentioning the date 1880.

j. Joseph Antoine Ferdinand Plateau (1801–1883), French scientist. Plateau first published his theory of the persistence of vision in 1829 and in 1832 constructed the optical toy the Phenakistoscope based on this principle.

k. Georges Potonniée, *Les Origines du Cinématographe* (Paris: Paul Montel, 1928), 21 and 22. Bazin takes a couple of small liberties with the quotation, adds a parenthetical remark and conflates two sentences on different pages. It is translated here as it appears in Bazin.

l. Nadar (Félix Tournachon, 1820–1910), French author, photographer and hot-air balloon enthusiast who took the first aerial photographs in 1858.

m. Michel Eugène Chevreul (1786–1889), French chemist who devised a theory of colour perception which greatly influenced French Impressionist painters and other artists.

n. *L'Ève future*, Villiers de l'Isle-Adam, *Oeuvres complètes* (Paris: Gallimard, 1986 [1885–86]), 897. This passage has been translated as it appears in the above source, which is slightly different than the version quoted by Bazin. An alternative English translation can be found in *Tomorrow's Eve*, trans. Robert Martin Adams (Urbana: University of Illinois Press, 1982), 117. Count Auguste Villiers de l'Isle-Adam (1838–1889) was a mystical French author of literature, poetry and philosophy; Bazin appears to be the first in a long line of film theorists to be drawn to *L'Ève future*, Villiers' best-known work.

o. Bernard Palissy (1509–1590), self-taught French potter, painter, glassblower and landscape gardener. Palissy was also a philosopher and Huguenot who was imprisoned for his religious beliefs. Legend

has it that this obsessive craftsman burned his furniture to fire his kiln.

On Jean Painlevé

a. Eadweard Muybridge (Edward James Muggeridge, 1830–1904), British photographer resident in the United States. In 1872 he began work on a system for creating a series of still photographs to record animal motion, sponsored by the wealthy patron Leland Stanford.

b. Étienne-Jules Marey (1830–1904), French physiologist who began producing 'chronophotographic' images of human and animal motion in 1883.

c. Yves Tanguy (1900–1955), French surrealist painter, later resident in the United States.

d. Thierry de Martel (1876–1940), French surgeon and pioneering neurosurgeon.

e. Père Ubu, character in French author Alfred Jarry's play *Ubu roi* (1896), championed by the Surrealists in the 1920s.

An Introduction to the Charlie Chaplin Persona

a. Bazin slips here and attributes this scene to *Sunnyside* (1919).

b. This scene occurs in *The Gold Rush* (1925).

c. Albert Dubout (1905–1976), French cartoonist and artist.

d. Honoré Daumier (1808–1879), French caricaturist and artist.

Monsieur Hulot and Time

a. 'Boulevard theatre' is shorthand for middle- or lower-class French

THE MYTH OF TOTAL CINEMA

PARADOXICALLY enough, the impression left on the reader by Georges Sadoul's admirable book on the origins of the cinema is of a reversal, in spite of the author's Marxist views, of the relations between an economic and technical evolution and the imagination of those carrying on the search. The way things happened seems to call for a reversal of the historical order of causality, which goes from the economic infrastructure to the ideological superstructure, and for us to consider the basic technical discoveries as fortunate accidents but essentially second in importance to the preconceived ideas of the inventors. The cinema is an idealistic phenomenon. The concept men had of it existed so to speak fully armed in their minds, as if in some platonic heaven, and what strikes us most of all is the obstinate resistance of matter to ideas rather than of any help offered by techniques to the imagination of the researchers.

Furthermore, the cinema owes virtually nothing to the scientific spirit. Its begetters are in no sense savants, except for Marey, but it is significant that he was only interested in analyzing movement and not in reconstructing it. Even Edison is basically only a do-it-yourself man of genius, a giant of the *concours Lépine*. Niepce, Muybridge, Leroy, Joly, Demeny, even Louis Lumière himself, are all monomaniacs, men driven by an impulse, do-it-yourself men or

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at best ingenious industrialists. As for the wonderful, the sublime E. Reynaud, who can deny that his animated drawings are the result of an unremitting pursuit of an *idée fixe*? Any account of the cinema that was drawn merely from the technical inventions that made it possible would be a poor one indeed. On the contrary, an approximate and complicated visualization of an idea invariably precedes the industrial discovery which alone can open the way to its practical use. Thus if it is evident to us today that the cinema even at its most elementary stage needed a transparent, flexible, and resistant base and a dry sensitive emulsion capable of receiving an image instantly—everything else being a matter of setting in order a mechanism far less complicated than an eighteenth-century clock—it is clear that all the definitive stages of the invention of the cinema had been reached before the requisite conditions had been fulfilled. In 1877 and 1880, Muybridge, thanks to the imaginative generosity of a horse-lover, managed to construct a large complex device which enabled him to make from the image of a galloping horse the first series of cinematographic pictures. However to get this result he had to be satisfied with wet collodion on a glass plate, that is to say, with just one of the three necessary elements—namely instantaneity, dry emulsion, flexible base. After the discovery of gelatino-bromide of silver but before the appearance on the market of the first celluloid reels, Marey had made a genuine camera which used glass plates. Even after the appearance of celluloid strips Lumière tried to use paper film.

Once more let us consider here only the final and complete form of the photographic cinema. The synthesis of simple movements studied scientifically by Plateau had no need to wait upon the industrial and economic developments of the nineteenth century. As Sadoul correctly points out, nothing had stood in the way, from antiquity, of the manufacture of a phenakistoscope or a zootrope. It is true that here the labors of that genuine savant Plateau were at the origin of the many inventions that made the popular use of his discovery possible. But while, with the photographic cinema, we

have cause for some astonishment that the discovery somehow precedes the technical conditions necessary to its existence, we must here explain, on the other hand, how it was that the invention took so long to emerge, since all the prerequisites had been assembled and the persistence of the image on the retina had been known for a long time. It might be of some use to point out that although the two were not necessarily connected scientifically, the efforts of Plateau are pretty well contemporary with those of Nicéphore Niepce, as if the attention of researchers had waited to concern itself with synthesizing movement until chemistry quite independently of optics had become concerned, on its part, with the automatic fixing of the image.*

I emphasize the fact that this historical coincidence can apparently in no way be explained on grounds of scientific, economic, or industrial evolution. The photographic cinema could just as well have grafted itself onto a phenakistoscope foreseen as long ago as the sixteenth century. The delay in the invention of the latter is as disturbing a phenomenon as the existence of the precursors of the former.

But if we examine their work more closely, the direction of their research is manifest in the instruments themselves, and, even more undeniably, in their writings and commentaries we see that these precursors were indeed more like prophets. Hurrying past the vari-

* The frescoes or bas-reliefs of Egypt indicate a desire to analyze rather than to synthesize movement. As for the automatons of the eighteenth century their relation to cinema is like the relation of painting to photography. Whatever the truth of the matter and even if the automatons from the time of Descartes and Pascal foreshadowed the machines of the nineteenth century, it is no different from the way that *trompe-l'oeil* in painting attested to a chronic taste for likeness. But the technique of *trompe-l'oeil* did nothing to advance optics and the chemistry of photography; it confined itself, if I can use the expression, to "playing the monkey" to them by anticipation.

Besides, just as the word indicates, the aesthetic of *trompe-l'oeil* in the eighteenth century resided more in illusion than in realism, that is to say, in a lie rather than the truth. A statue painted on a wall should look as if it were standing on a pedestal in space. To some extent, this is what the early cinema was aiming at, but this operation of cheating quickly gave way to an ontogenetic realism.

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ous stopping places, the very first of which materially speaking should have halted them, it was at the very height and summit that most of them were aiming. In their imaginations they saw the cinema as a total and complete representation of reality; they saw in a trice the reconstruction of a perfect illusion of the outside world in sound, color, and relief.

As for the latter, the film historian P. Potoniée has even felt justified in maintaining that it was not the discovery of photography but of stereoscopy, which came onto the market just slightly before the first attempts at animated photography in 1851, that opened the eyes of the researchers. Seeing people immobile in space, the photographers realized that what they needed was movement if their photographs were to become a picture of life and a faithful copy of nature. In any case, there was not a single inventor who did not try to combine sound and relief with animation of the image—whether it be Edison with his kinetoscope made to be attached to a phonograph, or Demenay and his talking portraits, or even Nadar who shortly before producing the first photographic interview, on Chevreul, had written, “My dream is to see the photograph register the bodily movements and the facial expressions of a speaker while the phonograph is recording his speech” (February, 1887). If color had not yet appeared it was because the first experiments with the three-color process were slower in coming. But E. Reynaud had been painting his little figurines for some time and the first films of Méliès are colored by stencilling. There are numberless writings, all of them more or less wildly enthusiastic, in which inventors conjure up nothing less than a total cinema that is to provide that complete illusion of life which is still a long way away. Many are familiar with that passage from *L'Ève Future* in which Villiers de l'Isle-Adam, two years before Edison had begun his researches on animated photography, puts into the inventor's mouth the following description of a fantastic achievement: “. . . the vision, its transparent flesh miraculously photographed in color and wearing a spangled costume, danced a

kind of popular Mexican dance. Her movements had the flow of life itself, thanks to the process of successive photography which can retain six minutes of movement on microscopic glass, which is subsequently reflected by means of a powerful lampscope. Suddenly was heard a flat and unnatural voice, dull-sounding and harsh. The dancer was singing the *alza* and the *olé* that went with her *fandango*."

The guiding myth, then, inspiring the invention of cinema, is the accomplishment of that which dominated in a more or less vague fashion all the techniques of the mechanical reproduction of reality in the nineteenth century, from photography to the phonograph, namely an integral realism, a recreation of the world in its own image, an image unburdened by the freedom of interpretation of the artist or the irreversibility of time. If cinema in its cradle lacked all the attributes of the cinema to come, it was with reluctance and because its fairy guardians were unable to provide them however much they would have liked to.

If the origins of an art reveal something of its nature, then one may legitimately consider the silent and the sound film as stages of a technical development that little by little made a reality out of the original "myth." It is understandable from this point of view that it would be absurd to take the silent film as a state of primal perfection which has gradually been forsaken by the realism of sound and color. The primacy of the image is both historically and technically accidental. The nostalgia that some still feel for the silent screen does not go far enough back into the childhood of the seventh art. The real primitives of the cinema, existing only in the imaginations of a few men of the nineteenth century, are in complete imitation of nature. Every new development added to the cinema must, paradoxically, take it nearer and nearer to its origins. In short, cinema has not yet been invented!

It would be a reversal then of the concrete order of causality, at least psychologically, to place the scientific discoveries or the industrial techniques that have loomed so large in its development at the

SOURCES AND TRANSLATOR'S NOTES

THE ONTOLOGY OF THE PHOTOGRAPHIC IMAGE

From *Problèmes de la Peinture*, 1945

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From *Critique*, 1946

p. 17, Concours Lépine.

Annual exposition of inventions, at which awards are given to encourage French artisans and inventors. First organized in 1903 by an association of inventors and manufacturers, following an earlier exposition inaugurated by Louis Lépine.

p. 19, image on retina.

The notion of the retention of the image on the retina seems now to be discarded in favor of a new theory giving greater importance to the part played by the brain.

p. 20, P. Potoniée.

The dream of creating a living human being by means other than natural reproduction has been a preoccupation of man from time immemorial; hence such myths as Pygmalion and Galatea. Serious medieval natural philosophers such as Albertus Magnus (master to Aquinas) concerned themselves with the possibility. The creation of the homunculus is a recurrent theme in literature and has appeared in such films as *The Golem*. It was doubtless a kindred desire that

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led early viewers of the film to exclaim, "It is life itself," such was the impact of the supreme form of *trompe-l'oeil*.

p. 20, Chevreul.

Chevreul, the subject of the interview, was a French chemist (1786–1889) who invented a theory of color from which the Impressionist painters drew inspiration.

EVOLUTION OF THE LANGUAGE OF CINEMA

A composite of three articles: the first written for a Venice Festival anniversary booklet, *Twenty Years of Film* (1952); the second "Editing and Its Evolution," *Age Nouveau*, No. 92, July, 1955; and the third in *Cahiers du Cinéma*, No. 7, 1950

THE VIRTUES AND LIMITATIONS OF MONTAGE

From *Cahiers du Cinéma*, 1953 and 1957

p. 43, Jean Tourane.

Director who made actors out of animals in stories in which they played human roles. He made two short films, *Saturnin le poète*, the hero of which was a duck, and *Le Lac aux fées*, featuring rabbits, a fox, a goat, and so on. He later made a feature film in the same style, *Une Fée pas comme les autres*.

IN DEFENSE OF MIXED CINEMA

From *Cinéma, un oeil ouvert sur le monde*

p. 65, Madame de La Fayette.

French woman of letters (1634–1693), author of *La Princesse de Cleves* and of *Memoires*—an interesting account of the French court.

THEATER AND CINEMA (Part I)

From *Esprit*, June, 1951.

p. 79, Boireau and Onésime.

The former is a character taken from a comic paper—a maladroit clown round whom a famous early serial was built. The latter was the central figure of an earlier comic serial.

p. 79, Jean Hytier.

A penetrating critic of contemporary French literature, author of a study of André Gide.

andré bazin

qu'est-ce que le cinéma?

ART

collection dirigée par Guy Hennebelle

LES ÉDITIONS DU CERF
29, bd Latour-Maubourg, Paris

1990

II

LE MYTHE DU CINÉMA TOTAL ¹

Ce que révèle paradoxalement la lecture de l'admirable livre de Georges Sadoul sur les origines du cinéma ² c'est, en dépit du point de vue marxiste de l'auteur, le sentiment d'une inversion des rapports entre l'évolution économique et technique et l'imagination des chercheurs. Tout me semble se passer comme si l'on devait renverser ici la causalité historique qui va de l'infrastructure économique aux superstructures idéologiques et considérer les découvertes techniques fondamentales comme des accidents heureux et favorables, mais essentiellement seconds par rapport à l'idée préalable des inventeurs. Le cinéma est un phénomène idéaliste. L'idée que les hommes s'en sont faite existait tout armée dans leur cerveau, comme au ciel platonicien, et ce qui nous frappe c'est bien plutôt la résistance tenace de la matière à l'idée, que les suggestions de la technique à l'imagination du chercheur.

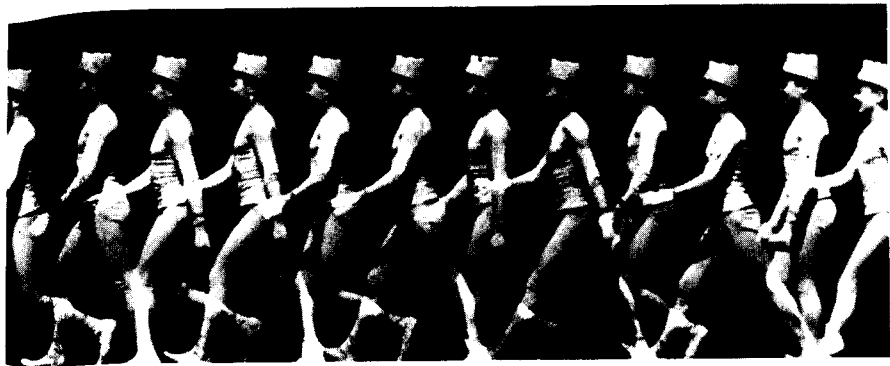
Aussi bien le cinéma ne doit-il presque rien à l'esprit scientifique. Ses pères ne sont point des savants (Marey excepté, mais il est significatif que Marey ne s'intéressait qu'à l'analyse du mouvement, nullement au processus inverse qui permettait de le recomposer). Même Edison n'est au fond qu'un bricoleur de génie, un géant du concours Lépine. Niepce, Muybridge, Leroy, Joly, Demeny, Louis Lumière lui-même sont des monomanes, des hurluberlus, des bricoleurs ou, au mieux, des industriels ingénieux. Quant au merveilleux, au sublime E. Reynaud, qui ne voit que ses dessins animés sont le résultat de la poursuite tenace d'une

1. Extrait de *Critique*, 1946.

2. *L'invention du Cinéma*, T. I., Éd. Denoël.

idée fixe ? On rendrait bien mal compte de la découverte du cinéma en partant des découvertes techniques qui l'ont permise. Au contraire une réalisation approximative et compliquée de l'idée précède presque toujours la découverte industrielle qui peut seule en ouvrir l'application pratique. Ainsi, s'il nous paraît évident aujourd'hui que le cinéma, sous sa forme même la plus élémentaire, avait besoin d'utiliser un support *transparent, souple et résistant* et une émulsion sensible *sèche*, capable de prendre une image instantanée (le reste n'étant qu'aménagements mécaniques bien moins compliqués qu'une horloge du XVIII^e siècle), on s'aperçoit que toutes les étapes décisives de l'invention du cinéma ont été franchies avant que ces conditions ne soient remplies. Muybridge, grâce à la fantaisie dispendieuse d'un amateur de chevaux, parvient en 1877 et 1880 à réaliser un immense complexe qui lui permettra d'impressionner, avec l'image d'un cheval au galop, la première série cinématographique. Or, il a dû se contenter pour ce résultat du collodion humide sur plaque de verre (c'est-à-dire d'une seule des trois conditions essentielles : instantanéité, émulsion sèche, support souple). Après la découverte en 1880 du gélatino-bromure d'argent, mais avant l'apparition des premières bandes de celluloid dans le commerce, Marey construit avec son fusil photographique une véritable caméra à plaques de verre. Enfin, même après l'existence commerciale du film en celluloid, Lumière lui-même tentera d'abord d'employer du film de papier.

Encore n'envisageons-nous ici que la forme définitive et complète du cinéma photographique. La synthèse de mouvements élémentaires scientifiquement étudiée pour la première fois par Plateau, n'avait nul besoin du développement industriel et économique du XIX^e siècle. Comme le remarque à juste titre G. Sadoul, rien ne s'opposait à la réalisation d'un phénakisticope ou d'un zootrope depuis l'antiquité. Certes, ce sont ici les travaux d'un authentique savant, Plateau, qui sont à l'origine des multiples inventions mécaniques qui permirent un usage populaire de sa découverte. Mais alors que pour le cinéma photographique nous avons lieu de nous étonner que la découverte précède en quelque sorte les conditions techniques indispensables à sa réalisation, il faudrait expliquer ici au contraire que, toutes les conditions réunies depuis longtemps (la persistance rétinienne était un phénomène très anciennement connu),



Chronophotographie de J. E. Marey. Marche du troupiér.

[Photo Cinémathèque Française.]

l'invention ait mis tant de temps à éclore. Il ne sera peut-être pas inutile de noter que, sans aucun rapport scientifiquement nécessaire, les travaux de Plateau sont à peu près contemporains de ceux de Nicéphore Niepce, comme si l'attention des chercheurs avait, durant des siècles, attendu pour s'intéresser à la synthèse du mouvement que — tout à fait indépendamment de l'optique — la chimie s'intéressât de son côté à la fixation automatique de l'image¹.

1. Les fresques ou les bas-reliefs égyptiens témoignent plutôt d'une volonté d'analyse du mouvement que de sa synthèse. Quant aux automates du XVIII^e siècle ils sont au cinéma comme la peinture à la photographie. Quoi qu'il en soit, et même si les automates préfigurent depuis Descartes et Pascal les machines du XIX^e siècle, ce n'est encore qu'à la manière dont les « trompe-l'œil » picturaux témoignent d'un goût exacerbé de la ressemblance. Mais la technique du trompe-l'œil n'a pas fait avancer l'optique et la chimie photographique, elle se bornait, si j'ose dire, à les singer par anticipation.

Du reste, ainsi que le mot l'indique, l'esthétique du « trompe-l'œil » au XVIII^e siècle réside davantage dans l'illusion que dans le réalisme, c'est-à-dire dans le mensonge que dans la vérité. Une statue peinte sur un mur doit paraître posée sur un socle dans l'espace. Dans une certaine mesure c'est aussi à quoi visa le cinéma débutant, mais cette fonction de supercherie cède vite la place à un réalisme ontogénétique (cf. Ontologie de l'image photographique).

J'insiste sur le fait que cette coïncidence historique ne semble pouvoir aucunement s'expliquer par l'évolution scientifique économique ou industrielle. Le cinéma photographique aurait tout aussi bien pu se greffer vers 1890 sur un phénakisticope imaginé depuis le XVI^e siècle. Le retard à l'invention de celui-ci est aussi troublant que l'existence des précurseurs de celui-là.

Mais si nous examinons maintenant de plus près leurs travaux, le sens de leur recherche tel qu'il transparait dans les appareils eux-mêmes et, plus indiscutablement, dans les écrits et commentaires qui les accompagnent, nous constatons que ces précurseurs étaient bien plutôt des prophètes. Brûlant les étapes, dont la première même leur était matériellement infranchissable, c'est directement au plus haut que la plupart d'entre eux vont viser. Leur imagination identifie l'idée cinématographique à une représentation totale et intégrale de la réalité, elle envisage d'emblée la restitution d'une illusion parfaite du monde extérieur avec le son, la couleur et le relief.

Pour ce dernier un historien du cinéma, P. Potonié, a même pu soutenir que « ce n'est pas la découverte de la photographie mais celle de la stéréoscopie (introduite dans le commerce peu de temps avant les premiers essais de photographie animée en 1851) qui ouvrit les yeux aux chercheurs. En apercevant les personnages immobiles dans l'espace, les photographes s'avisèrent que le mouvement leur manquait pour être l'image de la vie et la copie fidèle de la nature ». En tout cas il n'est guère d'inventeur qui ne cherche à conjointre le son ou le relief à l'animation de l'image. Que ce soit Edison, dont le kinétoscope individuel devait être couplé à un phonographe à écouteurs, ou Demeny et ses portraits parlants, ou même Nadar qui, peu de temps avant de réaliser le premier reportage photographique sur Chevreul, écrivait : « Mon rêve est de voir la photographie enregistrer les attitudes et les changements de physionomie d'un orateur au fur et à mesure que le phonographe enregistre ses paroles » (février 1887). Et si la couleur n'est pas encore évoquée, c'est que les premières expériences de trichromie sont plus tardives. Mais E. Reynaud peignait depuis longtemps ses petites figurines et les premiers films de Méliès sont colorisés au pochoir. Les textes abondent, plus ou moins délirants, où les inventeurs n'évoquent rien moins que ce cinéma intégral donnant la complète illusion de la vie dont

nous sommes encore loin aujourd'hui, et l'on connaît cette page de *L'Ève Future* où Villiers de l'Isle-Adam, deux ans avant qu'Edison entreprenne ses premières recherches sur la photographie animée, lui prête cette fantastique réalisation : « ... la vision, chair transparente miraculeusement photochromée, dansait en costume pailleté une sorte de danse mexicaine populaire. Les mouvements s'accusaient avec le fondu de la vie elle-même, grâce au procédé de la photographie successive qui peut saisir dix minutes des mouvements sur des verres microscopiques reflétés ensuite par un puissant lampascope... Soudain une voix plate et comme empesée, une voix sottie et dure se fit entendre. La danseuse chanta l'alza et le holo de son fandango. »

Le mythe directeur de l'invention du cinéma est donc l'accomplissement de celui qui domine confusément toutes les techniques de reproduction mécanique de la réalité qui virent le jour au XIX^e siècle, de la photographie au phonographe. C'est celui du réalisme intégral, d'une recreation du monde à son image, une image sur laquelle ne pèserait pas l'hypothèque de la liberté d'interprétation de l'artiste ni l'irréversibilité du temps. Si le cinéma au berceau n'eut pas tous les attributs du cinéma total de demain, ce fut donc bien à son corps défendant et seulement parce que ses fées étaient techniquement impuissantes à l'en doter en dépit de leurs désirs.

Si les origines d'un art laissent apercevoir quelque chose de son essence, il est permis de considérer les cinémas muet et parlant comme les étapes d'un développement technique qui réalise peu à peu le mythe originel des chercheurs. On comprend, dans cette perspective, qu'il soit absurde de tenir le cinéma muet pour une sorte de perfection primitive dont s'éloignerait de plus en plus le réalisme du son et de la couleur. Le primat de l'image est historiquement et techniquement accidentel, la nostalgie qu'entretiennent encore certains pour le mutisme de l'écran ne remonte pas assez loin dans l'enfance du septième art, les véritables primitifs du cinéma, ceux qui n'ont encore existé que dans l'imagination de quelques dizaines d'hommes du XIX^e siècle, sont à l'imitation intégrale de la nature. Tous les perfectionnements que s'adjoint le cinéma ne peuvent donc paradoxalement que le rapprocher de ses origines. Le cinéma n'est pas encore inventé !

Ce serait donc renverser, au moins du point de vue psy-

chologique, l'ordre concret de la causalité que de placer les découvertes scientifiques ou les techniques industrielles, qui tiendront une si grande place dans le développement du cinéma, au principe de son *invention*. Ceux qui ont eu le moins confiance dans l'avenir du cinéma comme art et même comme industrie sont précisément les deux industriels Edison et Lumière. Edison s'est contenté de son kinétoscope individuel et si Lumière a fort judicieusement refusé à Méliès la vente de son brevet, c'est qu'il pensait sans doute avoir plus de profit à l'exploiter lui-même, mais effectivement comme un jouet dont le public serait un jour ou l'autre lassé. Quant aux vrais savants comme Marey, ils n'ont qu'incidemment servi le cinéma : ayant un autre but précis dont ils se sont satisfaits sitôt qu'il fut atteint. Les fanatiques, les maniaques, les pionniers désintéressés, capables comme Bernard Palissy de brûler leurs meubles pour quelques secondes d'images tremblotantes, ne sont ni des industriels ni des savants mais des possédés de leur imagination. Si le cinéma est né, c'est de la convergence de leur obsession ; c'est-à-dire d'un mythe, celui du *cinéma total*. Ainsi s'explique aussi bien le retard des applications optiques de la persistance rétinienne par Plateau, que l'avance constante de la synthèse du mouvement sur l'état des techniques photographiques. C'est que les unes et les autres sont dominées par l'imagination du siècle. Certes, on trouverait sans doute d'autres exemples, dans l'histoire des techniques et des inventions, de la convergence des recherches, mais il faut distinguer celles qui résultent précisément de l'évolution scientifique et des besoins industriels (ou militaires) de celles qui, de toute évidence, les précèdent. Ainsi le vieux mythe d'Icare a dû attendre le moteur à explosion pour descendre du ciel platonicien. Mais il existait dans l'âme de tout homme depuis qu'il contemplait l'oiseau. Dans une certaine mesure, on peut en dire autant de celui du cinéma, mais ses avatars jusqu'au xix^e siècle n'ont qu'un rapport lointain avec celui auquel nous participons aujourd'hui et qui a été le promoteur de l'apparition des arts mécaniques qui caractérisent le monde contemporain.