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## THREATS AND BENEFITS FOR CINEMA IN THE AGE OF AI

**Jean-Michel Frodon<sup>1</sup>**

*<sup>1</sup>Jean-Michel Frodon is Associate Professor at Sciences Po-Paris and former Professor at Saint Andrews University (Scotland). He also serves as film critic for various French and international medias.*

### Abstract

This paper draws on the acknowledgement of the specific existence of cinema and of the ineluctability of the presence of AI in the various domains regarding the making, the circulation and the reception of movies. It aims to depict the way this particular mix of art and industry that still deserves to be called cinema is likely to evolve, considering similar situations it encountered previously. It underlines how the very nature of AI leads to define more precisely, and with more strength, cinema's own characteristics and potentialities in a deeply changing media, artistic and social environment where films have and will have a place, and a role to play.

### Keywords

AI, Cinema, Hollywood, Image, Language, Technology

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This paper is based on a fragile approach, since I know quite well what I am expected to write about the way I understand the relations between cinema and the Artificial Intelligence devices and processes. What I am expected to write, as a French person, as a cinephile, as a man from my generation. I am all of that (plus a few other things, mind you) and I will not try to deny it. It was interesting that, coming with the generous proposal by Professor James Katz to speak at the workshop "Lights, Camera, Algorithm!" that generated this paper, someone sent me a potential abstract of my talk for the program of this workshop, an abstract that could very well have been written by an AI, based on my résumé and the title of this talk. It was saying, in a very correct form, what I was likely to say in such circumstances. The trick is that I do intend to express a fair amount of what is expected, since it is what I think and believe, but also some rather alternative proposal. It is the gap between these two angles that is precisely my point.

### Cinema is!

But I should clarify at least two points before going any further. First, what I intend to write about here is cinema. Not audiovisual, not TV series, not video games, not video art, not TikTok or YouTube videos, etc. Of all these items and formats, I do not know much, which of course does not prevent me from having opinions about them – not the same opinion, actually, depending the different fields. But what I intend to write about is a certain apparatus with its own set of procedures and effects, known as "cinema" since the beginning of the 20<sup>th</sup> Century.

There is no official definition of "what cinema is", as Dudley Andrew reminds us in the footsteps of André Bazin's *What is Cinema?*<sup>1</sup>, a question that is meant to remain a question. And what I intend to write about here has to do with what this endless question is about. No official definition, but there are no doubts that "cinema" does mean something, and something specific enough to be distinguished from non-cinematic artefacts, even if it may take a dedicated argument to decide if this or that object is what we would agree to call a film, or something else.

The specific existence of this apparatus remains while being very well aware on the countless proposals regarding all the forms and potentialities of has been defined as "beyond cinema" since the 1920's, including expanded cinema and the "quarrel of dispositifs" that a long and fertile historiography has explored in stimulating ways during the precedent decade<sup>2</sup>. Beyond beyond cinema, if I may say it this way, beyond all the "beyond

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<sup>1</sup> Dudley Andrew, *What Cinema Is!: Bazin's Quest and its Charge*, Willey Blackwell, Malden, 2010.

<sup>2</sup> See, among many, François Alebera and Maria Tortajada (ed.) *Cinema Beyond Film, Media Epistemology in the Modern Era*, Amsterdam University Press, Amsterdam, 2010, Thomas Elsaesser *Film History as Media Archeology*, Amsterdam University Press, Amsterdam, 2016, Raymond Bellour *La Querelle des dispositifs. Cinéma - installations*,

cinema” apparatuses and theories, this paper is based on the assertion that there is something that deserves to be called this way, now.

### AI is here to stay

My second preliminary point is to underline that it is obvious that, in the filmmaking process (“filmmaking process” in an extended meaning, from conception of a movie to its screening in front of audiences), AI will be omnipresent. Some filmmakers will limit its presence, as they do now with digital tools of all kind, 25 years after the digital massive take over of the cinema processes. But which AI? The use of a general term, “artificial intelligence”, is part of the confusion that comes with it, since there are actually various kinds of AI processes, among which generative ones that can again have various ways of proceeding. Meaning that the various potential uses of various types of AI in various steps of film production and diffusion are likely to create a vast ensemble of outcomes, very different if not openly contradictory. Responding to this complexity demands to be aware of a common bias to always anticipate the most massive and obvious effects as if they were the only ones to exist, though more options remain open, and may cohabit, smaller effects being able to modify more massive ones on the long term.

This said, AI “in general” is already and will be more and more active in the cinema domain, in many ways. And, often, in useful ways, at least in terms of efficiency and cost. As it is already massively documented and commented<sup>3</sup>, AI already has and will increasingly have a role in scriptwriting, image and sound design, editing and postproduction. And this was only about production, but it goes as well for distribution and various types of diffusion, as well as for subtitling and dubbing, international sales, promotion, etc. The risk of a molding of the way films are made and seen is real (it always was), history tells us that its hegemony is not already carved in marble. As a head of the German arthouses group Yorck Kinogruppe Marvin Wiechert points out when discussing the use of AI by non-mainstream exhibitors for programming and advertising, “as Generative AI floods social media with synthetic imagery – often dubbed “slop” – arthouse cinemas could offer something increasingly rare: human curation, aesthetic intentionality, and spaces free from the “slop” economy.”<sup>4</sup> Yes, different types of AI can, and will help making things faster. But in the art world, opposite to the industry world, faster is by far not always an improvement. Being both art and industry, cinema has to elaborate from there with the existing technologies, constraints, forms of creativity, as it always had to deal with, one period after the other.

The question is *not* to stay away from AI, not even to resist its presence. What is at stake here is something different, and if I mentioned “benefits” for cinema, it is not so much regarding the gains of productivity, with their at least ambiguous effects, that in the sense of providing a better understanding of what it is about, and how distinct from other audiovisual devices it has always been, but has to affirm itself more and more in the evolving context we experience.

No doubt, there is a AI revolution on its way, generally speaking, and filmmaking won’t be a part of it. Just like cinema was not apart from any of the previous socio-technological major moves that did happen since the beginning of its existence – and I don’t mean here only technical innovations in its own apparatus, but more generally in the developed industrial society it is part of and constantly related to in multiple ways. Cinema is part of the AI world as well as it is, or was part of the train world, the automobile world, the electricity world, the airplane world, the television world, the atomic bomb world, the space rockets world, the Internet world, the 2.0 and follow ups world, etc. But “to be part of” does not mean it will be absorbed in the tsunami of changes that are announced, and which are partially already happening. Cinema has been through this kind of trial before, each time its death, at least as a specific language, has been announced, the most significant previous turning points being of course the arrival of sound, of television and of digital.

### Victor Hugo was wrong

There is here an enduring phantasmagoria about how this kind of evolution/revolution works, or is supposed to work, that can be traced back to another supposed shift in technologies. This phantasmagoria is summarized by a parable in Victor Hugo’s *Notre Dame de Paris*. Here the priest, Frolo, shows in one hand a book, a Bible, and with his other hand the cathedral, and says “*This will kill that*”. He means the book, the printing process, the printed and edited words will kill the material building where the believers gather and share. Everyone knows about the powerful rise of print as the dominant technology for centuries, but it certainly did not kill the cathedral apparatus,

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expositions POL, Paris, 2015, Francesco Casetti, *The Lumière Galaxy: Seven Key Words for the Cinema to Come* Columbia University Press, New York, 2015

<sup>3</sup> For an inescapably transitory state of the art in this domain, see Vasilis Tsiavos and Fotis Kitsios, “The digital transformation of the film industry: How Artificial Intelligence is changing the seventh art” Telecommunications Policy, Volume 49, Issue 8, 2025 <https://www.sciencedirect.com/science/article/pii/S0308596125001181>

<sup>4</sup> In the magazine of the European exhibition network *Europa Cinema*, novembre 2025, p.21.

which is still all over the world, in multiple ways including religious temples, but also stadiums, concert arenas or... cinemas. "This" *changes* "that", modifies its status but very rarely destroys whatever system with a specific ability and potential that was there.

And this is what is likely to happen with cinema in the AI era, as it did already happen in the TV era. As Francesco Casetti underlines it, "throughout its history, cinema has often met with changes that seemed to push it beyond its technological, linguistic, and institutional boundaries, and at the same time it has always sought to remain itself, also negotiating or appropriating novelties."<sup>5</sup> If one acknowledges what are the specific effects of filmmaking on the perception of the world we live in, the relation toward space and time, toward life and death, toward what is visible and what is not, these perceptions humans still need and desire, even obscurely, are meant to remain. It has been said by many before me, and better than I can now pretend to do it, by André Bazin among others<sup>6</sup>, how much "what cinema does" has been expected, and to a certain extent anticipated by the humankind since its origins, long before the cinematograph technical devices became available<sup>7</sup>. These potentialities turned out to be there as soon as it was, as we call that, "invented", maybe better said "discovered"<sup>8</sup>.

### The promise of cinema

These potentials are already there in the Lumière Brothers footage. They bear what could be defined as the specific promise materialized by the cinema apparatus, when activated by those who, consciously or not, act in coherence with the particular potentials of this apparatus. But these potentialities were very soon betrayed, or distorted, in multiple ways that did affect the use of the camera, then of the editing, then of the sound – "as soon as the accountants took over in Hollywood" in Jean-Luc Godard's words in *Histoire(s) du cinéma*. These betrayals, which are consubstantial with the industry process, generated also commercial success, popularity of various genres and procedures, etc. They did shape what cinema became, for better and worth, and to a large extent what it still is. But the decisive aspect is that what was the unstable beating heart of cinema *per se* and the multiple ways it was overwhelmed by various other logics never turned into a complete separation between them nor in the complete and irreversible destruction of one by the other. There was always some of both in any movie, even in huge variation in proportion, defining one of the aspects according to which cinema was rightly called "impure". It never completely split no became pure. The circulation between what was genuinely cinematic and components from other origins and for other purposes always remained, in various forms and at various levels of intensity, even with the massive intrusion in films by various forms of discourses, including advertising and propaganda - which are basically the same. To put it differently: in the movie world, there were always bridges.

When the television arrived and soon dethroned the economical and sociological dominant position of cinema, it became easier to associate everything that was betraying the promise of cinema with the then new media, including a vast majority of "made for the large screen" products. But the accomplishments of cinema as a language, as a set of forms that provide an immense array of perception, emotion and understanding did not diminish in these era, but on the opposite it blossomed in the multiple versions of the so-called "modernity", the so-called New Waves that flooded the large screen, worldwide, in Paris *400 Blows* and *Breathless* but also from New York to Tokyo, from Rome to Rio, from London to Warsaw. And, later it expanded geographically and stylistically, way beyond the Western canons (including its Soviet version), in many ways that sometimes anticipated the next "revolution", the digital shift or took advantage of it.

### AI is huge about image, much less about cinema

The way AI is likely to stimulate, if not to impose cinema *to become even more itself* is excellently defined by the works of one of the best contemporary thinker of what is happening in the field of visual production in relation with AI, Antonio Somaini. Beyond his input as a professor in Harvard and Sorbonne Nouvelle, and as a film and visual arts theoretician, Somaini uses other devices to elaborate on these processes, including a remarkable exhibition he curated in Paris in 2025 at Musée du Jeu de Paume, "Le Monde selon l'IA", the world according to AI. In a luminous paper entitled "The visible and the sayable: AI and the new algorithmic relations between images and words"<sup>9</sup>, professor Somaini clarifies some of the expectable effects of the use of AI by artists.

Let's pay attention to this: *by artists, and not by filmmakers*. No filmmaker is quoted in the paper, none is present in the exhibition. This is not a casual oversight, by someone who is an eminent figure in film studies.

<sup>5</sup> Casetti, 2015, op.cit. p 32.

<sup>6</sup> For instance, Jean-Michel Frodon, *Que fait le cinéma ?*, Riveneuve et Archimbaud, Paris, 2015

<sup>7</sup> André Bazin, "The Myth of Total Cinema", in André Bazin, Hugh Gray (trans), *What Is Cinema?*, Vol. 1, London: University of California Press Ltd, (1967), pp. 17-22.

<sup>8</sup> See Gabriel Rockhill, "Le Cinéma n'est jamais né.", in Jean-Louis Déotte (ed.) *Le Milieu des appareils*. Paris: L'Harmattan, 2009, p. 187-211

<sup>9</sup> Antonio Somaini, "Le visible et l'énonçable. L'IA et les nouveaux liens algorithmiques entre images et mots" *Nouvelle revue d'esthétique* 2024/1 n° 33, pages 47-58. Paris. Presses Universitaires de France.

Thinking and discussing the AI effects on images drives quite mechanically outside of the cinema field. The same effect can be seen in the groundbreaking work by Lev Manovich and Emanuele Arielli *Artificial Aesthetics: Generative AI, Art and Visual Media*<sup>10</sup>, and most of what is published on this topic<sup>11</sup>. It is quite significant that major visual theoreticians have very little to say about AI and *cinema*. Which of course does not mean that what they are thinking, and saying, is of no use for whoever wishes to consider the specific relation between AI and cinema. And this is true of the already mentioned Somaini paper.

In this text, he elaborates on the impact of AI technologies on images and visual culture as the profound reorganization of the relationship between images and words, between what can be seen and what can be said. Drawing on the decisive understanding of the “latent spaces”, as are called the multidimensional zones of data from where any AI generates whatever it generates, Somaini establishes the pure linguistic nature of what AI provides and is likely to provide. And he shows the worrying perspective it conveys, when he writes “*To control the latent spaces is a way to control the imagination and the possibilities of visualization. It means to master the visible, on the frontier between what can be seen and what cannot. It also implies the possibility to impose dominant styles and iconographies, making more difficult for users to escape from them*”<sup>12</sup>. Needless to insist on the gigantic political effects this “possibility to impose” can and will have, which goes way beyond the already well documented perverse effects of the so-called “algorithmic visibility” and its effects on consumption of almost anything, including visual things, including films. It goes beyond because it is likely to affect much more directly the production process, opposed to the ancient loop effect after having been effective on the distribution level, as we know it. These are important matters, but this is not exactly what is being discussed here.

### The language trap, in English

Reading Antonio, we face a difficulty about the meaning of the word “language”. This difficulty is certainly not new, but it gets new significant effects in this context. The text appropriately draws on the decisive perception that AI is entirely based on “language”, actually on English language (or, better said: US English) conditioning all the processes, with a vast amount of significant, and often dangerous effects. But prior to that is this blind spot that in English there is only one word, “language” where in French there are two, “langage” and “langue”. And, as a vast amount of theoretical discussions almost since the beginning of the 20<sup>th</sup> Century have elaborated, cinema is certainly a “langage”, in the French sense (a set of signs that are able to provide forms of communication) but it is not a “langue”, based on the use of words and their specific semantics, or similar to it<sup>13</sup>.

AI allows to generate “images”, visual and even moving audiovisual artefacts, depending on word-based apparatuses rooted in the latent spaces. The totality of the process happens with a level of influence of the word semantics that did not exist before. It is meant to provoke the elimination of the non-word-based processes way beyond what we used to know already as scenarios, or “scripts” in the ancient meaning of these words. This is new, in some ways promising but more certainly dangerous, in ways we can hardly foresee. Needless to say that words are not enemies by themselves, we rely on them in many ways, we cherish them and use them in many ways, but, among many other things and to stick with what it is about here, they are *what is not at the core of the cinematic process*. In this sense, the expected omnipresence of AI in all kinds of audiovisual is meant to be effective, and legitimate, in the word-based language formats, including TV series and video games, possibly but not necessarily video art. And, inevitably, it will tend to contaminate filmmaking. Therefore, both the threats and the possible benefits are in the way filmmaking will (or not) invent its own ways to remain itself, a non-word-based *langage*, in the coming era.

### Hollywood movie business under threat, not cinema

Is this process likely to change the status of cinema in the society at large, in the economy, in the shaping of collective imagination? Yes! Again! Does it include a diminishing of its social imprint? Most probably. It’s been a long time now that cinema is not what it was 20 years before, or 50 years before, or 80 years before. Though different in many ways, its social weight could very well become close of the one of stage theatres, better said of scenic arts at large – but differently. This may sound like bad news for members of the film industry as it functions now, and I certainly have consideration for that, and them. But this is not what is at stake here, except as interfering

<sup>10</sup> Manovich, Lev, and Emanuele Arielli. "Artificial Aesthetics." 2024. <https://manovich.net/index.php/projects/artificial-aesthetics>

<sup>11</sup> See, for instance, James Hutson and Andrew Smith *Cinematic Algorithms: The Rise of Generative AI in Video Art and Visual Culture*, CRC Press, 2025, where cinema is nowhere to be found except in the title.

<sup>12</sup> Antonio Somaini, op.cit. (*My translation*)

<sup>13</sup> Among the immense field of theories and research on this topic, see the seminal Christian Metz “Le cinéma : langue ou langage ?” In: *Communications*, 4, 1964. Recherches sémiologiques. pp. 52-90. And Christian Metz, *Language and cinema*, The Hague. Mouton. 1974.

with one important topic: what we are used to call Hollywood. Hollywood is not a neighborhood of Los Angeles but a certain type of products, not only films but films also, the way they are conceived and the way they are promoted. In the field of cinema, Hollywood is a major element of what I referred to as “the bridges”, what connect cinema per se and the audiovisual and entertainment business in general.

It exemplifies this connecting zone, it still does it nowadays with filmmakers like Christopher Nolan, Martin Scorsese, Paul Thomas Anderson, as it did before with John Ford or Vincente Minnelli or David Lean, just to name a few. Will this continue, in the United States or elsewhere, in China, in India, in Europe, in Africa, in the Arab world, in an environment saturated by AI? No one knows. What we know is that the end of this kind of interaction, the destruction of the bridge, has been announced a thousand times before in various contexts, and did not happen. The use of AI, synchronous with the domination of streaming platforms and the logic at work in the Trump policies, which could survive their initiator, clearly bear possibilities of deep changes. How deep? With what effects for cinema at large, including beyond the USA?

The above little reminder of *Notre Dame de Paris* testifies I do have faith in the possibility of the self-reinvention of cinema apart from, but not totally separated of the mainstream internal trend conveyed by the AI apparatus that will inevitably happen. But obviously I cannot prove it. At this point, the only thing we can do is to remain attentive to the mix of preservation and of reinvention of what makes cinema what it was, what it is and what it is meant to be. In this process, there are general approaches to be implemented and if possible shared, as I tried to do here. But it is very likely that what we can witness now is only the beginning of deeper changes, changes that will be implemented by “AI native” generations, on a similar process as the one we refer to when we speak of “digital native generations”. These people, the babies that were born in the last five or ten years, will, to a certain extent, think and feel and speak and maybe dream differently. The members of these generations are likely to generate, among many other things, new ways to make cinema, that we should be curious to discover, possibly to anticipate at least a little.

The best option for this remains, as it used to be, to pay attention to specific artefacts, meaning to movies, you know: *films*. One by one, as they are being made and shown today, more films being made worldwide during our times than ever, in quantity and diversity. It demands to dismiss any general theory that would not be based on relation with what is actually made, made for the cinema, for the large screen as a priority – wherever we will actually discover the results. Go to the movies, see new works by Hong Sang-soo, Kelly Reichardt, Alice Diop, Lucrecia Martel, Jonas Trueba, Alice Rohrwacher, Bi Gan, Alain Guiraudie, Lav Diaz, Rosine Mbakam, Oliver Laxe, Merawi Gerima, Apichatpong Weerasethakul, Anisia Uzeyman and Saul Williams, Wang Bing, Laura Citarella, Payal Kapadia, Nadav Lapid, Athina Rachel Tsangari, Sammi Balaji, Carson Lund, Bertrand Bonello, Pedro Costa, Kaouther Ben Hania, the Sensory Ethnography Lab... And there is so much more to come, as those who pay attention to what actually reaches the silver screen experience year after year. Enjoy cinema’s contemporary creativity, the ways it will manage to *vivre sa vie*, using AI or not, playing with it, mocking it, digesting it or ignoring it, in its own ways.

### **A non-final conclusion**

If the reality of interferences of Artificial Intelligence with the cinematic process is already undisputable, and will inevitably increase, no one knows the way the former will transform the later. But all the history of cinema since its beginnings, and its contemporary vitality, incite to expect more creative developments and not its decay and death, as it is so often anticipated, like it was in previous technological shifts, a death that never happened. Nobody knows the future paths of cinema, but there are paths, and a future. What is likely to happen, in any case, is a more accurate understanding of what cinema is about, what it is likely to do, as a specific medium and artform, when the evolving technological environment and the social practices that come with it massively generate artefacts and behaviors that belong to other fields. In this sense, the world of films will benefit of the rise of the AI to become more itself, acknowledging that this does not, this cannot imply a purity that is, for cinema, out of reach. Or to put it differently, a “purer cinema” is based on its very artistic, social and emotional impurity, this is its only ultimate truth. And AI will be part of this ongoing process, one way or another.