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The First Decades of the Cinema and the New Society: Influences on Architecture

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This paper should be cited as follows:

Tavares dos Santos, S.(2018)."The First Decades of the Cinema and the New Society: Influences on Architecture", Athens: ATINER'S Conference Paper Series, No: ARC2017-2385.

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www.atiner.gr

URL Conference Papers Series: www.atiner.gr/papers.htm

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ISSN: 2241-2891 12/02/2018

#### The First Decades of the Cinema and the New Society: Influences on Architecture

#### **Susana Tavares dos Santos**

#### **Abstract**

The 19<sup>th</sup> century, when it ended, bequeathed two new machines to the world. They were both born on almost the same date and in almost the same place, before being simultaneously launched on the world, covering the continents. Whereas the aeroplane escaped the world of objects, the cinematograph was meant to reflect for the purpose of examining it better. (Morin, 1997, p.23-24).

The late 19th century, and the 20th century loomed large – the beginning of a new modernity. Inventions were emerging constantly and characterizing this new era. Cinema functioned as a detonator for a latent modernity that was to characterize a whole new era. One must include the evolution of the city itself in this social relationship. The transition from the 19th to the 20th century took place against a background of increasing industrialization. Cities were growing in unpredictable ways and at great speeds, with new developments and new technologies emerging ever more rapidly. The city was transforming, changing almost in real time before the eyes of those who lived in it, and there was no way of halting that progress. The desire to capture movement and speed was one that was common to all forms of artistic expression in the early 20th century. The arts world in general witnessed the emergence of currents focusing on the never-ending possibilities provided by the potential for the use of movement – or the decomposition of movement – as a driver of artistic thought. By the late 1910 Europe was experiencing the discovery of cinema to the full, and, in addition to the French film-makers, German, English and Russian directors were working with great enthusiasm. The major impact that European cinema had at the beginning of its development left a considerable mark on all the artistic output of the period, including architecture.

Keywords: Architecture, Cinema, Movement, Narrative.

**Acknowledgments:** This work is financed by national funds by FCT - Foundation for Science and Technology, under the Project UID/AUR/ 04026/2013.

#### Introduction

(...) cinema also creates architecture through the camera. In the process of creating cinematic space, phaenomena such as lighting, sound, editing, camera positions, and camera movements can and should be interpreted as architectonic practices(Jacobs, 2007, p.11).

The period covering the late 19th century and early 20th century saw the emergence of a new modernity. Inventions were emerging constantly and characterizing this new era, taking on the roles of "emblems" of a new society; for example, the telegram, the telephone, railway, the automobile, photography and cinema (Charney, Schwartz, 1995, p. 1). "Of these emblems of modernity, none has both epitomized and transcended the period of initial emergence more successfully than the cinema" (Charney and Schwartz, 1995, p. 1).

In the view of a number of authors, in order to understand modernity in its essence, one must see it in relation to cinema (Charney and Schwartz, 1995, p.2). For this reason, at this turn of the century, it is pertinent to look at the invention of the motion film in the context of the evolution of society, which also includes the transformation of the city and the ways of living in the city. "Modernity cannot be conceived outside the context of the city, which provided an arena for the circulation of bodies and goods, the exchange of glances, and the exercise of consumerism" (Charney and Schwartz, 1995, p. 3).

Cities were growing at great speeds, with new developments and new technologies emerging ever more rapidly. The value of the machine rose steadily, even to the point that it became greater than man's own worth – man who invented and built the machine and who was fascinated by the movement intrinsic to it. Edgar Morin has argued - in relation to the cinematograph -, that devoid of all phantoms, this laboratory eye could only reach perfection because it corresponded to a laboratorial necessity: the decomposition of movement (Morin, 1997, p. 24).

City, machine and movement: three inseparable factors in the history of the development of film. The city as a scenario, the machine materialised in the cinematographic projection mechanism, and movement as a consequence of that expression interlinked to form a trinity that was to result in great output in the early days of cinema. As Lynne Kirby points out, "(...) shooting a moving train, the fastest vehicle in the world in 1895, gave filmmakers an opportunity to show off film's powers of registration, its ability to *capture* movement and speed" (Kirby, 1997, p. 19-20).

This desire to capture movement and speed, and also the desire to capture the decomposition of movement, was common to all forms of artistic expression in the early 20th century, as, for example, in the Cubist and Futurist movements. It was at this stage that Picasso began his Cubist phase,

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<sup>&</sup>lt;sup>1</sup> "The Lumières' first "arrival" film gave rise to fascination with the train that persists to this day, and one that was overwhelming in the silent period. From George Méliès, Edwin S. Porter, and D.W. Griffith to Abel Gance, DzigaVertov, Buster Keaton, John Ford, and King Vidor, silent film history has seemed to accord a special status to the railroad" (Kirby, 1997, p. 2).

bringing to the canvass movement, rotation and a new reading of art. And this was when Picasso also took interest in the new discovery of the cinema. Toulet points out that during the intense period of formal experimentation which led to the emergence of the first Cubist paintings in 1907, Picasso was a regular cinema-goer, along with a group friends (Toulet, 1995, p. 69).

In 1912 Marcel Duchamp presented his painting *Nude Descending a Staircase*, in which he realized the decomposition of movement, establishing as a fundamental idea the capturing of movement inherent in a succession of photograms captured by a camera. The overlapping of the figures in the painting provides the impression of continuous movement. This abstract painting gave expression to a conceptualisation of art in which Duchamp is considered a pioneer.

Man Ray, who met Marcel Duchamp in 1915, began his experiments with *rayographs*— particularly in the 1920s — with a view to exploring the question of time. This reference to Man Ray is important because he also used film as a means of artistic expression, deploying cinematic processes in his juxtapositions and rotations of images with the aim of emphasizing the passage of time and movement.

The idea of decomposition characterized an ideology of the period that was shared by all the arts, architecture included.

Architecture reflects the ideas of decomposition, together with expression of time and movement. The body travels through space, through the successive moments in time, and apprehends the quality of the architectural space, its value and its intentionality.

#### **Movement and Machine**

In architecture, this now unfolding theme of the relationship between movement, the body and space also had precursors that go back to the late 19th century; it was now to influence architectural thought during the whole industrialization period.

Towards the end of the 19th century architecture began to attract more interest from artistic circles:<sup>2</sup> the concept of architectural space was indeed developed in this end-of-century period, as, until then, architects spoke in terms of volume, proportion and form. This new perspective gave rise to critical thought which, according to Risselada, linked the history of modern architecture to the development of the concept of spatiality. Risselada also

<sup>&</sup>lt;sup>2</sup> "The year 1893 witnessed the appearance of two essays that jointly added an important dimension to the discussion on space – the idea that spatial experience arises by moving around in it. In his essay entitled 'Das Problem der Form in der BildendenKunst' [our translation: The Problem of Form in Fine Art], the sculptor Adolf von Hildebrand (1847-1921) stated that architecture distinguished itself from other visual arts by the fact that people can move around in it, and only by means of motion can space be visually experienced. Thus, space is a precondition of form and is, in that sense, inextricably linked to form. (...).

In his essay entitled 'Das Wesen der ArchitektonischenSchöpfung' [our translation:The Essence of Architectural Creation], August Schmarsow (1853-1936) goes a step further. To him, it is evident that space exists because we have a body (...)" (Risselada, 2008, p. 10).

argued that this development brought with it the definition of two poles: the creation of the space and the definition of its limits. (Risselada, 2008, p. 11)

In addition to the discovery of spatiality as a fundamental aspect of architectural thought, two further overwhelming events also influenced the designs of modern architecture. These were: the aforementioned industrialization and the First World War. The destructive industrial machine and the war machine took hold of the imagination of generations of architects. Le Corbusier advanced his *machine a habiter*,<sup>3</sup> whilst Adolf Loos stated that: "The ship is the model for a modern house. There, space is totally utilized, no unnecessary waste of space!" (Loos, 2011, p. 43).

The parallels between art and the machine were also reflected in music and the work of orchestras. One could imagine large orchestras — which produce great sound masses — as machines. The composer developed the musical composition thinking of the orchestra, with a view to making each instrument function as a part of a cogwheel system, where the orchestra, in its entirety, functions as a great machine. The composition's potential derives from the interaction of the various instruments as parts of a whole, the musicians being fundamental parts of that machine and the conductor its operator. With the cogwheels turning, the orchestra producing sound, as if it was a machine.

Cinema also came to focus on the machine, the projection machine. Hence, before focusing on actors, sets, extras and locations, there was the machine that made the advancement of an industry and an art form possible. But there was also a potential for this fascination for the machine unleashing a contradictory passion, turning us into hostages of the machine. In the cinema, films such as Fritz Lang's *Metropolis* (1927) and *À Nous la Liberté!* (1931)<sup>4</sup> by René Clair, explored this dichotomy of man and machine.

Metropolis is an unavoidable topic when studying the relationship between architecture, the city and cinema. Produced in 1927, it, influenced directors and artists for generations. The scale and design of the sets revolutionized how films were made, and that fact is patent in Metropolis, whose main theme focuses on the city as a living organism. This physical and visual urban relationship continues on to another, interior, city – the city within the city. The scenarios play a very important role in the narrative of Lang's film, referring first and foremost to the interior city: all the underworld, the inventor's workshop, John Frederson's office, are as stunningly detailed in terms of expressiveness and sensation as the image of the city as a whole. This lead to greater commitment to and investment in the composition of film sets, lighting and the positioning of actors – essentially, an investment in architectural questions, an architecture had begun to act in movies, like a character.

*Metropolis* established itself as a social metaphor in which the portrayal of the new machine-based society is made explicit – the machine as a physical object and the transformation of man into a machine. Lang both explored the mechanical image of the city and gave it its own will, affirming it as a living organism.

<sup>&</sup>lt;sup>3</sup>Our translation: *machine for living*.

<sup>&</sup>lt;sup>4</sup>Our translation: Freedom for us!(1931).

Cinema captured the speed of the 20th century. In this context, it is important to point out that some of the earliest films captured the machines in motion, people in motion, the world in motion. This ability to capture movement is inherent in the fact that with film, first and foremost, one could "seize" the movement, store it and, subsequently, transmit it an endless number of times. The process of filming and projection — the cyclical turning of the reel — itself reaffirms the movement. As Giuliana Bruno has argued, modernism, in its early phase, was interested in velocity and acceleration (Bruno, 2007, p. 199).

But while the question of movement is an intrinsic factor in cinema's condition, attributing the invention of cinema to one particular figure or name, is a vaguer matter. In his book, *The Story of Film*, Mark Cousins argues that it is impossible to determine precisely who invented cinema, for there were many figures involved in its development. The inventions succeeded one another rapidly and the various figures that emerged cannot be considered, by themselves, as being the sole inventor of cinema (Cousins, 2005, p. 22).

On 14 April 1894 Thomas Edison placed in a room in New York a number of his kinetoscopes<sup>5</sup> at the disposal of a very enthusiastic public (Brion, 2005, p. 10). These kinetoscopes, which could only be used by the viewers individually, contrasted with the idea of collective projection that was to assert itself later.

Just over a year later, on 28 December 1895, a date historians regard as the birth date of cinema, the Lumière brothers showed a short programme of documentary films to a paying audience in a room on the Boulevard des Capucines in Paris. That included a famous single shot film called *L'Arrivée d'un train en gare de La Ciotat/The Arrival of a Train at La Ciotat Station* (Cousins, 2005, p. 23). This new development caused quite a stir. As Cousins refer, the camera was placed near the track so the train gradually increased in size as it pulled in, until it seemed it would crash through the screen into the room itself. All the people screamed or got up to leave, but they were thrilled, as if on a rollercoaster ride (Cousins, 2005, p. 23).

The distribution of this short film, and others, during the same period, boosted the expansion of knowledge and gave rise to a national and international critical capacity that triggered and advanced the rapid evolution of cinematographic technologies and the whole industry. What one now had was an audience all sitting in the same room watching the same film; in other words, in contrast to Edison's kinetoscope, Paris had given the world the first cinema theatre. At the beginning of the 20th century French cinema was at the forefront. Due to its output and thanks to its actors and directors, it was able to remain in the vanguard of international cinema until roughly 1914, after which it never attained those heights again (Brion, 2005, p. 15). At the time, this supremacy gave French cinema enormous visibility.

In this context, cinema became part of everyday life at the turn of the century, a product of the modern world that was frequently referred to as the

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<sup>&</sup>lt;sup>5</sup> The Kinetoscope, invented by Thomas Edison, was a device consisting of a box with a slot in it to put in a coin that activated a light inside and made a series of short-film images rotate so as to create the illusion of movement.

"dream factory".6. It was also in this context that the French film directors Louis Delluc and Marcel L'Herbier emerged as the next leading figures in French avant-garde cinema (Toulet, 1995, p. 71).

#### **Set Design and Narrative**

Whilst, as argued above, European cinema was very much admired during the first three decades of the 20th century, cinema was clearly seen as a form of entertainment (one should mention, in this regard, Méliès, who saw cinema's origins in the fairground theatres and people's feasts), a form of entertainment that pleased in particular the emerging working class of the industrial revolution, as Cousins refer, early films were not yet made by a film industry. The medium was born non-narrative and non-industrial. It had more to do with action and novelty, it was more like a circus(Cousins, 2005, p. 32).

This was the case because at the beginning of the 20th century elements such as lighting, editing, close-ups and dolly shots, in other words, all the techniques that had been discovered in the earliest years of cinema had yet to be applied or explored self-consciously or systematically, and the first great directors who would articulate the medium were still to emerge (Cousins, 2005, p. 36). Despite these constraints, and although one would have to wait a number of years for the true consecration of cinema, one particular factor was to drive film forward - taking it away from the theatrical arts – towards becoming an independent art form in its own right. That factor was the ability of the viewer to get very close to the action, by means of the camera closing in on the event in question – revealing the power of "spying" in on the action, as if each viewer was the only person watching in the room.

In 1903 George Albert Smith made a short film called *The Sick Kitten*, in which he used the close-up shot -a means of bringing the camera closer to the action – to focus the viewer's attention on a particular detail of the film, thus creating proximity between the image and the audience (Cousins, 2005, p. 30-31). It was a success, but it brought the audience closer to the story, thus establishing a clear boundary between theatre and cinema. The link between the two arts was broken, and the emphasis and intimacy of cinema was born (Cousins, 2005, p. 31).

magic. He interrupted and halted his filming to create the idea of the magical appearance

<sup>&</sup>lt;sup>6</sup>Translation of the term "l'usine à rêves." (Toulet, 1995, p. 71).

<sup>&</sup>lt;sup>7</sup>Méliès was more invested in theatrical fantasies, in the diffusion of the imaginary and

In this evolution, cinema was conceived to involve the audience in the illusion of a narrative fiction based on sensationalist themes, only to later become an art of narrative and emotion. At the beginning of the 1910s, cinema, still in its early development phase, began to show actors with their backs turned to the audience. In other words, the actors began to move more naturally, leaving behind the more direct relationship with the art of representation that came from theatre. With this progression, the separation from the art of theatre, the cinematic art form was unable to dissociate itself from the narrative capacity of time and space and, consequently, was able to explore form and the cinematographic content. The audience was to always be witness to a whole process – designed to generate a dramatic effect – in terms of the reading of spatial concentration and temporal continuity. Cinema had learned to follow the flow of the action from one space to another, and this liberated movies and emphasized movement (Cousins, 2005, p. 38). Still far from the cinema envisaged by the pioneering directors, the history of film evolved and cinema was no longer "just images and had become consciousness."8

In the early decades of the 20th century, Europe – above all, France, Germany, Britain and Russia – became a driving force behind the film industry. Directors and actors were trained and studios and technologies developed. In addition to the mixture of cultures and exchange of knowledge, cinema had the added value of serving as a unifier of the arts.

In the European context, the idea of "transnational imagination", highlighted the intense flow of ideas and creativity between Europeans nations and, accordingly, between the figures involved in cinema during this period. Directors, artistic directors, producers, architects and set designers from the diverse cultures and countries influenced each other in their way of thinking, working and creating their works in the exact moment that their works were taking shape. It was thanks to this fusion of cultures and modes of creation that film and the other arts interconnected and progressed.

In studying European film between 1910 and 1930 one has to understand the complexity of the international network of artists who worked in diverse parts of the continent where cinema played an important role. By constantly discussing their ideas, they transmitted their identity to the work they produced and projected them beyond their own boundaries. There was veritable migration on an international scale involving directors, set designers, editors and artistic directors who worked on diverse projects in various European countries, thus contributing to the migration of their know-how, experience and way of working. That exchange of knowledge functioned as an international creative network – a network of temporary activity centres – whose influence impregnated each of those involved, leading to the establishment and improvement of cinematographic rules (Bergfelder et al., 2007, p. 31). Given these relations between the nations, European modernism came to be seen as a collective phenomenon that was strong enough even to

<sup>9</sup> A specific term used in *Film Architecture and the Transnational Imagination*: Set Design in 1930s European Cinema, (Bergfelder et al., 2007), about the importance of scenography throughout the 30's of the twentieth century in Europe.

<sup>&</sup>lt;sup>8</sup> François Penz, in *CinemArchitecture*, a lecture given in April 2008 at the University of Porto's Faculty of Architecture (FAUP) on: Film and Architecture.

impact on cinema beyond the continent of Europe – particularly that of the United States of America.<sup>10</sup>

In this context, in the field of film, where the exchange of experiences and influences was fundamental for the creative process, the evolution of set design became a pivotal point in the development of the narrative. In the 1920s and 30s one experienced "(...) a moment in film history in which set design was given more prominence and attention than perhaps during any other period" (Bergfelder et al., 2007, p.25). The set was regarded as a fundamental element in the specific contextualisation of the narrative, and also as indispensable for a film's visual identity. This was a consensual notion in Europe at the time.

"With regards to the problem of discussing set design as a separate and independent entity, this reiterates the point that sets on their own do not create space on the screen. Designed sets are realised cinematically only in conjunction with the work of the cinematographer, who through framing and lighting devices animates the fragmentary construction and imbues it with an imaginary wholeness, and the editor, who during post-production adds a temporal dimension to spatial relationships, and thereby anchors them in a constructed reality. In other words, in order to understand the filmic function of the set design it is necessary to take into account its interaction with the way in which the set is cinematically processed" (Bergfelder, et.al., 2007, p.15).

Whereas, in the early days of the emergence of film, the focus was very much on capturing the moving image, the set was not yet in a position to take on greater importance in the context of the shooting of a film, and it merely served as a backdrop for the development of the action, in subsequent stages the set assumed crucial importance as the cinematographic art developed further – together with the notion of place, the notion of light and the capturing of emotion. Cinema itself began to define rules, advancing the quality of set construction, as there was a need to represent the place as a support for the action. Given that one of the main tasks of the set designer was to create a complex setting environment, the construction of film sets became a necessity.

As Mallet-Stevens argue (as an architect and as a scenographer), it is undeniable that cinema has a marked influence on modern architecture, and

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<sup>&</sup>lt;sup>10</sup> Cedric Gibbons was an architect who worked in Hollywood during its so-called golden age. "Indeed, it has often been suggested that Gibbons picked up his knowledge of modern design while attending the Paris Exposition des Arts Décoratifs in 1925 – the fair whose name inspired the term *art deco*. MGM records, however, clearly indicate that Gibbons did not actually attend the fair – he was busy supervising set production for *Ben Hur*, *The Big Parade*, and several other films. Nevertheless, he would certainly have been aware of the influential Paris event. As the *New York Times* reported in 1926, the fair's design aesthetic of bold, abstracted forms and exquisite craftsmanship was "steaming toward us on every boat from France." ("French Furniture", *New York Times*, 25 October 1925). "Gibbons first experimented with these design trends in the film *After Midnight* (1927), where he created the interior of a clothing shop with triangular wall sconces and glass-block shelving, an environment typical of the department stores where most Americans got their first glimpses of the modern movement" (Wilson, 2000, p.104-105).

on the other hand, the modern architecture brings its artistic vision to the cinema. Modern architecture does not only serve the cinematographic set, but influences beyond its frame, architecture act (Mallet-Stevens, 1977, p.288).

With its increasingly privileged status in the technical credits for a film, the characterisation of the place where the action unfolds took on decisive importance. "The set is a character, a star, and it has to perform like any other artist. The quality and success of a film depends on the harmonious collaboration of all the competing elements of its construction" (Quenu *apud* Bergfelder et al., 2007, p. 79). That status changed the idea of the scene of action, turning it into a place of action, a place with its own characteristics where the emotions and the narrative were explored. Having left behind the early days of cinema, when studios were small and cramped spaces – and oftentimes one could not see more than three sides of the same room, as the camera was fixed and set design was still very much orientated on theatre stage design – film set design gained a new identity.

Whereas the viewing public had previously only had one single view of a scene – the frontal view – the legitimacy of the representation of the place in the scenic space was now sustained by the performative conception of the set design. That conception became a key element in the mise en scene – occupying a unique place – defining codes of realism and investing a "space" with a similar connotation to that of a "place" (Bergfelder et al., 2007, p. 28). The connotation with "place" thus had a wider sense, as the representation, in one and the same set design, could move from the interior to the exterior of the scene of action without any incompatibilities. Through the proposed set design – with no cuts – one could be inside and outside the scene of without any interruption in the continuity of the narrative.

The interpretation of the location, and indeed the very choice of the location, contributed to the cohesion of the spatial environment considered necessary for the harmonious development of film, and these aspects evolved gradually in the early decades of the 20th century. The awareness that the space could materialise into something dynamic and effective liberated set designers and directors and brought cinema closer to the viewer; a set that contained spaced; a narrative that contained time.

"Constructing a film narrative, I would argue, involves constructing a mental map. As we watch a film we create an internal diagram of the relationships between the different places which structure its development and the different trajectories the characters follow within and between those places. (...) In a film, each character follows a series of paths which intersect with the paths followed by other characters, and the spectator classifies different location in terms of their spatial, social and psychological relationships. The same is true of buildings" (Wollen, 2002, p.212).

Cinema and architecture had in common the capacity to explore, in terms of perception, the notion of space and time. Whereas, in architecture that perception was achieved through the use of the space, i.e. the body in movement, the visualization of a film was based on the observation of a

narrative structure that is perceived from the static position of the viewer – but in its expression, it had to contain the idea of three-dimensionality. The audience had to be able to feel it was part of the film, part of the action. In freeing itself from the limitations of theatre, cinema was able to develop and establish itself as an independent art form in constant evolution.

#### **Conclusions**

The major impact that European cinema had at the beginning of its development left a considerable mark on all the artistic output of the period, including architecture.

In spatial, formal, conceptual, technical and social terms, architecture experienced the new 20th century in a phase of great transformation. Given architecture's own inherent condition, the links between it and the great cultural revolutions of the late 19th century and early 20th century were undeniable. While the new century revealed architecture to be a consolidated art in constant expansion and evolution, it also revealed cinema as an emerging art form.

In the passage from the 19th to the 20th century, cinema, while still in its embryonic stages, showed how movement expressed through the image on the screen could generate emotions. The arrival of the 20th century was, however, to take film directors on a search for a narrative – an interaction between form and content. A universe of possibilities was opened by the affirmation of cinema's own identity and conceptualisation. Thus, film distanced itself further from theatrical representation and carved out its own path.

"Painting has remained incapable of fixing the total representation of a phenomenon in its full visual multi-dimensionality. (...). Only the film camera has solved the problem of doing this on a flat surface, but its undoubted ancestor in this capability is ...architecture. The Greeks have left us the most perfect examples of shot design, change of shot and shot length (...). Victor Hugo called the medieval cathedrals "books in stone" (see *Notre Dame de Paris*). The Acropolis of Athens could just as well be called the perfect example of one of the most *ancient* films.(...) I would only ask you to look at it with the eye of a film-maker: it is hard to imagine a montage sequence for an architectural ensemble more subtly composed, shot by shot, than the one which our legs create by walking among the buildings of the Acropolis" (Eisenstein, 2010, p.60).

The universe of early 20th-century architecture was above all marked by conceptual and technical reformulations that were reflected in spatial and formal terms in their implementation. Attentive to the successive and ongoing transformations of the society they lived and worked in, architects reformulated notions, ideas and concepts, defining a path towards a new architecture. A modern architecture based on the relation between space time and the body. Where the body is not merely a spectator, it is also part

of the action, part of the process that guarantees the consolidation of the architecture itself.

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