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Pavel Skopal https://orcid.org/0000-0001-6289-5186
(Masaryk University, Czech Republic)
Ewa Ciszewska https://orcid.org/0000-0002-5670-5013
(University of Lodz, Poland)
Michał Pabiś-Orzeszyna https://orcid.org/0000-0003-4391-2846
(University of Lodz, Poland)

"Studios Are Fundamentally about Controlling the Environment." Space Control and Epistemologically Challenging Failures in the Film Studios' Research

An Interview with Brian R. Jacobson

Brian R. Jacobson is a Professor of Visual Culture at the California Institute of Technology and Director of the Caltech-Huntington Program in Visual Culture. He is a historian specializing in modern visual culture and media. His research spans cinema, media studies, energy and environmental humanities, and the history of science and technology. Jacobson has published widely in academic journals and outlets such as *The Atlantic* and the *Los Angeles Review of Books*, covering topics like media technologies, infrastructure, corporate media (particularly in oil and gas industries), and representations of technology. He is the author of *Studios Before the System: Architecture, Technology, and the Emergence of Cinematic Space* (New York: Columbia University Press, 2015), a finalist for the Richard Wall Memorial Award, and editor of *In the Studio: Visual Creation and Its Material Environments* (Oakland: University of California Press, 2020), which won several awards, including the Society for Cinema and Media Studies' Best Edited Collection. He also co-edited the *Media Climates* issue of Representations in Winter 2021. His recent book is *The Cinema of Extractions: Film Materials and Their Forms* (New York: Columbia University Press, 2025).

Pavel Skopal (PS): *It was a great pleasure to have you as a guest speaker here in Zlín, Brian.*[1] *We have gathered in the buildings of film studios established in 1936 to discuss methods of animated film studios research. Not so long ago, you have published groundbreaking research on American and French film studios in the early cinema period.*[2] *Can you reconstruct what was the state of the research when you launched your project?*

Brian R. Jacobson (BJ): When I started, I understood myself to be intervening in two fields. One was early film history and historiography, and the other was studies of space and place, an area often associated, at the time, with the theoretical work of figures such as Henri Lefebvre, Gaston Bachelard, and Yi-Fu Tuan and, in film studies, Stephen Heath's classic "Narrative Space" essay (1976) and what has become a burgeoning field devoted to urban geography, architecture, and so on. In the first case, I was interested in getting beyond questions about the film text and how films had come to look the way they did. Formal aesthetic questions dominated a lot of research on the change from a cinema of attractions to a cinema of narrative integration to the development of feature films. I wanted to ask a different kind of question: where had film come from?, a question I felt could be answered in a new way by expanding the way we define the film apparatus beyond its strict association with the camera and projector. We knew a lot about the technological development of the cinematograph or the kinetoscope and all of the intricate details of how to create these devices. But it seemed to me that there was a broader technological history that I wanted to tell, and that history intersected with histories of infrastructure and broader technological systems. This reframing put the studio and cinema in conversation with histories of technology in ways that I thought hadn't been explored before.

And then on the other side, and this is connected to the space and place issue, I was interested in thinking about the production side of the equation. The literature about space and place at the time was focused on texts, asking questions such as "what is the nature of space within the film text?", or "How do you create space on the screen?" And when it wasn't about the text, it was typically about exhibition. In the early 2000s there was a lot of writing about different kinds of spaces films are viewed in, as the film theater starts to be displaced by home viewing and other kinds of sites of exhibition. There was a lot of work at this time on spaces of exhibition and I felt that spaces of production still needed to be explored. I wanted to think about those kinds of spaces.

PS: *And you argued that film studio as a place for making movies implied illusionism, creating an illusionary space. Is it possible to generalize some strategies in creating these illusionary worlds?*

BJ: I became invested in two questions about space. One was about how you generate the kind of space you need to make movies, and what kinds of architectural space you need to make a virtual space. And a related question is, how then does that space translate to the screen? What is the effect of the architecture on the way the image ultimately ap-

1) The interview was held on May 7, 2022, during the conference Studying Animated Film Studios in East-Central Europe: Tools and Methods, Zlín, Czech Republic.

2) Brian R. Jacobson, *Studios Before the System: Architecture, Technology, and the Emergence of Cinematic Space* (New York: Columbia University Press, 2015).

pears? It's not to be taken for granted that the nature of space has any obvious relationship to the aesthetics that it produces. Today, most studios are kind of black boxes from which similar kinds of images emerge that make it difficult for a viewer to say that an image on the screen came from a specific studio.

I was interested in both aspects of the way the studio space works. Most of my thinking derived from the materials that I was studying, so I was looking at very specific studios: at Edison's Black Maria and at the Méliès studio, as two kinds of spatial types. One was a cavernous space of darkness, and the other was an open space of glass and iron illuminated by natural light. Of course, the Black Maria is also a space in which light comes in, but what I learned from that space — a studio built on a mounted track that could be rotated to follow the sun — was that there's a particular kind of effort to control features of the natural environment demanded for making virtual spaces on the screen. You need to be able to control the light in a period in which there's no electrical lighting available to make movies because the lights aren't good enough, and the film emulsion isn't sensitive enough. You need really, really bright lights and then the lens and a very specific configuration. All of this told me what studio space is essentially about: controlling the environment for the purposes of image production. This derives from the laboratory itself and the designs of laboratories like Edison's, where every building is constructed for very specific kinds of needs — for example, stability to avoid vibration or keeping the building cool by orienting it in relation to the sun, or by not using certain kinds of materials that might disrupt the experiments happening in the lab. I felt that the studio is ultimately a kind of lab that is defined by a particular orientation, by a particular relationship to the natural environment, and by an attempt to create a perfect world for image creation. In that sense, what I think is generalizable is that studios are always about controlling the environment. Different kinds of things need to be controlled over the course of history, but it's always a space of control of some sort, or at least of an effort at control, as control always has its limits.

There are two other things in this context that need to be mentioned. Firstly, it is the process of translation from space to screen, which I think always depends on the space itself. In the case of the Edison studio, a specific aesthetic becomes recognizable with the black backdrop and the illuminated foreground it sets off (in the book I call this the "framed aesthetic"). In the case of the Méliès' studio, there's also a particular aesthetic, but it is related less to the studio's look than the kind of affordances that the studio offered to Méliès to help him make his tricks and to develop his uses of space. That kind of affordance started to change the studios and to move them into periods I did not research.

Secondly, I wanted to say something about what happens "beyond the studio" on location. While researching the studio space, I repeatedly faced the question: "well, what about location shooting?" Afterall, not every film is made in a studio, and filmmakers in New York and Philadelphia and Chicago eventually left their studios to find sunnier environments South and West.

To answer the "what happens when they go off on location?" question, I first emphasized that these are all people basically trained in studio filmmaking. So when filmmakers start to shoot outside the studio and when they start to develop an idea of location, they apply studio-created ideas to non-studio spaces and try to reproduce the conditions of studio filmmaking in non-studio places. In comparison to studio, there's a lot more con-

tingency: you can't control the weather, or the environment in the same way. But the attempt to do so is the key to how filmmakers work, particularly in this period. And they do things like using the same spaces over and over again, treating the natural world in some ways like a studio supply closet where you just pull out the set that you want. In this case, however, you have to drive to the set you want.

As Hollywood develops its large back lots, it can control the "location," the "natural environment," right? You can create a lake. You can plant trees. You can modify the land. And then you can use it over and over again, just as if it were a set. And ultimately, the distinction between studio and location starts to blur. Of course, we know that today if you live in a city where people make movies, you see "location" shooting happening. That process often looks like people arriving with truckloads of materials, props, costumes and lots of lights, and even set pieces that you're going to use to decorate or modify the space that you found. And I argue that the impulse to change the location to suit your needs starts in the early days of cinema with the location conceptualized as "the studio beyond the studio."

PS: *It is basically a story of adaptation and control of the environment. On the other hand, in your research on the studio architecture and the new light and sound infrastructure that shaped the American film industry's transition to sound in the 1920s, you called for greater attention to pay to persistent and uncontainable failures in cinema's technological history.*[3] *Can you explain the epistemological challenges the concept of failure implies?*

BJ: I became interested in failure for two reasons. One was because one editor of my book asked me to extend the timeline of the project through the transition era to the sound period. I felt that I would have to do an entirely new project, but I nonetheless did some research to find out what such a project would look like. I discovered an interesting story about a fire in an early sound studio in New York and decided to write an article about it. There was great literature about fires in cinema, but they were all about exhibition spaces: we all know the famous 1897 Bazar de la Charité fire in Paris that killed lots of people, and many stories about the danger that fire posed to filmgoers are available. But I knew from my research that there were also a lot of fires in film studios for approximately the same reasons of having a lot of flammable materials lying around. What interested me was the fact that this became a bigger problem with the shift into the sound era, because the period of the introduction of sound (this is the same era in the 1920s in which studios become largely lit by artificial lighting) brought a lot of electricity into the space and, consequently, a lot of opportunities for sparks that will ignite flammable things. Fire is the kind of unruly product of a space that is designed for extreme supervision, and the research findings told me that you can try to control the studio environment as much as you want, but there are certain kinds of environmental features that escape it. And fire is the most obvious case. In a way, I already knew that from the example of the Black Maria, or even from Méliès' studio, where the environment was always beyond their control to an extent: the best example, perhaps, is the Black Maria getting really hot, and there was no

3) Brian R. Jacobson, „Fire and Failure: Studio Technology, Environmental Control, and the Politics of Progress," *Cinema Journal* 57, no. 2 (2018), 22–43.

great way to cool it down, so some people didn't really want to perform in that studio. As for the Méliès' Studio, we all know that a hothouse is called a hothouse for a reason. There are ways you can try to keep the space cool using drapes and things to cover the glass, but no matter how much you try, you can't completely control it. This offers us epistemological opportunities in the sense that seeing the moment when control fails gives us a chance to think about the nature of the control they're attempting to achieve. And this led me to study the different methods that are being employed in these early sound studios to try to control sound and heat and to try to limit the risk of fire.

It inspired me to research the materials being used to try to control space. Any time you're studying something that fails, it gives you a chance to kind of reverse engineer and ask, "why did it fail"? What were they attempting to do and why were they not able to do it? When things don't work, it provides an opportunity to reconstruct what they were trying to do that didn't work. These questions point to the social element of studio control, because what is ultimately controlled, at least in the story that I tell about the fire, are humans. Those who suffer from this failure are workers in the studio, and those people too are being controlled. It implies that studios are interesting social spaces, being nodes and networks of the circulation of people, materials, objects and technology. Particularly the people circulating through studios are important and interesting. I believe that taking a studio perspective on industry gives us a chance to think about the circulation of people. What kind of people come to studios? What do they do when they're there? What purposes do they serve? How much control do they have? How much control is exerted upon them? In the case of, say, fires in the 1920s in New York, a lot of control is exerted upon them, sometimes with devastating consequences.

PS: *Besides being controlled space of image production, the studios are also buildings interacting with the environment of its location, with the city and its citizens. How such interaction worked for the studios you researched?*

BJ: One of the features that always struck me about studios after I got into the project is that they're designed to be invisible. You are not supposed to see the studio when you watch the movie, and you are not supposed to think about its invisibility, with some rare exceptions of films that are reflexive about their studio origins. Studios are designed to disappear in order to generate a visibility that always includes them but tries to separate themselves from the place in which it's made. But it does not hold true if you happen to live near the studio or are visiting a place where the studio is located. This raises the question of how we might do a kind of architectural history or aesthetic analysis of studios as buildings. I was mostly focused in my book on how this worked in early Hollywood, a place where we know that despite boosters' claims, locals weren't always especially excited about the arrival of the new industry. Studio architectural designs tried to appease the locals by projecting an air of responsibility and respectability.[4] The method often used to fit into the local environment in the case of early Hollywood was to build the studio in a glass and iron style, which was common at the time, and to put in front of that glass and iron

4) Brian R. Jacobson, "Fantastic Functionality: Studio Architecture and the Visual Rhetoric of Early Hollywood," *Film History* 26, no. 2 (2014), 52–81.

structure a facade in a local vernacular architectural style. It was often the style of the Spanish Colonial Revival, which was not exactly native to the region and introduced to it as a kind of popular myth-making style of architecture in around the 1880s. Nonetheless, film companies tried to use this style to show the locals that they belonged to this region and had belonged there for a long time. It is symbolic work that the studio companies were trying to perform using their studios as tools.

PS: *Do you recognize any aspects of the studio spaces that can be generalized, something that transcends your area of research of early 20th century America and French studios?*

BJ: I thought about this a lot when I was editing a book about studios because I wanted to learn about those studios I could never write about myself due to language barriers or regional and historical period expertise that I just don't have.[5] I read all the chapters and then tried to write an introduction that would do something of what you're asking about, so I could try to draw out some general principles and a methodology universally applicable to studio spaces. The three kinds of approaches that I saw the authors applying in the book were, first, to treat the studio as an environment, second, as a form of a symbolic spectacle, and third, as a node in networks of different kinds of relations, mostly social relations. And if we want to say that there's anything you can generalize about studios, it's that they're always invested in some kind of control. Generally, it's environmental control and social control. That often involves energetic relations. They control energy, including the energy of people who work in the studio buildings. In the case of studios, there are always nodes and networks, and we can read them in that way as nodes through which people, materials, and ideas move. And that's always true.

Ewa Ciszewska (EC): *Were there any notable benchmarks in the development of European film studios? Was there an "ideal" studio that served as a template or was replicated in other countries?*

BJ: It is beyond my full expertise, but I think that in the early years, it was the glass and iron, the studio of Méliès' type that has become a common studio form in most places where people have enough money to build them. There certainly are some places where enough resources were not available to build this kind of studio. In the volume I edited we can see in Rielle Navitski's work that in Brazil they were not building a lot of permanent studios and using makeshift spaces instead, taking opportunities where they can find them to use other workable buildings.[6] But my sense is that in places where it was financially feasible, at least up to the end of the 1910s, most studios tend to be of the glass and iron or hothouse sort, and then in the 1920s you start to see a transition to the black-box style studio that becomes the dominant form. But that's just a general sense. We don't have enough studies yet of pre-1930 European studios, at least not in languages that I can read. It's a territory to be confirmed.

5) Brian R. Jacobson, ed., *In the Studio: Visual Creation and its Material Environments* (Oakland: University of California Press, 2020).

6) Rielle Navitski, „Regulating Light, Interiors, and the National Image: Electrification and Studio Space in 1920s Brazil," in *In the Studio*, 42–62.

EC: *Have there been any studies on the architectural styles of film studios? For instance, have architects explored how these styles were shaped by local or international traditions? I'm curious if this area of research exists and what it might reveal.*

BJ: I think it is cropping up here and there. I edited the book to have people really write about exactly what you just described: tell me how in the place you study the local architectural style and the local architectural norms shaped the studios that were created, and I was really thinking about architectural form and the symbolic. It turned out that it's not what almost anyone wanted to write, and I ended up not doing that and never really figured it out. There are some examples from the Studio-Tec project that Sarah Street was doing.[7] She was writing about the studio that's designed in Art Deco style by Walter Gropius.[8] So you do see some cases, although of course Gropius is imported to the UK to build the studio.

EC: *Is there a standard or widely accepted approach to designing film studios that ensures functionality, supports successful filmmaking, and facilitates the effective transition from concept to screen? If so, can this knowledge be replicated across different contexts?*

BJ: That's something that I see in the archive by the middle of the 20th century. You start to see real evidence that film companies are monitoring their competitors or their partners around the world to see what they're doing. And we have some evidence that this is happening earlier, for example, in Diane Wei Lewis' chapter of the edited volume about the early Japanese studios.[9] There we learn that the executives of these companies did travel to the US and Western Europe to see what filmmaking looked like in these places and that this probably had some influence on what they ended up deciding to do in Japan. By the middle of the 20th century, say in France, which is my place of expertise, you see a committee formed to study the studios in France and how the studios look and what the stages are doing, but also to study studios all around Europe. They're collecting data about studios everywhere to figure out who has the best studio facilities and what would be the ideal studio for them.

EC: *In the context of post-World War II film studios in Central and Eastern Europe, how did the interplay of influences shape their design and operation? For instance, studios like those in Łódź drew inspiration from models such as Cinecittà and incorporated Soviet influences, yet also adapted to local conditions, such as reusing industrial spaces and adopting factory-like workflows. How did this blend of international standards, regional adaptations, and industrial practices impact the development and identity of these studios? It seems to me that these studios combine the functions and characteristics of both film studios and factories.*

BJ: That's consistent with my sense of where studios come from in the early period — from laboratories, hothouses, and factory designs. Factory designers in the late 19th and early 20th century were heavily invested in the question of how to bring a lot of light in-

7) For details on the research, see https://studiotec.info.

8) Sarah Street, "Designing the ideal film studio in Britain," *Screen* 62, no. 3 (2021), 330–358.

9) Diane Wei Lewis, "'The Longed-For Crystal Palace:' Empire, Modernity, and Nikkatsu Mukōjima's Glass Studio, 1913–1923," in *In the Studio*, 23–41.

side to make labor possible. A lot of the methods and materials used to design factories, particularly in the US and in France where I did the research, were reproduced by studio designers, particularly when the studios started to be designed by professional architects. It is not the case with the first Edison studio or the Méliès studio. But with Gaumont, Pathé, or the later Edison studios in New York, they're designed by professional architects whose expertise is often in factory design, and you can see the same strategies being directly translated. There's a concrete way in which the first studios often are literally factories. I think it's no surprise that that would persist.

Michał Pabiś-Orzeszyna (MPO): *Could we follow the "studio as factory" thread and the issue of extractivism? You brilliantly highlight the connection between studio logic and the logic of plantation. In the studio we have the attempt to make the physical place controllable and scalable. The studio output is similarly governable and indeed scalable. However, could you elaborate on the practices of extraction?*

BJ: I can say a lot about this because it's the kind of question that animates my work now. I'm working on a project about oil and energy extraction and its relationship to visual culture. But of course, it made me think about my earlier work.[10] And what do studios have to do with this? Studios, particularly as we move out of the period in which you're mostly dependent on natural light, rely upon the extraction of resources to function, and the extraction involves lots of different kinds of materials that you need to build studios. It involves the energy resources to power the studios, especially as the lights get bigger and brighter. All of this has its connections to the work that we know about the materiality of the film industry and to all the extracted resources you need to do everything in the film business. Particularly in the case of the studio, you need to extract lots of energy from fossil fuels for most of the 20th century, and from the bodies of the people who work in the studio. But extraction also comes up when we start to think about location, and we have already in the 1910s a kind of language of extraction being used to describe the work of location shooting. People were described as going out to "prospect" for locations and they talked about going out and extracting views for the screen: here we find an early extractive logic. It also drives the buying up of the huge Hollywood backlots where what you're doing is capturing land to extract its value. In this case, the value to be extracted is the value of having space to represent. And that is a commodity already in early Hollywood.

MPO: *You aptly emphasize the exhibition value and symbolical value of the front-end, but what's your take on the fact that studio's back-end also gain exhibition value? This invisible part of the studios is getting some visibility when tours are organized to show the backlots.*

BJ: There are people who write about factory tours, and I'm not an expert on this. But it's very much connected to what you see in the early days of Hollywood, where people were curious to know what's happening behind the studio walls and behind the scenes. And the industry wants to capitalize on that interest as part of the star system, for example. You are commodifying the stars and you're commodifying the studio at the same time.

10) Brian R. Jacobson, *The Cinema of Extractions: Film Materials and Their Forms* (New York: Columbia University Press, 2025).

There's a process of cultivation of the interest these people have in these places. One way to do it is to let people actually in. And one of the things I thought was really fascinating is that the studios are invisible, it's the space that exists out of sight, out of mind in a certain way, but on the other hand, till the 1910s and 1920s, the studio is a well known place to people because they are able to go on these tours. And even if they don't live anywhere near the studios, they're able to see behind the scenes thanks to trade publications and fan magazines that take people behind the scenes. Maybe it is not the kind of commodification of the back lot that we see now with Universal Studios or with a theme park, but it's a kind of commodification in the sense of cultivating interest and a real love for these places and the products by giving you the sense of privileged access to the behind the scenes world that you don't get to see when you watch the movies. We have special features and making of documentaries now, but the impulse and economic logic behind it existed already in the 1910s.

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