A Journey from Total Cinema to Total World

Realizing the Film Set as Virtual Performer

Dave Gottwald

"Realism in art can only be achieved in one way—through artifice."

—André Bazin[1]

Introduction

Whatever else fascinated French film theorist and critic André Bazin about motion pictures, he did not mention their sets often. In his discussion of *Une fée pas comme les autres* (*The Secret of Magic Island*) (1956), Bazin does not mention its production design at all.[2] This is puzzling because the miniature sets of the film not only complete the unreality of the story but are in fact its central conceit. Without presenting the small animals at human scale, all the tricks and sleight of hand Bazin considers—pouring cocktails, playing billiards—are for naught. Absolutely

1. André Bazin, *What is Cinema? Volume II*, trans. Hugh Gray, reprint edition (Berkeley: University of California Press: 2005 [1971]), 26.
2. This film by French director Jean Tourane, whose "naive ambition . . . [was] to make Disney pictures with live animals," consists of the creatures appearing to behave like people using tricks "either with a hand offscreen guiding them, or an artificial paw like a marionette on a string." André Bazin, *What is Cinema? Volume I*, trans. Hugh Gray, reprint edition (Berkeley: University of California Press: 2005 [1967]), 43; 44.

nothing in the film works. To show the animals in the actual built environment would shatter the entire exercise in anthropomorphism. Rather than a rabbit driving a car, the rabbit is now in danger of being run over by one.

This chapter charts a novel history of the spatial philosophy of film sets—one in which the experiential modes of themed spaces, video games, and virtuality each become a different synthesis of the rigid theater/cinema dichotomy formulated by André Bazin.[3] Here, I apply Bazin's writings[4] to a spatial regime model as published by myself and Gregory Turner-Rahman in which we link "key historical moments when the cinematic imaginary and its entire contemporary offspring collide and collude"[5] across the twentieth century. In this model we have traced how film sets begat the contemporary theme park, then the interactive worlds of the video game, and finally, were reconstituted virtually within the holistic construct of game engine software. In this way, sets have spread well beyond the boundaries of cinema. Once you are familiar with their contours and contrivances, you will see sets everywhere; they are part of the virtuality of everyday life. Much like Bazin insisted that "cinema is also a language,"[6] sets have a visual grammar. The properties of set design were first dissected in the 1980s,[7] but our spatial regime model takes that grammar and forms a classification system beyond the soundstage—through the **filmic**, the **thematic**, the **electronic**, and the **holistic**.[8] Our concept is adapted from the work of Arsenault and Côté who use the term "graphical regime" to describe the relationship between play

3. This chapter is based on an earlier essay: Dave Gottwald, "Total Cinema, Total Theatre, Total World: From Set as Architecture to Set as Virtual Performer," *Disegno—Journal of Design Culture* 6, no. 1 (December 2022), 12–32. https://doi.org//10.21096/disegno_2022_1dg.
4. I have limited my discussion here to the essays which comprise the two volumes of *What is Cinema?* (Bazin 1967; 1971).
5. Dave Gottwald and Gregory Turner-Rahman, "Toward a Taxonomy of Contemporary Spatial Regimes: From the Architectonic to the Holistic," *The International Journal of Architectonic, Spatial, and Environmental Design* 15, no. 1 (May 2021), https://doi.org/10.18848/2325-1662/cgp/v15i01/109-127.
6. Bazin, *What is Cinema? Volume I,* 16.
7. Charles Affron and Mirella Jona Affron, *Sets in Motion: Art Direction and Film Narrative* (New Brunswick, NJ: Rutgers University Press, 1995); Juan Antonio Ramírez, *Architecture for the Screen: A Critical Study of Set Design in Hollywood's Golden Age*, trans. John F. Moffitt (Jefferson, NC: McFarland Press, 2004 [1986]), 81.
8. Gottwald and Turner-Rahman, "Toward a Taxonomy."

and imaging within a given gamespace.[9] After them, our "spatial regime" denotes the relationship between experience and spatialization. By reorienting Bazin's theater/cinema dichotomy, here I add roles as spectators, participants, and even designers within each experience. Through this lens, our spatial regimes can be seen as an evolving, reconfigurable model of theater and cinema as a single, coalesced experiential medium. Just as Vahid Vahdat evoked him in the introduction to Book Two of this collection, I ask us to reconsider Bazin in the context of virtual reality. With regards to his weighing the constructs of theater and cinema against one another, he can also be read as a kind of spatialist. Bazin might have found common ground with media theorist Marshall McLuhan, who once cautioned that "patterns of environments elude easy perception."[10]

Beginning in the 1990s, critics used computer generated imagery (CGI) to dismantle Bazin's notion of cinematic truth.[11] *The Matrix* series (1999–2003) and the *Star Wars* prequels (1999–2005) appeared to unravel Bazin's image object,[12] a critique which I feel misses his philosophical mainspring.[13] He was fine with illusion if it served the greater truth of the fiction. All his image plastics and even montage (editing and all assembly, including the soundtrack) "can work either to the advantage or to the

9. Dominic Arsenault and Pierre-Marc Côté. "Reverse-Engineering Graphical Innovation: An Introduction to Graphical Regimes." Game: The Italian Journal of Game Studies 2, no.1 (2013): 57–67. https://www.gamejournal.it/reverse-engineering-graphical-innovation-an-introductionto-graphical-regimes.
10. Marshall McLuhan and Quentin Fiore, *The Medium Is the Massage: An Inventory of Effects* (Berkeley, CA: Gingko Press, 2001 [1967]), 68.
11. Debray's *Life and Death of the Image* (1992) is a key text which gives birth to this polemic. For a more recent discussion of Bazin in the context of CGI, digital animation, and digital imaging, see J. Hoberman, *Film After Film: Or, What Became of 21st-Century Cinema?* (Brooklyn, NY: Verso, 2013). For a broader view of digital film provocations, see André Gaudreault and Philippe Marion, *The End of Cinema? A Medium in Crisis in the Digital Age*, trans. Timothy Barnard (New York: Columbia University Press, 2015).
12. "Now the digitization of the image threatens to cut the umbilical cord between photograph and referent on which Bazin founded his entire theory." Peter Matthews, "The Innovators 1950–1960: Divining the Real," *Sight & Sound* 9, no. 8 (August 1999), https://www2.bfi.org.uk/news-opinion/sight-sound-magazine/features/andre-bazin-divining-real-film-criticism-overview.
13. "Because Bazin thought of the cinema camera as an unmediated instrument for capturing a 'pro-filmic reality,' and because he did not have a critique of its mediated illusionism, Bazinian 'realism' has been a debate in film studies for more than two decades" Anne Friedberg, *Window Shopping: Cinema and the Postmodern* (Berkeley, CA: University of California Press, 1994), 130.

detriment of realism"[14] as long as the illusions are immersive and the lie is credible. "We would define as 'realist' then, all narrative means tending *to bring an added measure of reality* to the screen."[15] Accepting this, I apply Bazin's parsing of stage and soundstage to the experiential journey below which suggests that cinema, combined with performative theatricality, has come to subsume our spaces, and thus, our very lives.[16]

Stage Becomes Set, Set Becomes Architecture

Cinema began wedded to still photography.[17] Similarly, early film sets were bound up with the art of scenic design, a tradition as old as antiquity.[18] Technology moved both away from their antecedents. Early films resembled theater, so that "if the scene were played on a stage and seen from a seat in the orchestra, it would have the same meaning."[19] Painted backdrops and simple flats sufficed for this.[20] The first to employ more sophisticated sets was Frenchman Georges Méliès.[21] Méliès enjoyed creating illusion through editing and employed special effects, as in *Le voyage dans la lune* (*A Trip to the Moon*) (1902). So, it seems natural that he would realize the power of sets.[22] Soon, appetite for spectacle led to larger productions. Italian director Enrico Guazzoni was the first to

14. Bazin, *What is Cinema? Volume II,* 27.
15. Ibid., emphasis added.
16. Neal Gabler, *Life—The Movie: How Entertainment Conquered Reality* (New York: Vintage Books, 2000); Norman Klein, *The Vatican to Vegas: A History of Special Effects* (New York: New Press, 2004); Dave Gottwald and Gregory Turner-Rahman, "The End of Architecture: Theme Parks, Video Games, and the Built Environment in Cinematic Mode," *The International Journal of the Constructed Environment* 10, no. 2 (2019), https://doi.org/10.18848/2154-8587/CGP/v10i02/41-60.
17. Bazin, *What is Cinema? Volume I.*
18. Leon Barsacq, *Caligari's Cabinet and Other Grand Illusions: A History of Film Design*, ed. Elliott Stein, trans. Michael Bullock (Boston: New York Graphic Society, 1976).
19. Ibid., 32.
20. Ramírez, *Architecture for the Screen.*
21. Barsacq, *Caligari's Cabinet*; Ramírez, *Architecture for the Screen*; Cathy Whitlock and The Art Directors Guild, *Designs on Film: A Century of Hollywood Art Direction* (New York: It Books, 2010).
22. Barsacq, *Caligari's Cabinet.*

film using large-scale, three-dimensional sets.[23] American director D. W. Griffith followed with massive Babylonian sets for *Intolerance* (1916).[24] Then beginning in Hollywood in the early 1920s, designers began working architecturally.[25]

Three factors explain how more elaborate sets developed. The first was panchromatic film stock, which allowed for greater clarity.[26] Costumes and props now required more detail; painted backgrounds would only fool the eye at a great distance.[27] Another was better lensing: capturing with "equal sharpness the whole field of vision contained simultaneously within the dramatic field."[28] Deep focus meant structures would read dimensionally. Most revolutionary was camera motion. During the silent era, the camera was fixed, so the audience experience was static.[29] With rigs which allowed for movement towards and around actors, the audience's connection to the camera's point of view (POV) became dynamic.[30] Cranes now also took cameras and audiences into sets. By the late 1920s, what were once crude flats became environments which could be inhabited by actors.[31] This was the shift from stage to set; from staging a drama to acting in a setting. It was a dynamic camera which cleaved sets away from the stage, delivering shots now empowered with "a god-like character that the Hollywood crane has bestowed."[32]

23. Ramírez, *Architecture for the Screen.*
24. Affron and Affron, *Sets in Motion.*
25. Donald Albrecht, *Designing Dreams: Modern Architecture in the Movies* (New York: Harper & Row, 1986); Gabrielle Esperdy, "From Instruction to Consumption: Architecture and Design in Hollywood Movies of the 1930s," *The Journal of American Culture* 30, no. 2 (2007), https://doi.org/10.1111/j.1542-734X.2007.00509.x.
26. Bazin, *What is Cinema? Volume I.*
27. Esperdy, "From Instruction."
28. Bazin, *What is Cinema? Volume II.*
29. Anne Friedberg, *The Virtual Window: From Alberti to Microsoft* (Cambridge, MA: The MIT Press, 2009 [2006]).
30. Affron and Affron, *Sets in Motion.*
31. Gottwald and Turner-Rahman, "The End of Architecture."
32. Bazin, *What is Cinema? Volume II,* 33.

Attributing Jean-Paul Sartre, Bazin observed that "in the theater the drama proceeds from the actor, in the cinema it goes from the decor to man. This reversal of the dramatic flow is of decisive importance. It is bound up with the very essence of the mise-en-scène."[33] In theater the performer sets the stage, and in cinema the set stages the performer. The architecture of the theater functions as a container for drama; stage and backstage, wings and amphitheater. It is a sealed box where performance takes place "in contrast to the rest of the world" because "play and reality are opposed" and "theater of its very essence must not be confused with nature under penalty of being absorbed."[34] Bazin does not use the terms "set" or "scenic design" but instead refers to all manner of stage dressing as "décor."[35] And he does not distinguish between the soundstage and locations. To Bazin, a farmhouse and a hillside are both décor. Ontologically—as image objects—they are identical. Important to Bazin are two notions: that the set has been torn out of the stage and placed at will (thus ceasing to be architecture), and that mise-en-scène does not require performers at all. "On the screen man is no longer the focus of the drama . . . The decor that surrounds him is part of the solidity of the world. For this reason the actor as such can be absent from it."[36] Décor is what distinguishes theater from cinema.

There are six "distinctive qualities"[37] or properties which separate sets from true architecture, whether constructed within a soundstage or on location.[38] First, film sets are typically **fragmentary**. Only what is photographed is constructed. Second, **sets have altered size and proportion** to account for lens distortion and to accommodate where they are built. To create illusions, perspectives are altered. Third, further con-

33. Quite literally in English "setting the stage," mise-en-scène is a theater arts term which became more widely used in film criticism during the 1950s by the writers of French film magazine *Cahiers du Cinéma*, including its co-founder Bazin. For him, mise-en-scène comprises all that you see on the screen, from set design to costumes and lighting, composition to camera motion. Bazin called these individual properties "image plastics." See Bazin, *What is Cinema? Volume I,* 102.
34. Ibid., 104.
35. Ibid., 103.
36. Ibid., 106.
37. Ramírez, *Architecture for the Screen,* 81.
38. For this original discussion in English translation, see Ramírez, *Architecture for the Screen*. For the later expansion, see Affron and Affron, *Sets in Motion,* 31–50.

torting, the interiors are **rarely orthogonal**, producing "strange deformities."[39] Rooms are trapezoidal, to control echoes and to "force" perspective for an illusion of depth. Fourth, sets are **hyperbolic** "as much to simplify as to create greater complexities."[40] Such exaggerations can communicate instantly, establishing locale, period, and class.[41] Sets thus function as characters, conveying both atmosphere and exposition.[42] Fifth, sets must be **mobile and flexible**. They are frequently disassembled, so the camera can enter, making them "wild." Finally, film sets are the very definition of ephemera, **built rapidly and abruptly demolished**.

Referencing Italian Marxist critics Baldo Bandini and Glauco Viazzi, the Affrons posit that "as soon as the camera began to move, stage design was no longer suited to the film medium. Cinematic sets can, indeed must, conform to spatial and temporal rhythms; theatrical sets remain tied to the constraints of the stage."[43] The properties thus fracture the film set, breaking the fixed relationship between performer and spectator established by the theater stage which "mark[s] out a privileged spot."[44] "Because it is only part of the architecture of the stage, the decor of the theater is thus an area materially enclosed, limited, circumscribed,"[45] and now it is free. For before the camera began to move, "the framing in [a] 1910 film [was] a substitute for the missing fourth wall of the theatrical stage."[46]

Sets were now truly spaces, and skilled labor was needed to design them. During the 1920s, industry press was lively with articles calling for men to work in motion pictures. *The American Architect* declared that "for the purposes of the modern picture play the ordinary stage setting will no

39. Ramírez, *Architecture for the Screen,* 84.
40. Ibid., 85.
41. J. H. Macfarland, "Architectural Problems in Motion Picture Production," *American Architect* 118 (1920), https://archive.org/details/americanarchite118newyuoft.
42. Esperdy, "From Instruction."
43. Affron and Affron, *Sets in Motion,* 33.
44. Bazin, *What is Cinema? Volume I,* 104.
45. Ibid.
46. Ibid., 34.

longer suffice . . . [sets now] are in three dimensions."[47] During the Great Depression, many architecture graduates could only find steady employment at film studios. Nearly all the industry's art directors during the 1930s had been trained in architecture school.[48] The pay was good, the work interesting, and film sets would arguably be seen by a wider audience than real buildings. Only the wealthy traveled abroad at this time, yet millions went to the movies every week. If the American public had a chance to admire an Italian villa, a Greek temple, or a French cathedral, it would be via cinema.[49] Thus, some argued that the sociocultural impact of cinema exceeded that of architecture, and that images of environments would educate and make lasting impressions.[50]

At the same time architects began designing sets, studio people designed architecture. This **filmic regime** brought three properties of set design to the built environment: buildings were wildly hyperbolic and stylized, sometimes nonorthogonal in nature, and often employed forced perspective.[51] Southern California was ready for this shift. The glamor of Hollywood sets felt right to Hollywood people, and the look of the region was already trafficking in similar illusions.[52] As greater Los Angeles was colonized by this "movie architecture"—the built environment as a kind of a grand production—we are reminded of Bazin's praise for the Italian urban landscape, so "prodigiously photogenic" and "theatrical and decorative."[53] He considered films shot on location there superior: "City life is a spectacle . . . that the Italians stage for their own pleasure . . . The courtyard is an Elizabethan set . . . the theatrical façades of the palazzi

47. Carl A. Ziegler, "Architecture and the Motion Picture," *The American Architect* 119, no. 2367 (1921): 547, https://archive.org/details/tamericanarchitec119newyuoft.
48. George P. Erengis, "Cedric Gibbons," *Films in Review* 16 (April 1965).
49. Macfarland, "Architectural Problems."
50. Macfarland, "Architectural Problems"; Ramírez, *Architecture for the Screen*; G. Harrison Wiley, "The House That Jack Builds," *Motion Picture Director* 2, no. 6 (1926), https://archive.org/details/motionpicturedir4240moti; Ziegler, "Architecture."
51. Gottwald and Turner-Rahman, "Toward a Taxonomy."
52. This began with the Spanish Colonial Revival in the early 1900s. Similar architectural revival styles also took root in the Los Angeles area during this time, from English Tudor to Moorish. See David Gebhard, "A Lasting Architecture" in *California Crazy: American Pop Architecture*, ed. Jim Heimann (Köln: Taschen, 2018 [1980]), 285–313; Jim Heimann, *California Crazy: American Pop Architecture* (Köln: Taschen, 2018 [1980]).
53. Bazin, *What is Cinema? Volume II,* 28-29.

combine their operatic effects with the stage-like architecture of the houses."[54] The stages which Bazin describes evolved naturally of course, which prompts architects and critics to label all cities, as Bazin does Rome, authentic; the ultimate soundstage for total cinema. Conversely, Los Angeles in the early twentieth century was a blank slate, designed with intention and immediacy. L.A. is not "fake," yet it is the kind of real untruth that Bazin was fascinated by, a nouveau Garden of Eden fed by all manner of illusion: an imagined water supply, romanticized Spanish glory, and a fantasy architecture born on the Hollywood studio lot.[55]

The Inhabitable Set: Themed Environments

Disneyland opened in Anaheim, California, on July 17, 1955, and heralded the birth of the **thematic regime**. Considered the sui generis contemporary theme park,[56] it arrived directly in the middle of the "cinematic century."[57] Until this moment, the application of set design to the built environment was intermittent and varied. True to how critics describe these works today, the filmic regime was regarded as a novelty.[58] Sets of course are designed and constructed to service the story of a film. There is no such narrative framework for a Los Feliz mansion built in the Storybook Style, or a Las Vegas casino approximating the Wild West. Just aesthetics, impressions; mere motifs without context. What was truly needed for sets to exist outside the soundstage was a script.

54. Ibid., 29.
55. For a discussion of Los Angeles and all its fantasies in those early decades, see Gary Krist, *The Mirage Factory: Illusion, Imagination, and the Invention of Los Angeles* (New York: Broadway Books, 2018).
56. Judith A. Adams, *The American Amusement Park Industry: A History of Technology and Thrills* (Boston: Twayne, 1991); Karal Ann Marling, *As Seen On TV: The Visual Culture of Everyday Life in the 1950s* (Cambridge, MA: Harvard University Press, 1994); Miodrag Mitrašinović, *Total Landscape, Theme Parks, Public Space* (London: Routledge, 2006); Scott Lukas, *Theme Park* (London: Reaktion Books, 2009).
57. Friedberg, *The Virtual Window,* 242.
58. Heimann, *California Crazy.*

It was at Disneyland where the properties of the film set were codified into an experiential language. This is the interdisciplinary development of themed spaces, the "praxis of thematic design."[59] During the filmic regime, the language of sets was applied in architecture, with art directors taking on the real as architects took on the illusory. At Disneyland, the intermix would produce a fantasy Potemkin village like no other; the film set as a replacement for architecture. After consulting with architect Welton Becket, Walt Disney decided to form his own company staffed with Hollywood people.[60] Though many had architectural training, there was not one licensed practitioner among them except Ruth Shellhorn, who was belatedly hired to save the landscape design.[61] The rest planned out the park as an interrelated sequence of images, which they storyboarded just like one of Disney's animated films.[62] At Disneyland, the original 1955 narrative is one of the television viewing experiences mapped onto the built environment, fusing Disney's televisuals with an improved version of the amusement park model.[63] Thus, the theme park resembles a soundstage;[64] it is like walking into a movie.[65] In the thematic regime, the language of set design had now been contained, contextualized, and given a screenplay in the form of its storyboards.[66] The themed environment is therefore a kind of scripted space.[67]

59. *Thematic* is used to connote this design process, as opposed to *themed* which refers to the end product. See Gottwald and Turner-Rahman, "The End of Architecture," 41; Scott Lukas, ed. *The Themed Space: Locating Culture, Nation, and Self* (Lanham, MD: Lexington Books, 2007).
60. Karal Ann Marling, ed., *Designing Disney's Theme Parks: The Architecture of Reassurance* (Paris: Flammarion, 1997).
61. Kelly Comras, *Ruth Shellhorn* (Athens: University of Georgia Press, 2016); Todd James Pierce, *Three Years in Wonderland: The Disney Brothers, C.V. Wood, and the Making of the Great American Theme Park* (Jackson, MS: University Press of Mississippi, 2016).
62. Randy Bright, *Disneyland: Inside Story* (New York: Harry N. Abrams, 1987); John Hench and Peggy Van Pelt, *Designing Disney: Imagineering and the Art of the Show* (New York: Disney Editions, 2003).
63. Marling, *As Seen On TV.*
64. Adams, *The American Amusement Park Industry*.
65. Florian Freitag, "'Like Walking into a Movie': Intermedial Relations between Theme Parks and Movies," *The Journal of Popular Culture* 50, no. 4 (2017), https://doi.org/10.1111/jpcu.12569.
66. Dave Gottwald, "From Image as Place to Image as Space: Pinocchio, Pirates, and the Spatial Philosophy of the Multiplane Camera," *The International Journal of the Image* 12, no. 1, https://doi.org/10.18848/2154-8560/CGP/v12i01/71-93.
67. Klein, *The Vatican to Vegas*.

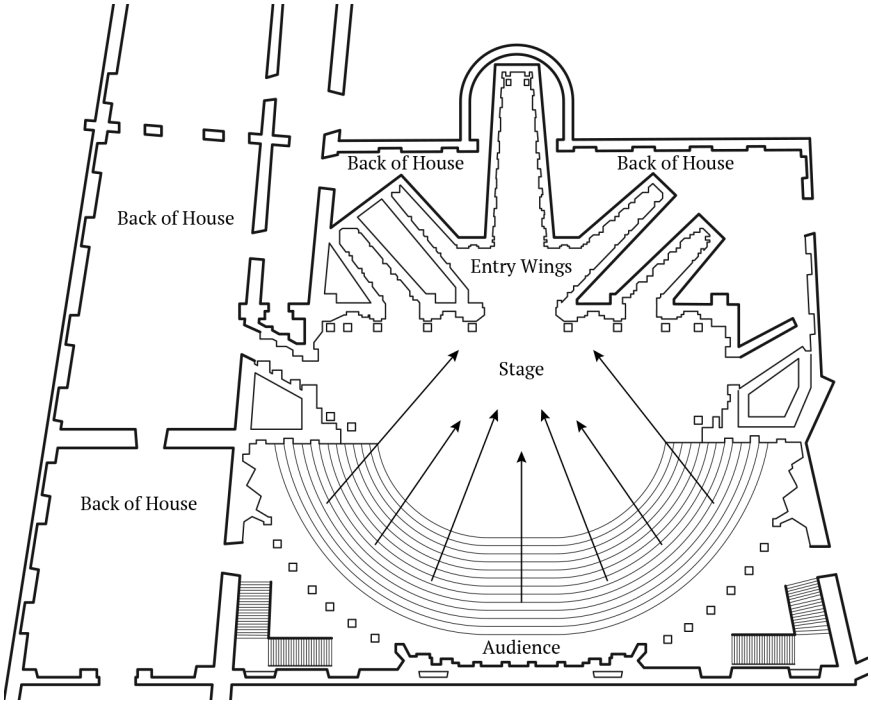

***Image 2.1**: Teatro Olimpico di Vicenza. Credit: Dave Gottwald.*

Theme parks are permanent, vary in scale and rigor, and are exaggerated and fanciful. Yet, they are also fragmentary like film sets, for only what is seen by the public is built. The rest is an extensive back of house. Turner-Rahman and I have previously noted its transmediated aspects, and with Bazin we see that the thematic regime is as theatrical as it is cinematic. Consider the novel service vernacular Walt Disney and his staff devised: park employees are known as "cast members," and when in public areas of the park, are "onstage." Areas not visible to the public are "backstage."[68] Operators are called "hosts" and there are no rides but rather "attractions," "adventures," and "shows."[69] Remarkably, within the themed envi-

68. Bright, *Disneyland*; Sabrina Mittermeier, *A Cultural History of the Disneyland Theme Parks: Middle Class Kingdoms* (Bristol: Intellect Books, 2021).

69. By the 1990s, Disney's terminology had transformed the entire hospitality industry. "Host" and "guest" are now used in most experiential contexts and even taught in business schools. See Salvador Anton Clavé, *The Global Theme Park Industry* (Cambridge: CABI, 2007). For an extended insider discussion on this language and how Disney cast members are trained to use it see Van Arsdale France, *Window on Main Street: 35 Years of Creating Happiness at Disneyland Park* (Nashua, NH: Laughter Publications, 1991).

ronment Bazin's spatial construct of the theater folds in on itself. Tourists are called "guests" by Disney because we have been invited by the cast onto a collapsed, common stage. Postmodern architect and critic Charles W. Moore once described the Disneyland experience as one of "inhabitation . . . where we are protected, even engaged, in a space ennobled by our own presence . . . merely celebrants at a real affair but also the objects of celebration."[70] This complicates Bazin's insistence that live performance remain sundered from reality, sequestered within the "locus dramaticus"[71] of the stage as embedded within the architecture of the theater. Reality has not "absorbed"[72] theater as he feared; instead, precisely the opposite. The entry wings of the Teatro Olimpico di Vicenza (see image 2.1)[73] have become the city streets themselves, and backstage has surrounded all common areas. As Jennifer A. Kokai and Tom Robson remind us in Book Two of this collection, within the theme park, the spectators are also performers, inhabiting the same space (see image 2.2).[74]

70. Charles Moore, Peter Becker, and Regula Campbell, *The City Observed: Los Angeles - A Guide to Its Architecture and Landscapes* (New York: Vintage Books, 1984), 38.
71. Bazin, *What is Cinema? Volume I,* 104.
72. Bazin, *What is Cinema? Volume I.*
73. Bazin used the Olympic Theater of Vincenza as his example of how the architecture of the stage functions as an internal world to keep it isolated from reality outside. See Bazin, *What is Cinema? Volume I*, 105.
74. Architectural critique has also come around to approach the theme park experientially. See Anna Klingmann, *Brandscapes: Architecture in the Experience Economy* (Cambridge, MA: The MIT Press, 2007); Brian Lonsway, *Making Leisure Work: Architecture and the Experience Economy* (London: Routledge, 2009).

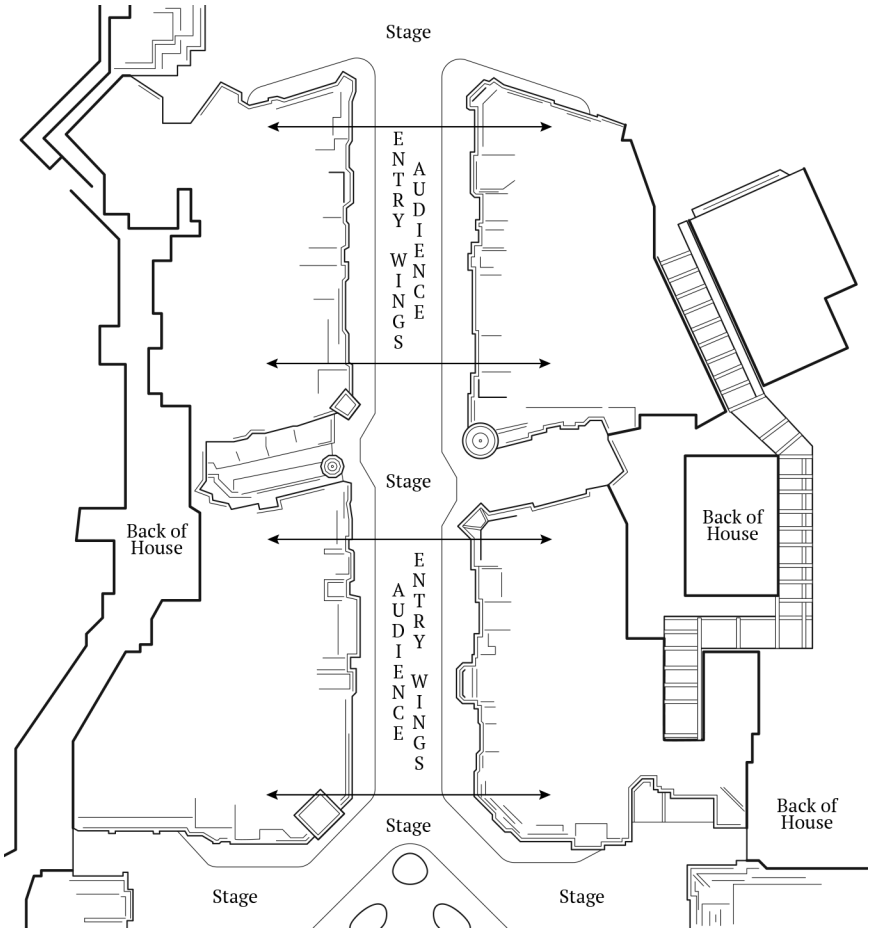

***Image 2.2**: Disneyland's collapsed, common stage. Credit: Dave Gottwald.*

This collapsed, common stage did not remain inside the gates of Disneyland for long. Over the past 60 years, thematic design has spread throughout the global experience economy[75] encompassing not just hospitality and entertainment, but shaping where we dine, shop, live, and even receive medical treatment.[76] The grammar of sets is the vector by which the cinematic experience had escaped the screen, and not just

75. B. Joseph Pine and James H. Gilmore, *The Experience Economy: Competing for Customer Time, Attention, and Money* (Boston: Harvard Business Review Press, 2019 [1999]).
76. Mark Gottdiener, *The Theming of America: Dreams, Media Fantasies, and Themed Environments, Second Edition* (Boulder, CO: Westview Press, 2001 [1997]); Lonsway, *Making Leisure Work.*

within the private sphere. Beginning in the 1970s in the United States, smaller towns revitalized their own main streets in the guise of Disney's example.[77] They were redesigned and collapsed into their own common stages.

> When we stroll down Disney's Main Street, we become participants in a much larger drama that is redefining how we perceive place . . . *because the streetscape itself was designed as a set of sorts* . . . Disney's Main Street (and, by definition, historic restorations of Main Streets in real towns) puts the observer in a unique position. *In the process of consumption and commodification on the one hand,* [we are] *a consumer of the landscape and, on the other, actually* [become] *one of the elements or objects consumed by others; the process, like filmmaking itself, forever confuses consumption with object, and commerce with art*.[78]

When Umberto Eco visited in the early 1970s, he found Disneyland to be "a fantasy world more real than reality, breaking down the wall of the second dimension, creating not a movie, which is illusion, but *total theater*."[79] This harmonizes well with Bazin's total cinema, yet tellingly Eco also called film "illusion." If cinema's "fundamental contradiction . . . at once unacceptable and necessary"[80] is that it can never reach the state that it was designed for, that it so desires to be (reality itself), then themed spaces overcome the dilemma by declaring themselves "real" without any fidelity to reality.[81] This assaults Bazin's myth with a different one entirely, for "Disneyland is presented as imaginary in order to make us believe that the rest is real, whereas all of Los Angeles and the America that surrounds it are no longer real."[82] Disneyland functions as a counterpoint to a built environment which claims authenticity but has already

77. Richard V. Francaviglia, *Main Street Revisited: Time, Space, and Image Building in Small-Town America* (Iowa City, IA: University of Iowa Press, 1996).
78. Ibid., 183, emphasis added.
79. Umberto Eco, *Travels in Hyperreality: Essays*, trans. William Weaver (San Diego, CA: Harcourt, 1986), 45, emphasis added.
80. Bazin, *What is Cinema? Volume II,* 26.
81. "Disney is not attempting to recreate actual structures or to simulate authentic experiences . . . It is not a poor copy of reality, because there is no attempt to recreate reality." Jennifer A. Kokai and Tom Robson, eds. *Performance and The Disney Theme Park Experience: The Tourist as Actor* (Cham, Switzerland: Palgrave Macmillan, 2019), 7.
82. Jean Baudrillard, *Simulacra and Simulation,* trans Sheila Glaser (Ann Arbor, MI: The University of Michigan Press, 1994 [1981]), 13.

been Disneyized.[83] And yet Eco's assessment that Disney "tells us that technology can give us more reality than nature can"[84] lets us substitute the theme park for cinema and still retain an essence of Bazin, that verisimilitude is tied up with technological representation. The audience of a film observes; the audience of a themed space observes and simultaneously acts.[85] Yet, both are consuming an art form whose purpose is "the creation of an ideal world in the likeness of the real."[86] The themed space is a manifestation of Bazin's quest for ideal realism in cinema, a kind of credible illusion, constructed on a stage: total theater.

The Playable Set: Video Games

By the 1990s, video games had evolved from primitive, third person constructs to richer, more immersive environments.[87] *Wolfenstein 3D* (1992) and *Doom* (1993) brought the advent of the first-person shooter (FPS) genre. The FPS made gameplay more cinematic. In *Doom,* one plays through the virtual camera's POV and interacts from the perspective of an avatar, the character being played.[88] Once again, the camera drove the spatial evolution of sets forward. As Bazin notes of cinema, "the screen is not a frame like that of a picture but *a mask which allows only a part of the action to be seen*. When a character moves off screen, we accept the fact that he is out of sight, but he continues to exist in his own capacity *at some other place in the decor which is hidden from us.*"[89] The world of the video game is also one of hidden décor, revealed to the player over time. And the spatial construct of gameplay is Bazin's "mask" of the camera which only permits a part of the gameworld to be experienced.

83. Alan Bryman, *The Disneyization of Society* (London: Sage Publications, [2004] 2006).
84. Eco, *Travels in Hyperreality,* 44.
85. Lukas, *The Themed Space*; Kokai and Robson, *Performance.*
86. Bazin, *What is Cinema? Volume I,* 10,
87. Michael Nitsche, *Video Game Spaces: Image, Play, and Structure in 3D Worlds* (Cambridge, MA: The MIT Press, 2008).
88. Ibid.
89. Bazin, *What is Cinema? Volume I,* 105, emphasis added.

Like sets, video games are hyperbolic and vary in proportions; like themed spaces, they often contain transmediated narratives, and are fragmentary, as spaces are graphically rendered by the software only when needed.[90] This **electronic regime** also exhibits two additional properties due to its virtuality.[91] Game environments are flexible and mobile in "that they span a multidimensional array of levels to facilitate whatever play requires."[92] And, of course, being electronic, they are also singularly ephemeral: close the software and the world vanishes.

As with all architecture, a video game consists of structure and presentation. The code provides parameters, and the world is presented to us via graphics. Yet, there is also functionality, which makes gamespaces distinct from other spaces.[93] The rules embedded in the game are enmeshed within its environments.[94] Thus, within a gameworld, we are spectators, performers, and players all at once. This combination of structure, presentation, and functionality within a virtual construct is mise-en-image, which defines how interaction is embedded within the graphical environment.[95] The result is a common, collapsed, actionable world; a myth of simulated lived experience.[96] Spectator, performer, player, character, environment, and camera are amalgamated into a single experiential mode. Here we see Bazin's theater/cinema has been reconfigured once again, for the stage has merged with its mask. With cinema, "drama is

90. Both practitioners and scholars have noted the environmental language and experiential objectives which theme parks and video games share. See Don Carson, "Environmental Storytelling: Creating Immersive 3D Worlds Using Lessons Learned from the Theme Park Industry," *Gamasutra*, March 1, 2000, https://www.gamedeveloper.com/design/environmental-storytelling-creating-immersive-3d-worlds-using-lessons-learned-from-the-theme-park-industry; Celia Pearce, "Narrative Environments: From Disneyland to World of Warcraft," in *Space Time Play: Computer Games, Architecture and Urbanism: The Next Level*, ed. Friedrich von Borries, Steffen P. Walz, and Matthias Böttger (Basel: Birkhäuser, 2007).
91. Gottwald and Turner-Rahman, "Toward a Taxonomy."
92. Ibid., 117.
93. Jesper Juul, *Half-Real: Video Games between Real Rules and Fictional Worlds* (Cambridge, MA: The MIT Press, 2005).
94. Nitsche, *Video Game Spaces.*
95. Arsenault and Côté, "Reverse-Engineering."
96. Mark J. P. Wolf, "Video Games, Cinema, Bazin, and the Myth of Simulated Lived Experience," *Game: The Italian Journal of Game Studies* 4, no. 1 (2015), https://www.gamejournal.it/wolf_lived_experience/.

freed by the camera from all contingencies of time and space," yet "the theater in contrast uses a complex machinery to give a feeling of ubiquity."[97] The gameworld is a virtual stage without the backstage which, for Bazin, defines it.[98]

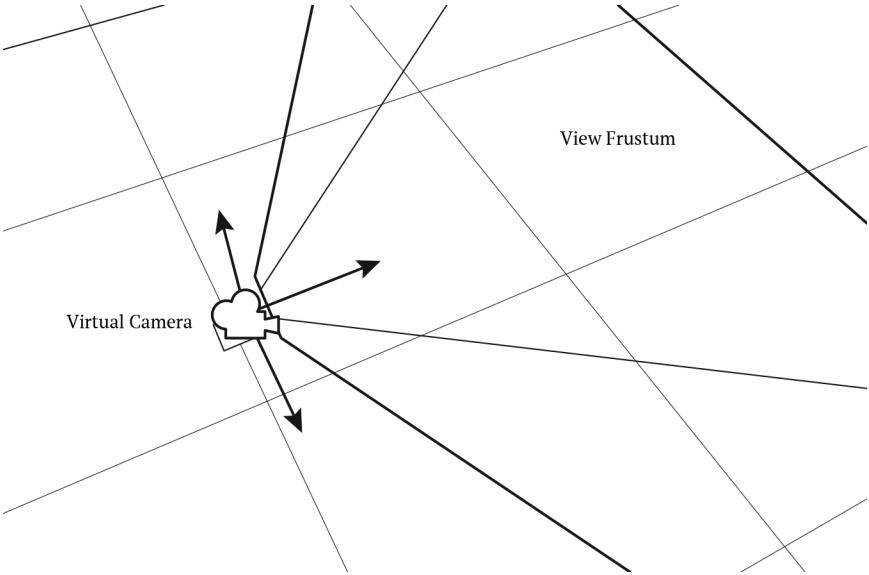

***Image 2.3**: Typical game engine design space. Credit: Dave Gottwald.*

All this shifted paradigmatically with the introduction of game engine software.[99] Imagine a house being built. Now picture a team of architects who live inside it while it is being designed and constructed. They can make any change they want—iterate and test endlessly—while they still live in the house. This interior holism is the game engine, which is also *explicitly* cinematic: the operational metaphor is a virtual "camera" (see image 2.3). Bazin's mask is here called the *view frustum*, which represents the camera's field of vision—the region of the virtual world which will appear on screen.[100] Thus—for a third time—the camera's ability to move and penetrate space advances the overall environment. Turner-Rahman

97. Bazin, *What is Cinema? Volume I,* 103.
98. "[The stage] exists by virtue of its reverse side and its absence from anything beyond, as the painting exists by virtue of its frame." Bazin, *What is Cinema? Volume I,* 105.
99. James Gregory, *Game Engine Architecture, Third Edition* (London: Taylor & Francis, 2018).
100. Kelvin Sung, Peter Shirley, and Steven Baer, *Essentials of Interactive Computer Graphics: Concepts and Implementation* (Wellesley, MA: A K Peters, 2008).

and I call this final phase the **holistic regime**, for virtual space is the tool "and the resultant environment itself . . . in essence both the dreamer and the dream."[101] Today, there are two leading game engine software platforms which are open to all: Unreal (1998) and Unity (2005). Within these, developers inhabit and iterate simultaneously. Environmental changes affect gameplay, so designers must play as they refine.[102] The game engine is a culmination of all our prior spatial regimes.[103] Here, the filmic and thematic are embedded within the electronic, virtualized, and framed by Bazin's mask. In the holistic regime we are now also writers, directors, and editors. Not only have the boundaries between theater and cinema collapsed, but so have production and consumption, design and designer.

The Virtual Set: StageCraft

While shooting *Rogue One: A Star Wars Story* (2016), director of photography Greig Fraser experimented with a large format LED screen depicting a starfield.[104] The spaceship set was mounted on a gimbal, and the digital backgrounds were displayed in real-time synchronization with its motion.[105] Despite the relatively low quality of the effect, director Gareth Edwards saw potential: "You really feel like you're in the place . . . it's really convincing, and I think there will be studios . . . one day that are just wall-to-wall LEDs."[106] Director Jon Favreau similarly experimented with virtual technology on *The Jungle Book* (2016) and *The Lion King* (2019), but those two Disney films still relied heavily on traditional CGI.[107]

101. Gottwald and Turner-Rahman, "Toward a Taxonomy," 120.
102. Gregory, *Game Engine Architecture.*
103. Gottwald and Turner-Rahman, "Toward a Taxonomy."
104. Bryan Bishop, "Rogue One's Best Visual Effects Happened While the Camera Was Rolling," *The Verge*, April 5, 2017, https://www.theverge.com/2017/4/5/15191298/rogue-one-a-star-wars-story-gareth-edwards-john-knoll-interview-visual-effects. N.B. I rely on practitioner quotes from industry press as these technologies are nascent.
105. Ibid.
106. Ibid.
107. Jay Holben, "*The Mandalorian*: This Is the Way," *American Cinematographer Magazine*, February 6, 2020, https://ascmag.com/articles/the-mandalorian; Anne Thompson, "Jon Favreau's VFX Master: Why 'The Jungle Book' Will Win the Only Oscar It Can Get," *IndieWire*, February 20, 2017, https://www.indiewire.com/2017/02/the-jungle-book-vfx-rob-legato-oscars-2017-1201785243/.

For Favreau's new project, he wanted to solve problems he had with green screens, a technology in use since the 1990s.[108] His Disney streaming series *The Mandalorian* debuted in the fall of 2019 with the answer: StageCraft.[109]

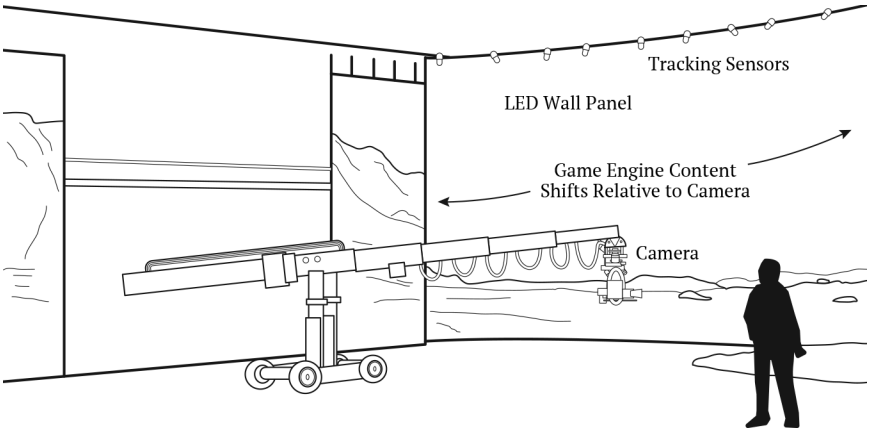

***Image 2.4**: StageCraft Volume set. Credit: Dave Gottwald.*

StageCraft is a partnership between Epic Games and Industrial Light & Magic (ILM), the effects house founded by George Lucas to make *Star Wars* (1977).[110] Partnered with other companies, ILM built a small prototype soundstage in June of 2018 which they call "the Volume."[111] StageCraft is the combination of a Volume set covered in LED panels with live Unreal game engine content. The stage is circular, and the backgrounds fill peripheral vision.[112] The larger Volume set built for *The Mandalorian* is approximately 23 meters in diameter, and approximately 6.5 meters high, providing digital imagery on every surface except the floor (see image 2.4).[113] Because partial physical sets, furniture, and props are also on the

108. Matting performers onto backgrounds in post-production is also called "blue screen" because the color was used for the earlier optical process. A bright green is typically used for digital matting.
109. Holben, "*The Mandalorian.*"
110. Industrial Light & Magic, "ILM StageCraft," April 10, 2019, https://www.ilm.com/ilm-stagecraft/.
111. Kevin H. Martin, "A New Hope," *International Cinematographers Guild Magazine,* February 3, 2020, https://www.icgmagazine.com/web/a-new-hope/.
112. Ian Failes, "*The Mandalorian* and the Future of Filmmaking," *VFX Voice: The Magazine of the Visual Effects Society*, April 1, 2020, https://www.vfxvoice.com/the-mandalorian-and-the-future-of-filmmaking/.
113. Industrial Light & Magic, "The Virtual Production of The Mandalorian Season One," uploaded February 20, 2020, YouTube video, 4:42, https://youtu.be/gUnxzVOs3rk.

stage, StageCraft is a mixed reality (MR) environment, and it represents a new kind of immersion. Films which used green screen sets almost exclusively, like the *Star Wars* prequels, were criticized for listless performances.[114] Thus Richard Bluff, visual effects supervisor on *The Mandalorian,* laments that "Jon Favreau found the breakthrough that George [Lucas] was always looking for."[115] *The Mandalorian* was the first major production to use LED walls at a time when blockbuster Marvel films like *Avengers: Endgame* (2019) were still shot within green screen environments.[116]

StageCraft advances filmmaking in several key ways. The LED surfaces not only display content, they also provide realistic lighting with adjustable color. As Kim Libreri at Epic Games notes, "the problem with the green screen is it basically puts a lot of green light on you. We call that 'spill.'" StageCraft completely eliminates this: "If you wrap an actor with a big 360 LED wall, you can light in a way . . . so you can really make it feel like the characters are embedded in the environments."[117] This was important on *The Mandalorian* because the eponymous character wears shiny armor. Every single bit of LED light reflected off that metal is true to life. For this reason alone, traditional CGI is becoming extinct. "Eventually, of course, we hope to never use green screens," says Bluff, though they are still useful within StageCraft itself for matting in close-up. Because it's virtual, digital green can be inserted anywhere within the Volume, limited to say, behind a single character.[118]

114. Film reviews noted this at the time. "There is a certain lifelessness in some of the acting, perhaps because the actors were often filmed in front of blue screens so their environments could be added later by computer." Roger Ebert, "Star Wars—Episode II: Attack of The Clones," *Chicago Sun-Times*, May 10, 2002, https://www.rogerebert.com/reviews/star-wars-episode-ii-attack-of-the-clones-2002.
115. Kristin Baver, "This Is the Way: How Innovative Technology Immersed Us in the World of the Mandalorian," *Star Wars,* May 15, 2020, https://www.starwars.com/news/the-mandalorian-stagecraft-feature.
116. Insider, "Why 'The Mandalorian' Uses Virtual Sets Over Green Screen," uploaded June 11, 2020, YouTube video, 6:38, https://youtu.be/Ufp8weYYDE8.
117. Ibid.
118. Ibid.

StageCraft is dynamic, responsive, and configurable. Because Unreal is serving real-time content, it can be linked to camera positions. As the camera moves around the set, the background moves in response, preserving parallax and depth.[119] A green screen is simply a matte painting, delayed. StageCraft is instead truly virtual mise-en-scène. When describing the relationship, Kris Murray at Lux Machina chose to characterize it as *deception*, because "we can track a camera's position in space in real time and render its perspective so that *we can compellingly convince a camera* that something else is happening in front of it that isn't really there."[120] This is what makes StageCraft fundamentally different from rear screen projection and green screens: the camera views the virtual via the same physics as reality. Also, not unlike a set of Matryoshka dolls, there are nested layers of imagery. Cinema is now being produced in a factory that is itself composed of cinema, shot on a set which is constructed of other movies. Image production and consumption have folded back on themselves and collapsed, just how spectatorship and performance collapsed within the thematic regime. In a stunning perversion of Bazin's ontology, the image object is also an image product, and what is captured exists to be photographed (yet does not really exist either). The image object/product is saved and stored, and all footage can be recalled at any time for later use or manipulation.[121]

Lastly, the Volume set is also a virtual performer. When "you want to turn around on [sic] an actor, you're not physically moving the cameras, you're actually just moving the background, and all the lights change."[122] Director of photography Barry Baz Idoine observes that it's remarkably easy to "shoot any sequence where you say, 'oh, this world's not quite right. Let's just move it a little bit.'"[123] However, StageCraft's most stunning aspect is its reconfigurability. "We now have the capability to grab hold of any tree

119. Martin, "A New Hope."
120. Unreal Engine, "Real-Time In-Camera VFX for Next-Gen Filmmaking | Project Spotlight | Unreal Engine," uploaded August 1, 2019, YouTube video, 2:14, https://youtu.be/bErPsq5kPzE, emphasis added.
121. Industrial Light & Magic, "The Virtual Production of The Mandalorian Season Two," uploaded April 1, 2021, YouTube video, 7:09, https://youtu.be/-gX4N5rDYeQ.
122. Ibid.
123. Industrial Light & Magic, "Virtual Production," 2020.

in a forest," says Bluff, "and move them around independently. To re-set dress on the day, based upon what we were seeing through the camera."[124] Dedicated technicians can adjust the environment, lighting, vantage, and focus. Known as the "Brain Bar,"[125] this team literally moves mountains and turns night into day right in front of the actors. A director can now perpetually remake the entire world of a film while it is being shot.

For the second season of *The Mandalorian* (2021), ILM continued to use Unreal for previsualization, yet also developed their own proprietary engine called Helios. Because it was designed from scratch, StageCraft 2.0 has improved complexity and color fidelity.[126] The new Volume sets are larger and are being used in conjunction with traditionally lit tracking shots that begin outside a Volume and conclude within it seamlessly.[127] Like stage sets before them, virtual sets are becoming contiguous and more architectonic, a mixed reality world with the potential to evolve into an extensible system.[128]

If the theme park was for Eco total theater, then StageCraft is a *total world*. The Volume set provides design, lighting, and even a sense of performance—all of Bazin's plastics at once. To the camera, it looks no different than a location shoot. If you ask StageCraft to move around the performers, it moves (as with blocking). Ask it to change its appearance and it changes (as with costume and makeup). And most importantly, because it was preassembled in the game engine and even edited in situ, StageCraft is montage in the round. The technology is aptly named: it reconciles Bazin's distinction between the "stage" of the theater and the "craft" of filmmaking. Like Teatro Olimpico di Vicenza, a Volume set is "outwardly . . . a purely utilitarian piece of architecture . . . secretly ori-

124. Industrial Light & Magic, "Virtual Production," 2021.
125. Failes, "*The Mandalorian*."
126. Ibid.
127. Mike Seymour, "Mandalorian Season 2 Virtual Production Innovation," *fxguide*, February 10, 2021, https://www.fxguide.com/fxfeatured/mandalorian-season-2-virtual-production-innovations/.
128. "ILM is . . . opening the door to multiple connected volumes, multiple vertical volumes. One can [imagine] new and vast shots that travel from different rooms or spaces, with dynamic LED volumes via connected practical corridors, trenches or openings." Seymour, "Mandalorian Season 2."

ented inward . . . conceived according to the laws of an aesthetic and artificial space."[129] Yet, StageCraft also honors Bazin's holism and aligns with his declaration that "essential cinema . . . is to be found in straightforward photographic respect for the unity of space."[130]

Conclusion

> "Not only does some marvel or some fantastic thing on the screen not undermine the reality of the image, on the contrary it is its most valid justification."
>
> —André Bazin[131]

StageCraft seems like something Bazin certainly anticipated and probably would have embraced.[132] Its dynamic imagery is illusory yet still ontologically "photorealistic." Let us again be clear about what Bazin means by truth. When he complained that "the German school did every kind of violence to the plastics of the image by way of sets and lighting,"[133] he was not saying the production design of *The Cabinet of Dr. Caligari* (1920) was poor. Bazin was decrying the abstractions of the film and was indeed pleased when "the expressionist heresy came to an end."[134] Bazin was not so much a realist as he was an anti-abstractionist. He asked for verisimilitude, not literal truth.

Bazin was a great admirer of American director Orson Welles and his infamous *Citizen Kane* (1941), which is expressed completely by set design, mattes, and practical effects. Apart from stock footage, there are practically no locations in the entire film. Much like the shattered snow globe from its opening moments, *Kane* exists only within an artificial interior world. Bazin praised Welles for his dedication to continuity and skill with

129. Bazin, *What is Cinema? Volume I,* 105.
130. Ibid., 46.
131. Ibid., 108.
132. "The quality of the interior shots will in fact increasingly depend on a complex, delicate and cumbersome apparatus. Some measure of reality must always be sacrificed in the effort of achieving it" Bazin, *What is Cinema? Volume II,* 30.
133. Bazin, *What is Cinema? Volume I,* 26.
134. Bazin, *What is Cinema? Volume II,* 26.

deep focus.[135] For most key scenes the camera does not move at all. Bazin concluded that it was reasonable to forgo locations in order to exert artistic control: "In ruling out . . . all recourse to nature in the raw, natural settings, exteriors, sunlight . . . Welles rejects those qualities of the authentic document for which there is no substitute and which, being likewise a part of reality, *in themselves establish a form of realism*."[136] Thus, a film can be an entirely virtual event and that makes it no less credible: "There can be no cinema without the setting up of an open space *in place of the universe* rather than as part of it . . . it is less a question of set construction or of architecture or of immensity than of *isolating the aesthetic catalyst.*"[137] Bazin asks the filmmaker, what are your motives? If you are interested in "truth" (by which he means *credibility*),[138] then yes, I consider Bazin a proponent of virtuality. Like themed and gamified spaces, StageCraft is "the creation of an ideal world in the likeness of the real."[139] In fact, Bazin described it perfectly as one of the "future technical improvements . . . [which] will permit *the conquest of the properties of the real.*"[140]

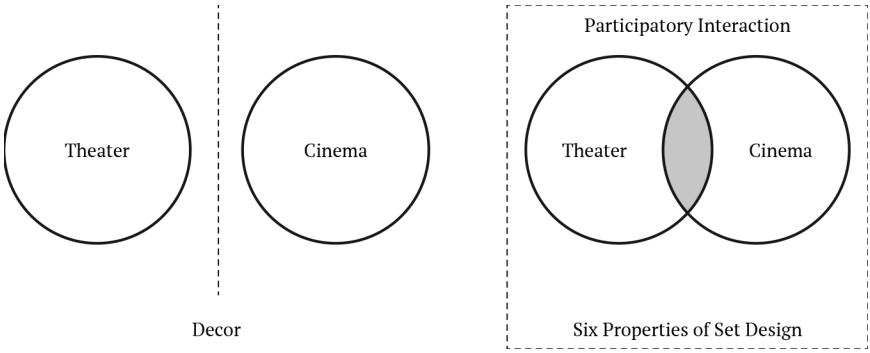

***Image 2.5**: From Bazin's segregation to unified experiential medium. Credit: Dave Gottwald.*

135. "Dramatic effects for which we had formally relied on montage were created out of the movements of the actors within a fixed framework." Bazin, *What is Cinema? Volume I,* 33.
136. Bazin, *What is Cinema? Volume I,* 28-29, emphasis added.
137. Ibid., 110-111.
138. "Cinema is dedicated entirely to the representation if not of natural reality at least of a *plausible reality*." Bazin, *What is Cinema? Volume I,* 108, emphasis added.
139. Ibid., 10.
140. Bazin, *What is Cinema? Volume II,* 30.

Bazin's inexorable segregation of film and stage was two-fold with his fixation on the spatial characteristics of each and then on how those aspects formulate and facilitate the relationship between audience and performer. While drama is performed within the theater—framed abstractly in self-aware presentation—cinema is captured as life re-enacted. What Bazin could not foresee was how media would shift from passive to active, and how theater and cinema would become a new, single medium of participatory interaction. The catalyst for all this, as well as the binding concept, are the properties of set design (see image 2.5). All of our contemporary spatial regimes have their genesis in the filmic grammar of sets. As such, when we inhabit these spaces, we are acting by default. Bazin's distinction no longer matters. We watch the performance as we ourselves give it.

In his 1967 introduction, editor and translator Hugh Gray praised Bazin for helping advance film studies in the United States, writing that "the more we see the screen as a mirror rather than an escape hatch, the more we will be prepared for what is to come."[141] As we have seen, the screen is not just a mirror. It is also *a projector*. Bazin's ontology of the photograph has been reversed. Rather than the image object as a document of the world which exists (having been captured *from* it), the human-created image brings the world into existence itself (having been released *upon* it). Here we see yet another expression of virtual interiority—a world of virtual screens, virtual mirrors, and virtual projectors. As Gregory Turner-Rahman explores in his chapter in Book One of this collection, the virtual filmmaker's total world of unreality will become wholly merged with daily life in the not-too-distant future. He calls this an "always-on storyspace"—a world in which we desire the cinematic, perpetuate the cinematic, consume the cinematic, and produce the cinematic, all while performing and spectating on a physical stage of its enactment. The unanticipated fusion of Bazin's theater and cinema becomes the totality of our built environment; a single *camera obscura massa*. Once considered

141. Bazin, *What is Cinema? Volume I,* 7.

more holistically, his relevance transcends the photochemical artifact Bazin so revered to reveal the environments in which we live—a world which is increasingly realized as a grand "hallucination that is also a fact."[142]

142. Ibid., 16.

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