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**Suitcase Cinema**

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When did the film screen grow a handle? In 1939, the Victor Animatograph Company announced a new 16mm film projector, the Victor 40, also known as the “Add-a-Unit.” Sold from 1939 to 1947, the machine espoused a devout multimedia modularity. The Add-a-Unit could be purchased with a range of lenses, a record player, a radio, a microphone, a public address system, a sound recording unit, multiple speakers, and an auxiliary amplifying unit. The Add-a-Unit invited users to create their own live or recorded soundtracks. It allowed them to turn the volume up or down, to make the image bigger or smaller. The projector had the ability to play at different speeds and to be stopped, in order to project a single film frame in suspended form. Thus, the user exercised a degree of control over key vectors of cinema such as size, speed, volume, illumination, and image density. The Add-a-Unit was presumed--as a projector proper--to be incomplete, sold as it was to be attached to other related media. Also key to completing this particular device was a portable screen, perched opposite the projector, providing the necessary stage for any show. Throughout this period, portable screens and projectors often came in cases integral to their design. A sturdy handle allowed each to be carried with ease.

As when clocks were first attached to wristbands and cassette players to belt clips, the handle of the projector and screen indicates a shift in technological articulation. In the case of this portable pair, there is a rebuff to the professionalized, purpose-built theater and an embrace of the load-bearing, ambulatory human body. The Add-a-Unit, like many portable projectors from this period, was designed to be carried by a single person. It came with finger-friendly knobs and buttons, inviting manipulation, tinkering, and a degree of agency over projected images and amplified sounds. These projectors allowed any person to become a film projectionist, a human-machine hybrid purveying electro-mechanical, audiovisual expression.

The current variety of lightweight moving-image cameras, rapid-fire distribution methods, and pocket-size display gadgets is often understood by invoking the enduring sense that before video, and most certainly before the rise of the digital, the technological apparatus that constituted moving pictures was relatively stable, coherent, and unchanged from its nineteenth-century beginnings. To be sure, the so-called early and silent periods of film history have been complicated by recent scholarship that posits hybridity in film form and theatrical presentation, with its relations to varied spaces, industries, and audiences. The transition to synch-sound cinema has been plainly revealed as an intermedial one.[[1]](#footnote-1) Yet, with few exceptions, there remains an overdetermined narrative of a dominant cinematic ideal that endured throughout the midcentury: large and dark room, celluloid, projector, screen, seated audience--in short, the movie theater.

The history of portable projectors and the small screens that accompanied them tells the story of a very different kind of cinema from the one we are accustomed to discussing, researching, and theorizing. This is a story of a cinema that readily complicates ideas about a stable cinematic apparatus, providing insight into the variations of design, function, and use that have long characterized but one branch of cinema’s technological family tree. In our current media environment saturated with the language of *mobility*, the concept of *portability* sounds familiar but also rather quaint. The term, which essentially names the quality of a thing that can be moved, has a complicated genealogy. It has been applied throughout the twentieth century to seemingly huge and permanent things like buildings (e.g., mail-order homes) and to seemingly immaterial and ephemeral things like music. In the context of cinema, the term *portability* indexes a particular kind of movement.

We know that portability in its most general sense was a foundational characteristic of cinema’s earliest days, as Charles Musser and others have shown through histories of screen practice, and also of itinerance.[[2]](#footnote-2) Yet, the term’s definition evolved significantly as what was once a fly-by-night technocultural phenomenon settled into what we now understand as the institutions of cinema. So, for instance, it was only a little more than a year after the Society for Motion Picture Engineers (SMPE) formed in 1916 that elements of its membership began lobbying for standardizing a definition of “portability,” forged in the context of the movie theater’s bold ascendance. At this time, portability entailed a discussion about lightness of weight and sufficient image quality and size, but these issues were subordinate to the challenge of flammability. In other words, during this phase of cinema’s history, portability meant, in part, possessing the quality of not catching fire. The idea of a portable projection booth--required for non-theater-based shows in municipalities such as New York City--neatly embodies this.[[3]](#footnote-3) In 1918, when Alexander Victor implored the SMPE to formalize the conditions in which portability would thrive, he joked that “no user could consistently arrive at the place of entertainment, carrying in one hand a truly portable projector, weighing about twenty-five pounds; but in the other hand, a fire-proof booth, weighing five hundred and fifty pounds.”[[4]](#footnote-4) Flammability wasn’t only about fire but also about the resulting heft--physical but also regulatory--designed to reduce its threat. Moreover, the projector itself proposed a kind of Faustian bargain: the smaller it became, the hotter it got when running. The combustible chemistry of illuminating silver nitrate film stock using a tight, enclosed metal box seriously hindered development of a nimble, lightweight machine.

The long-standing efforts to standardize a nonflammable and smaller gauge of celluloid served to focus the technological innovation of portable projectors and to speed development of a more rationalized and expansive market. It was in this context that Eastman Kodak introduced a 16mm system in 1923, in part to provide a complement to the dominant theatrical and flammable 35mm format, and in part to compete with Pathé’s nonflammable 28mm and 9.5mm systems. Shortly thereafter, in the United States and Canada, the 16mm gauge, along with the 8mm gauge introduced in 1932, became the two dominant (though not the only) nonflammable, portable gauges.[[5]](#footnote-5)

Concurrent with the standardization of the 16mm system, the ideal of the purpose-built movie theater had taken on grand proportions. Only months before Kodak’s announcement, Sam Rothafel extolled the theater of the future: the gargantuan, technologically sophisticated “atmospheric theater,” a picture palace of saturated color and all-encompassing reflective surfaces.[[6]](#footnote-6) Yet, not everyone shared Rothafel’s vision. A chorus of other showmen, engineers, and technology manufacturers (including Kodak) scrambled to counter his visions, advocating instead the importance of a simple-to-operate, highly adaptable projector, distinct from the increasingly expensive, professionalized, and complicated theater. Many felt that the high-tech, permanent theater was a hindrance to cinema because it restricted the further development of its forms and functions, preventing it from competing with more nimble media such as newspapers, books, and phonographs.

With the picture palace as backdrop, the portable projector, then, announced a form of cinema that was do-it-yourself and bare-bones by comparison. It fit in a box and could be carried like a briefcase, easily passed off from one person to another. Portable projectors were consistently sold with claims that they were easy to operate. They had names like the “Envoy,” the “Lite-Weight,” and the “Escort.” The projector’s capacity to be moved from one location to another, or even just one room to another, was consistently linked in advertising, design, and engineering discourses to the scale of the human body and its capacity to bear weight, to move, and to master things. No longer an expert hidden away behind a theatrical apparatus, the new projectionist was a lay impresario, a performer of moving images, who blended expressive creativity (like playing an instrument) with mastery of mechanical automation (push-button content). This idea of human agency served an industrial, business, and sales force constantly in search of new efficiencies and new modes of persuasion. For instance, in the late 1920s, Kodak marketed the Business Kodascope, designed to be carried by a traveling salesman. The Business Kodascope, which worked using a rear-projection system, turned any desk or small table into a site of moving-image display.

Other aspects of the projector signaled its portability by way of announcing adaptability. Multiple lenses and different bulb wattages allowed for use of the same projector in big or small rooms, and also allowed for some degree of flexibility in projector placement, close to or far from the screen, deep into the audience or far away from it. One of Kodak’s sales slogans was “Tailor Made Projection,” invoking the idea of a kind of artisanal fit, a personalized match between device and individual measures.[[7]](#footnote-7) Strong or weak light throw designed for differently sized rooms and audiences also entailed a surprising range of screen sizes, in part building on screen practices linked to earlier optical devices. Screens could be placed on tabletops, attached to freestanding tripods, mounted on walls, or hung from ceilings. They could be permanently affixed to a wall and concealed by tapestries or curtains. Some collapsed or rolled up and could be stored away discreetly in a closet. Others retracted into furniture. These screens ranged in size from less than twelve inches to as large as twelve feet. The Chicago-based Da-Lite Screen Company, still in operation, marketed fifteen distinct and separate models in the “portable screen family.” They claimed fifty standard sizes as early as 1934.[[8]](#footnote-8) Screens were selected according to the room they were to occupy, the power of the projector bulb used, the shape of the seating area to be occupied by the audience, and storage requirements. In other words, screen size was determined by the needs of the whole display system, and scaled for context and audience contour.

How significant was the portable projector and the provisional cinematic context it facilitated? Was it paradigmatic, indicative of a wholly different kind of cinema? Or was it just an odd or minor manifestation of a technological condition that would only truly arrive with the fluidity of the digital? Such questions can’t necessarily be answered by numbers, but here are a few.

We know that the number of movie theaters in the United States gradually increased throughout the 1920s, decreased during the 1930s, increased to a peak in 1945, and then rapidly declined by more than 50 percent in the twenty years that followed (from 19,096 in 1945 to 9,150 in 1963). As a result, we have the received wisdom that at midcentury cinema declined and television ascended. And ascend television did. Yet, so too did this other kind of cinema. Sales of small-gauge portable equipment roughly tripled in annual sales during the 1950s.[[9]](#footnote-9) In just one year, 1959, the SMPE estimated that there were 4,195,000 portable projectors in use. This equates to one projector for every 42.2 people. Compare this to the statistic for movie theaters: one theater for every 15,627 people (or 11,335 movie theaters total). In raw, crude figures, portable projectors outnumbered movie theaters by a factor of 370.

Clearly, these numbers cannot account for many significant factors, among them seating capacity and frequency of use. Nonetheless, cinema’s small, portable projector and screen provide a productive challenge to those engaged with the question of what cinema precisely has been and what it is becoming. The small machines of cinema provide a compelling continuity or bridge from the philosophical toys we often associate with precinema (thaumotropes, stereoscopes, zoetropes) to what we often call late cinema or postcinema (tablets, laptops, cell phones). Yet, they also provide a kind of discontinuity to many of our dominant film narratives, opening a place in our ongoing scholarly dialogues for a number of productive areas of inquiry, including consumerism and consumer electronics, gadgetry, cinema’s complex technological and multimedia anatomy, image variability (size, brightness, clarity, speed, volume), the dynamics of expanded moving-image performance, cinema’s transformations of everyday and institutional spaces, and the use of film technologies for changing ideas about public and private modes of address.

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1. On early cinema, see Rick Altman, *Silent Film Sound* (New York: Columbia University Press, 2004). On the transition to sound, see Donald Crafton, *The Talkies: American Cinema’s Transition to Sound, 1926–1931* (New York: Scribner, 1997). On exceptions to the assumed coherence of cinema’s technological apparatus, see Charles Acland, “Curtains, Carts and the Mobile Screen,” *Screen* 50, no. 1 (Spring 2009): 148–166. [↑](#footnote-ref-1)
2. Charles Musser, *The Emergence of Cinema: The American Screen to 1907* (New York: Scribner, 1990). [↑](#footnote-ref-2)
3. See *Regulations for Construction and Use of Portable Motion Picture Booths* (New York: Bureau of Fire Prevention, 1915). [↑](#footnote-ref-3)
4. See Victor F. Alexander, “The Portable Projector: Its Present Status and Needs,” *Transactions of the Society of Motion Picture Engineers* 6 (April 1918): 29–32. [↑](#footnote-ref-4)
5. It is worth noting that well beyond this period manufacturers marketed 35mm projectors as “portable.” [↑](#footnote-ref-5)
6. S. L. Rothafel, “The Motion Picture Theatre of the Future and the Equipment Probably Required,” *Transactions of the Society of Motion Picture Engineers* 14 (May 1922): 100–103. [↑](#footnote-ref-6)
7. Kodak used this campaign for its Kodascope L, sold from 1934 to 1938. See, e.g., *Eastman 8mm and 16mm Home Movie Equipment* (catalog), 1937. [↑](#footnote-ref-7)
8. Da-Lite Screen Company advertisement, *Educational Screen* (April 1934): 89. [↑](#footnote-ref-8)
9. All numbers from the US Department of Commerce, reprinted in *The Wolfman Photographic Industry in the United States*, June 1960. [↑](#footnote-ref-9)