

THE NINETEENTH-CENTURY INDIAN TECHNO-BAZAAR



Historians of the cinema in India face a dual compulsion. First, production methods of the distant past persist far longer in India than they do in the West, to the point where even as Indians attend multiplex cinemas to watch 3-D blockbusters, film exhibitions that employ technologies popular a century ago also supply alternate conduits to the moving image. So any history of the origins of the cinema must reckon with its multimedia present. Second, historians must also account for the multimedia character of the pre-cinematic era, which involved photography, print culture, and proto-cinematic screen practices. Thus, the origins of the cinema point in two directions: to a distant pre-cinematic past, and to a contemporary multimediated present.

This chapter focuses on one strand of this pre-cinematic media landscape: the history of photography in the nineteenth and early twentieth centuries. It offers material that enables us to connect the character of this photographic past to the history of cinema. While this chapter looks backward toward the emergence of photography for echoes of later aspects of film culture, the next chapter begins with the cinema but with an eye toward our present moment. The vantage point in these two chapters, however, is neither solely past nor solely present. Instead, I hope the perspective that emerges in both these chapters allows us to watch the debris of (film) history pile up, as the past transfixes us but also propels us into the future (Benjamin 1969, 2007).

Are not film and photography radically different objects? The cinema, as Michael Chanan observes, produced a distinct commodity separate from

the photograph and the gramophone. In the cinema, the apparatus and film did not pass directly into the hands of the customer, whereas the individual purchase of the hand camera determined the mass consumption of photography (Chanan 1980, 27).

However, the story of these technologies in South Asia complicates and qualifies this distinction. The design-standardized hand camera never managed to replace the personalized retail culture of the photo studio centered on patronage. And permanent film exhibition never killed traveling cinemas attending to smaller audiences. Chanan's distinction between film and photography is belied therefore by the forms of enterprise that shaped both, marked by the patronage of a loyal, predictable or small-scale clientele.

Second, in both cases, the media emerged in contexts unspecific to themselves: photography emerged in the consumer and material cultures of nineteenth-century Calcutta; film emerged in a diverse set of performance venues, hardly any of which were meant specifically for movie screenings.

Finally, both were shaped by a similar confluence of opportunities and constraints afforded by the melding of what we might call today (imperial) global forces and local imperatives. It is this latter point that this chapter and the next will seek to demonstrate: that the logics that governed the history of photography and film were the same.

Two features of the life of photography in India make it quite distinct from the manner of its development in the West. First, the photo-studio dominated much of the access to photography in everyday life for most Indians throughout the twentieth century. Hand cameras simply did not achieve the density of use and popularity that they did in the West. Second, makeshift practices employing vintage methods continue to dot the photographic landscape in India.

David MacDougall's documentary film *Photowallahs* (1991) on the photo-studios in Mussoorie, the hill station and erstwhile British summer retreat in North India, depicts the confluence of both of these features. The documentary depicts a streetside commercial photographer who produces passport-sized photographs with highly ingenious methods (see Fig. 1.1). MacDougall's description in a related essay is worth quoting at length and then unpacking:

The camera has no shutter. There is a lens cap that the photographer removes for two to four seconds to make the exposure. With the other hand (inserted through a lightproof sleeve) he manipulates the paper and a tray of developer inside the camera. Sheets of Agfa printing paper, torn into passport photo-sized rectangles, are kept in a rack or behind a piece of elastic within the camera and are moved into place on the plane of the focusing

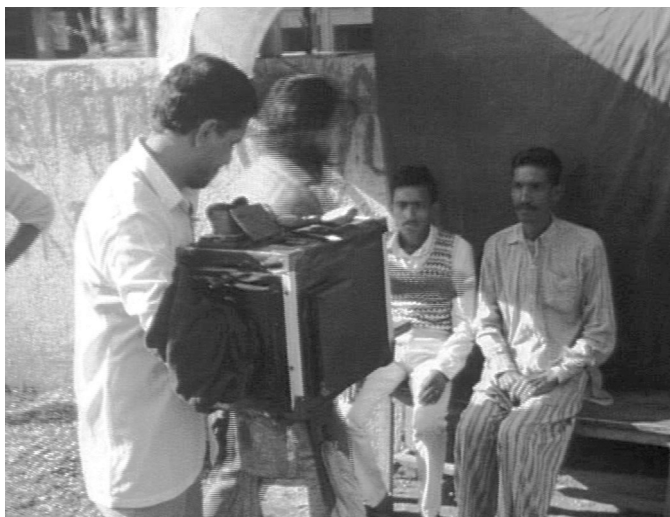


Figure 1.1. The photographer in Dehra Dun using a manual exposure “processing” camera with paper negatives (Source: David McDougall’s *Photowallas* [1991]).

ground glass. After the exposure, the photographer can watch the paper developing in the tray through a hooded eyepiece, rather like that of an old stereoscope, mounted on top of the camera. The viewing light is daylight, filtered through a window of red glass that at other times is covered by a small door. Once developed, the paper is slipped through a slot in the bottom of the camera into a vertical tray of fixer. When this is slid out, like a small drawer, the print can be removed and dropped into a pail of wash water on the ground. This, of course, is only half the process. It produces a paper negative, which is usually retouched with water-color and then re-photographed on a small easel at the front of the camera to yield the final positive paper. (2006, 157–58)

MacDougall describes part of what is so singular about the life of popular technology in India: the way in which users combine extremely cheap and rapid methods with technologies of image production that stymie automation and the transformation of photography into a mass-produced commodity.

The photographer’s methods also trump notions of linear historical sequence, progress, and chronology. Every element of how MacDougall’s photographer produces an image comes from an earlier era of photographic

history. Those elements include, as MacDougall's description makes clear, the use of a "processing camera" that allows the photographer to process images inside the body of the camera,¹ the absence of an automatic shutter mechanism, and the use of paper negatives instead of ready-to-use negative film. Innovations at various stages in the late nineteenth and early twentieth centuries rendered all these elements of camera design and photographic technology obsolete. Yet, photographers in India continued to use these cameras and this technology as late as 1991, the year MacDougall made his documentary. The work of these photographers involved a compact between the artisanal and the technical. We should note the highly ingenious "painterly" method for producing color positive prints, by which the photographer "retouches" the paper negative with watercolors and uses the same camera to re-photograph the colored negative and produce a color print.

The fairground photographer's methods seem at first glance like a throwback to an earlier era, an anachronistic vestige, quirky at best. On the other hand, his work involves the future-oriented desire for rapid-access photography, the acquisition of instantaneous prints within minutes of taking a photograph. This was, after all, the enduring function of "processing" cameras, a function even George Eastman's Kodak revolution could not adequately address. Kodak made taking a picture as easy as pressing a button, but the photographer still sent the roll film to a lab for development and printing. Photographic technology realized the dream of instantaneous pictures fitfully in Europe and the United States. The Polaroid camera is perhaps the most prominent attempt until the advent of digital photography—but our photographer in India executed this dream quite effectively.

How did the photo-studio and the fairground photographer manage to remain viable for so long? What explains the continued use of the same equipment from the nineteenth century into the late twentieth century? We may have to go back to a point where, far from being "minor" or marginal, these practices were significantly close to the norm. By exploring the emergence of the cinema and photography at an earlier moment, we are really asking the "old" and "decrepit" media of today to take us to a moment when they were new.

What would be the conceptual starting point for a genealogy of the fairground photographer? The fairground photographer's practice is a hybrid assemblage of at least three strands: the operator, his expertise, and the apparatus. Each of these strands possesses a genealogy. Of the three components of the assemblages of photography and film, I wish to begin with the apparatus, for the questions that motivated this study emerged long ago from a rather elementary empirical curiosity about the world of things: Who was selling photographic cameras in South Asia in 1840? Were any

cameras manufactured locally? How much would a camera have cost, relative to other goods and commodities? Colonialism was, after all, about the traffic in objects. Material orders shape conventions of sensory perception and these conventions in turn produce social distinctions (Edwards, Gosden, and Phillips 2006, 1–34). We are reminded of this relay between colonialism, material culture, sensory perception, and social distinctions time and again, as we encounter field cameras, heavy glass plates, lantern slides, snapshots, kinoscopes, secondhand parts, pirated and junk prints, and tents for accommodating audiences. These are not neutral objects. Film exhibitors enlisted tents in conceptions of audiences (elite, masses, poor soldiery). Junk prints testify to unequal access to capital and product. Glass slides and field cameras produced narratives about the difficulty and heroism of producing images in the tropics. Peepshow projectors and cinemas on mobile trucks created experiences that involved the management of bodies, the construction of posture, and the regulation of movement. In other words, it is fruitful to eschew a vision-centric approach to screen cultures and attend to the sensory economies surrounding them.

Linked to this material culture is the bazaar as a material, discursive, and ultimately hybrid space that was crucial for photography as well as film. In nineteenth-century Calcutta, the bazaar was one part of “a ‘two-circuit’ structure of local trade: one catering to the Indian population that Europeans too utilized for fresh foods and Indian-produced commodities, and a firm-based circuit in which British retailers and tradesmen supplied most imported goods and westernized services” (Furedy 1981). The European firms that supplied photographic cameras belonged to the firm-based circuit.

Culturally, urban space was indeed segregated into native and European quarters (or the Black Town), mirroring the two-circuit trade networks (Sinha 1990, 33). The Black Town was populated by an English-educated Indian middle class from whose ranks emerged the first stirrings of nationalist thought, as well as “lower orders” of traditional artisans, craftsmen, domestic servants, and the like; all those who were part of the service economy for the Bengali elites (Banerjee 1989, 23). The Black Town possessed a distinct popular urban visual culture derived from rural visual forms. Scroll paintings, wood and copper engravings, and countless cheap books illustrated from these engravings flourished in the bazaar (Guha-Thakurta 1992). Photographic expertise, too, branched off, as we will see, into distinct European and Indian strands, of which the latter flourished in the bazaar.

According to Swati Chattopadhyay, despite racial and cultural distinctions, Calcutta was in practice a mixed city. In the so-called White Town, larger European stores were interspersed with smaller petty shops and dwellings occupied by Indians and Europeans. European businesses spilled from

the White Town into areas considered notorious for their gambling houses and taverns that catered to poorer Europeans. The bazaars mirrored such mixed use and “clearly blurred the lines among the classes, ethnic groups and races, contradicting the fundamental basis of a colonial culture. Both Bengali and English commentaries noted the cosmopolitan nature of the main bazaars” (Chattopadhyay 2005, 85).

Cultural tastes crossed the racial divide as well. Elite Bengalis consumed cheap German lithographs of classical European paintings, just as poorer Bengalis and poor Europeans shared the taste for the cheapest kinds of direct-positive photographic images produced on japanned glass or tin plates that were relatively inexpensive to produce.

Even in an economic sense, the bazaar was hardly a space of small transactions, clumsy and un-analytical accounting, and a structure incapable of creating effective networks for exploiting untapped market possibilities (Ray 1995).² On the contrary, the indigenous money market that financed the long-distance inland trades of the bazaar economy in India was vital to the colonial banks for setting currency rates. By the early twentieth century, bazaar networks had facilitated the emergence of indigenous merchant capital that would invest in industrial projects but also in the culture industry itself. As Kajri Jain observes, it is little remarked that the culture industry was one of the early domains of sustained indigenous economic activity (in the production of chromolithographic calendar images) and then became a site of investment by cotton and jute merchants wishing to branch out into the capital-intensive film business (2007, 78–82). It is for this reason that the bazaar has had analytical purchase as well. For example, in Kaushik Bhaumik’s account of film culture in Bombay, the bazaar emerges both as a source of indigenous financing for film and as the location for the appeal of those genres that capitalized on sensation, technology, and affect, such as stunt, crime, and adventure films. These were directly aimed at the social and physical space of the bazaar, unlike the more respectable mythologicals (and precisely for these reasons as well the bazaar was a target of opprobrium by Indian educated elites). The mobilization of capital for early Indian film enterprises often occurred in the bazaar. But they occurred as an attempt by Indians to ensure the circulation of that capital, and its translation into images, on a wider scale beyond the bazaar itself. The material cultures of mid-nineteenth-century India captured a particular form of globalization, one governed by a mercantile form of capitalism that by the end of the century would mutate into something more territorially self-conscious and imperializing in its aims (Goswami 2004, 32). In either form of capitalism, the bazaar remains a useful discursive and spatial frame of reference for us, both for its place in everyday life in British India and its links to wider circuits of capital flow.

FROM NOVELTY TO APPARATUS:
PHOTOGRAPHY'S MATERIAL CULTURES

Photography's material cultures serve as a precursor to the spaces and materials of the fairground photographer's livelihood, and an important precursor to the Bioscopewallah's ability to provide a tokenistic, transactional, and haptic access to the very apparatus of the cinema. Newspapers in Calcutta and Bombay first announced the sales of photographic cameras in 1840, less than a year after Louis Daguerre's announcement of the daguerreotype process. Calcutta bookseller Thacker, Spink, and Company announced their first cameras in 1840. A Thacker notice from January 25, 1841, in the *Bengal Hurkaru* listed books and periodicals, printed images, watercolors and maps, optical toys (including views of the Egyptian pyramids, touted as an "interesting toy for children"), Mordan's Pistol Pencil Cases, and of course, the daguerreotype, the camera obscura, and "photogenic boxes." The announcement referred to the daguerreotype cameras as "the new art of sun drawing" and photogenic boxes, the ad noted, "for copying objects by means of the sun."³ All in all, this was an alluring combination of "languorous oriental baubles and honest utilitarian labor" (Schaffer 1996, 57).

It was a measure of the labile nature of photography and the materiality of its emergence that it arrived in India with books, jewelry, fine chemicals, and imported champagne and that trades as diverse as apothecaries and furniture makers sold it. In today's terms, it is as if the dollar store guy stocked the latest interactive 3-D gaming technology along with towels, crockery, detergent, and plastic flowers. Extending that analogy, we could suppose that the imaginations that invented 3-D interactive gaming incubated within the bric-a-brac of the dollar store and the everyday habits of touch and use these inculcated, rather than within any disembodied epistemology that sought to reshape perception. This fertile incongruity of circumstances characterized early photography in South Asia and found distant echoes in the fairground photographer of our times.

The European in Calcutta depended in part on "Europe shops" for the latest goods. The shops provided emporia of every conceivable luxury good. They hawked and displayed prints along with cheese, the latest magazines, imported veal, alcohol, a cornucopia of things that, by 1840, for the first time included the daguerreotype camera.⁴ The operative word here is "things." The heading of one of Calcutta importer R. C. Lepage & Company's notices read "MISCELLANEOUS ARTICLES just received." What were these articles? "Photographic copies" of popular prints, Williamson sectional paper, cutlery made of the best Sheffield Steel, Gentleman's Shooting Pocket Knife, "emigrant's knife for the colonies," Ladies' Writing Desk, and innumerable other items. One day, Lewis Stewart and Company hawked magic lanterns

and photographic and other slides. Another day, a full broadsheet notice from the same company touted silverware of every possible kind.

Only the elite could afford photographic cameras, and they had various motivations for purchasing them. Conspicuous consumption by “non-official Europeans” in India and a desire to keep up with European fashion, and sometimes to be ahead of it, provided the major impetus for the purchase of cameras.⁵ From the perspective of those who sold photographic goods, novel items provided an edge over competitors in a trading world perpetually in flux from new and temporary entrants.⁶

Why should a bookseller have imported pricey new gadgets such as cameras? Thacker’s bookstore held pride of place in 1830s Calcutta. “Next to the jeweler’s shops, the most magnificent establishment in the city is that of the principal bookseller, Thacker & Co,” wrote Emma Roberts, a travel writer, in 1835 (Joshi 2002, 93). For Roberts, books were proximate to jewelry in value because, like the latter, they were scarce, expensive, and in high demand in India.

Booksellers were not, however, the only vendors selling cameras. Apothecaries such as Smith, Stanistreet and Company (established in 1810) were also suppliers, given that, till the 1870s, methods of fixing and developing the image required the supply of fine chemicals.⁷ In these two companies, we find two contexts for the availability of photographic materials. While one dealt with a cultural commodity in high demand (books) and could therefore easily expand the line of products it offered to include photographic materials, the other supplied fine chemicals, the essential ingredients of the photographic trade.⁸ Shoe and furniture makers,⁹ watchmakers, and opticians¹⁰ too supplied photo materials and can be grouped with apothecaries as artisan retailers. Photo-studios would belong in this category. Even notable confectioners such as Federico Peliti¹¹ entered the business of photography.

Other venues where photographs and photographic materials were available defy easy categorization by the historian¹² but they included traveling showmen. J. W. Newland, a visiting entertainer and showman, announced that he had more than two hundred miniature colored daguerreotype views of South America, Sydney and Hobart Town, Queen Pomare of Tahiti and her entire family, and much more to fascinate “the Ladies and Gentlemen of Calcutta.” Visitors could also get a colored likeness of themselves complete in a Morocco case for twelve rupees.¹³ By 1855, Mr. Newland announced, “Amateurs and the trade supplied with plates, chemicals, and paper.”¹⁴ Newland also produced the phantasmagoria shows popular at the time, making him, at once, a retailer, photographer, and showman. Inquiries about the new medium published in local newspapers confirm a culture of public display for its technology, one quite distinct from the privatized and individualized consumption of images that ensued by the

end of the nineteenth century with the Kodak camera in the West, or the client-centered form of the photo-studio in India. One letter writer¹⁵ to the *Bengal Hurkaru* offered details—while requesting further information—of the new daguerreotype process. The two short notes appended in response by the newspaper's editor are more revealing of the local habitus of photography than the drily informative letter: "Mr. J.L. Belnos,¹⁶ the portrait painter residing at No. 6 Writer's Buildings has obtained some excellent pictures in daguerreotypes!" and, "It has fully answered the most sanguine expectations. No limner could have drawn such exquisitely correct landscapes as those shown to us by Mr. Belnos."¹⁷

The varying prices track not only the increasing popularity of photography, but also its expense as a hobby or vocation relative to other pursuits and indulgences.¹⁸ Historian Siddhartha Ghosh notes that a daguerreotype portrait in the 1860s was cheaper at twelve rupees than a painted portrait at one hundred rupees. Ghosh qualifies this fact by noting that imported champagne was even cheaper, at forty rupees per dozen bottles, than the daguerreotype. Cameras and lenses were expensive as well, with prices comparable to those for entire magic lantern and phantasmagoria kits, and expensive watches. The cheap and affordable ambrotypes and tintype/ferrotypes (direct positive images on tin or black-lacquered glass) served as alternatives to the expensive daguerreotypes. These turned out to be enormously popular with Bengalis and poorer Europeans in nineteenth-century Calcutta (Ghosh 1988, 4).¹⁹ Adeshwar Ghatak, author of the first Bangla-handbook on photography for amateurs, *Photography Shikha*, published in 1906, reminisced about the touts of photo-studios who roamed Calcutta's Chinabazaar and Rajabazaar localities, luring rustic gentlemen with cheap "glass-images" for as little as eight annas. (Sixteen annas made a rupee). By the end of the century, when Ghatak could see a few aging photographers still in business from his childhood days, these tintypes and ambrotypes cost only four and two annas respectively (36).

On the other end of the spectrum, by the turn of the century, high-end photo-studios catering to the wealthy could supply their clients with extraordinary, elaborately painted photographs, photographs on silk, photographs that utilized platinum in the emulsion, and photographers who would visit the homes of wealthy clients for their portraits.

Cameras made in India were distinguished by their quality and design compared to their English versions. Photo historian John Jenkins observes that tropical cameras were

specifically designed and produced in small quantities for the British RAJ, [and] were, by necessity, exceptionally well-made and finished. They were more expensive than the standard models,

often being made to order and to certain specifications, hence their rarity. If you consider the extra work entailed; cutting-in the brass bindings, the strong gluing, the generous lacquering, together with the special care and attention required on a Tropical, the small additional charge they made . . . was very good value in those days for the administrators of our [sic] Empire. (1981, 73)

Railway transportation rates three decades after the arrival of photography show that photographic equipment cost far more to transport, as was the case with books (“writings”) and images, compared to the materials of empire building (red earth, maps, tents, surveying instruments).²⁰ Other sources, such as postal rates and directions published by the postal service, show how difficult it may have been to transport photographic images since, by the 1850s, photographic images were produced on heavy glass plates, as opposed to the copper plates of the preceding daguerreotype process:

Contents of book packets can contain any number of books, newspapers—printed or lithographed letters, photographs (when not on glass or in cases containing glass), prints or maps—may be printed, written, lithographed, engraved or plan or admixture of these. Only paper, parchment or vellum allowed, but printed books, publications, maps, prints etc. can be on canvas or cloth.²¹

Vendors sold the camera, the chemicals, slides, and sometimes images as well, as a single unit.²² They often sold cameras for differing photographic methods together.²³ In contemporary notices, we can find a relationship between the marketing of photography as a complete kit and frequent descriptions of it as a toy. The relationship implies a process that is manual and interactive, involving an object whose “inner” workings were not yet central to its identity, an object black-boxed through sheer novelty rather than through a process of scientific experimentation that established the transparency of its workings. If we accept this premise, the dexterity and manual skills of the showman-photographer at this early moment must seem less like “expertise”—a formalized knowledge—than an enticing skill. The fairground photographer’s performance of his manual dexterity in the 1990s contained traces of this logic of display, just as vendors displayed the images themselves as curious objects in those early years.

My aim in describing this world of material goods and consumer culture is to emphasize the elasticity and openness of photography’s uses and meanings in the first decade or so after its arrival in South Asia, reflected in the variety of circumstances in which it is available, circumstances that situate it in a crowded world of goods. In these early years, photography

emerged as a novelty, a toy, a showpiece, and was for the most part blissfully disconnected from the complex multicontinental history of experimentation and invention that resulted in the daguerreotype and the calotype in France and the UK, respectively.²⁴ This openness would soon make way for a formalization of knowledge, but not uniformly for European and Indian practitioners of photography, and with mixed long-term results. The history of the shaping of “know-how”—which I will distinguish from formalized expertise—supplies one conspicuous link to the fairground photographer’s technical ingenuity. I turn now therefore to expertise, the second element of the photographic assemblage.

FORMAL EXPERTISE AND INFORMAL KNOW-HOW

Starting from around 1855, we witness the emergence of the photographic apparatus as a singular technological object with discrete parts, rather than a self-contained toy. The first notice devoted solely to photographic goods, with each component of the photographic apparatus listed singly—as opposed to a random cornucopia of unrelated consumer goods—appeared in 1855. One can also see the expanding market for photographic practice in the increased variety of prices and sizes of available instruments. By the second decade (1850–1860), vendors provided daguerreotype cameras in three different sizes at staggered prices of 120, 150, and 220 rupees; exposure slides were available singly; calotype cameras came with prices listed separately for the camera, chemicals, and paper; and in many instances, retailers threw in daguerreotype and calotype cameras together as one deal, again at different sizes.

If in the first decade the consumer was the curious dilettante, the showman, the painter, and the commercial photographer, by the second decade, the serious amateur and the official photographer had become prominent. The incorporation of photography into official documentation policy in 1854 was an important milestone. The East India Company decided to replace its reliance on the draughtsman in 1854 for archeological and topographical surveying purposes with the photographer. Soon after, the 1857 Sepoy Mutiny (an insurrection in the East India Company’s army by Indian soldiers) constituted one major threat to the British presence in South Asia. The mutiny spread through much of North India and nearly ended the Company’s presence in the subcontinent. It was quelled and eventually resulted in the transfer of administrative power from the East India Company to an administration overseen directly by the Crown, thus properly inaugurating the British Empire. Given this tense context, the “official” photography that emerged was marked by two paradigms of knowledge. The Orientalizing “salvage paradigm” documented South Asia’s ancient and seemingly timeless past as evidenced in her architecture, now under threat

from the modernizing aims of the colonial agenda. The other paradigm was driven by paranoia and surveillance in the wake of the mutiny, a “detective” paradigm that produced in commissioned works a body of knowledge about India’s castes and tribes that intersected with and serviced the colonial state’s discourses of criminology, forensics, race, and genetics.²⁵

The second development was the formation of photographic societies in Calcutta, Bombay, and Madras, the three major “presidencies”—or provinces—of British government in South Asia, in 1855 and 1856. In addition to the curious customer, there were now two other constituencies: the government photographer, and the Victorian gentleman-scientist of the photographic society interested in optics and chemistry²⁶ and in photography as an experimental process.²⁷

Caught at the intersection of amateur science (the photographic society) and governmentality (official photography), the photographic apparatus was as material and heavy to transport as it was prone to breakage. The apparatus was as tangible as the shards of a broken light bulb or the pieces of a shattered gramophone record. The photographer carried the heavy glass plates on which the image would be exposed, the various chemicals required for the exposure, as well as the large camera that was quite unlike the hand camera that would emerge decades later. The equipment, as well as its vulnerability to breakage, resulted in a rhetoric of against-all-odds heroism, which pervaded colonial photographic practice, quite unlike the survivalist, practical, and vocational mode of the contemporary fairground photographer. The famous British photographer Samuel Bourne’s accounts noted the numerous negatives he lost as he trekked up the Himalayas with his retinue of recalcitrant coolies who occasionally had to be whipped into submission (Ollman 1983). The following is an extract from 1877 from a contemporary amateur photography handbook by John Bles:

[W]henever you call at Kamptee, have a look not only at the Kanhan bridge, but also at its photograph as taken by me, for they will both repay the sight. . . . I am very sorry to say I cannot sell you any more copies. Fancy me carrying a negative safely all over the continent and England for the purpose of getting it printed in carbon; fancy me carrying it over the Atlantic and Indian oceans, over the Mediterranean and Red Seas, and then to get it smashed in Bombay harbour by the carelessness of coolies when transferring the case which contained it from the P. and O. steamer to the launch. Misfortunes such as these, my friend, you must bear like a man, like a true philosopher, for if you don’t, you won’t be fit for a travelling photographer. (1877, 170–71)

Blees's implied photographer is the European amateur photographer. What about Indians? In 1857, the commandeered expulsion of Dr. Rajendralal Mitra, a learned scholar and treasurer of the Bengal Photographic Society over political differences—the issue had to do with whether Indian judges ought to have the right to try Europeans in criminal cases in *mofussil* courts—led to the en masse resignation of other Bengalis from the society in protest. Indian membership dropped precipitously as a result. If in 1857 the Bengal Photographic Society boasted thirty Indian members out of one hundred, in 1861 only seven of 267 members were Indian. The number of Bengali photographers increased, however, at a much faster rate than the number of European photographers. Judith Gutman estimates that “by 1860, there were probably one hundred and thirty Bengali photographers in Calcutta (four times the thirty in 1857, a faster rate of growth than European photographers, of whom there were seventy in 1857 and two hundred in 1860)” (1982: 99).

An Indian public for photography developed, and photography spread as a force in the bazaars, not in the learned societies and government art schools and amateur exhibitions. Subsequent to Mitra's expulsion most Indians, Gutman speculates, were possibly learning the craft from their fathers, running studios ensconced within the structures of family business practices, such as the three generations of Lala Deen Dayal's photo-studio,²⁸ and peddling their portraits in bazaars. The location of the fairground photographer's practice—the fairground, the bazaar—situates him far from the history of serious amateur European photography discussed in the halls of learned societies. He emerges from an Indian photographic culture that skipped the formalization and institutionalization of the medium. However, there is also no denying his distant affinity to this history of official photographers and gentlemen-scientists. To them, the fairground photographer owes his origins as a *bricoleur* and tinkerer. Finally, he inherits the early flexibility of photography's form and appearance in European consumer culture in Calcutta, and that flexibility was/is evident in the makeshift nature of the camera and its use in Indian bazaars and fairgrounds. Ultimately, the assemblage of photography was partly tangible and material (the equipment), partly intangible and conceptual (the expertise), and partly performed and gestural (the enactment of the expertise). This assemblage emerged out of the material and consumer cultures of mid-nineteenth-century Calcutta.

But how did this assemblage—or the practices associated with it—survive into the second half of the twentieth century? The answer to this question is as essential for what happens after the arrival of the cinema, as it is for the subsequent history of photography. Here, the localized, site-specific, and tangible assemblage encounters the varying scales and spaces of the proto-global geographies crafted by imperialism. This encounter was one of

the major determinants in the shaping of photographic cultures in South Asia, and in the longevity of the practices of the nineteenth century.

PROTO-GLOBAL INFLUENCES:
THE SCALAR AND SPATIAL LOGIC OF EMPIRE

If the retail and material cultures of nineteenth-century Calcutta can be considered one set of precursors to the contemporary fairground photographer, Bengal's position in the networks of imperial commerce constitutes another important determinant in the continuing use of antique techniques. The emergence of the gelatin dry plate in the 1870s, three decades after the arrival of photography, was an important turning point in the history of photography. The dry plate replaced the cumbersome wet-collodion process, in which everything from the coating of the collodion and emulsion onto the glass plate, to the exposure of the glass plate, to the fixing and developing of the image, had to be done on the spot before the collodion dried. Unlike its precursors in the photographic process, the gelatin dry plate was therefore also durable and portable across long distances. Finally, the ease of use ultimately resulted in the transference of expertise from the hands of the photographer to the developing lab of the photo-studio, and this became the dominant economic and technological model for subsequent innovations in photography such as the Kodak camera (see Jenkins 1975).

As a new mass-manufactured product from Britain that could be transported to India with ease, the gelatin plate's first major effect was the emergence of a "colonial market" for ready-made and mass-manufactured photographic goods (unlike the vagaries of taste, trends, and novelty that had governed the importation of photographic materials in the preceding period). Its second effect, however, is one that results in a counterfactual explanation. Mass-manufactured in Britain, and easily transportable, the gelatin plate made local mass-manufacture unnecessary in India. There was therefore little pressure on older methods and technologies of photographic image production to recede into obsolescence. These methods included the daguerreotype with its copper direct-positive plates, the calotype with its paper negatives, and the wet-collodion process with its glass negatives and its albumen-coated positive paper. Transformations in photography from the 1870s onward (the dry plate, the hand camera, new kinds of photographic paper) constituted additions to an already existing repertoire of possible methods of image production rather than transforming the face of picture production in any dramatic way, as it had done in the United States or in Europe. The preeminence of import in this case sustained a diversity of practices that local mass-manufacture might have extinguished. Together, the

older and newer methods of image production and technical infrastructures ensured the coexistence of dissonant and sometimes overlapping scales of production, consumption, and commercial exploitation.

More generally, the culture of photography had developed in a manner suited to the persistence of old with new. Calcutta had witnessed segmented if somewhat overlapping constituencies of users and consumers since the earliest years, intersecting race, expertise, and wealth. Calcutta's complex social structure comprised elite and poor Europeans, amateur and commercial photographers, and elite and poorer Indians. What practices and methods dominated in each of these segments?²⁹

Photographic image production occurred in four identifiable and sometimes overlapping worlds—the commercial European photo-studios, the commercial Bengali photo-studios catering to elite and middle-class Bengalis, the Bengali bazaar photographers whose clientele consisted of the poorer sections of Bengali society, and the largely European serious-amateur photographic community, which had its own subcultures of use and preference.

The European photo-studios catered mainly to a European population and export market for images. Accordingly, they exhibited a clear preference for labor-intensive and expensive methods. Almost all of the photographs of the famed photo-studio Bourne & Shepherd were albumen prints taken from glass wet-collodion negatives, which Bourne produced from his travels in the Himalayas in the 1860s. A perusal of contemporary exhibition checklists reveals that the firm sold albumen prints³⁰ well into the 1920s, and eventually added images from considerably more expensive methods, such as platinum prints, as well.³¹

Urban Bengali photo-studios, likewise, catered to a section of the population that could afford expensive processes as well as personalized services. Most Calcutta-based Bengali photo-studios offered personal visits to households for family portraiture, as well as in-studio photography. However, unlike the European studios, they were keenly aware of the need to cater to the widest possible set of demands. In 1864, Gangadhar Dey, a “portrait and landscape painter in the English and Foreign styles,” announced that he “paints from life or from photos....To prevent disappointment, please make an engagement by correspondence. Will wait upon respectable parties at their places when called” (Ghosh, 306). Another such studio, Mitter and Company, announced that it “executes orders of every description with artistic neatness and elegance at a moderate rate. Ladies are photographed by accomplished Female artists either in our studio or at their own houses. Out-door and Mofussil orders are undertaken” (311).

Other Bengali studios, such as the Mahila Art Studio and Photographic Store, included platinotypes (another name for platinum prints) and

photographs on silk. These studios depended on and ensured the continuity of patron-client relationships attuned to the social and cultural mores of the Calcutta *bhadralok* (gentry).

Particularly noteworthy is the survival of variations of the daguerreotype, the earliest viable photographic process announced by Louis Daguerre in 1839, into the early twentieth century. Where the expensive European and elite Bengali studios had given up on the daguerreotype by the 1860s in favor of the wet-plate process, at least up to the first decade of the twentieth century, the lower-end Bengali studios sold ambrotypes and tintypes (also called ferrotypes) in Calcutta for four and two annas apiece (3).³² These were direct positive images that were much cheaper to produce than the daguerreotype. In the second edition of his amateur handbook for India, George Ewing observed that ferrotypes were “in great vogue at English watering places and in the bazaars of Indian towns” (Ewing 1895, 176). One also finds, around 1903 or 1905, ferrotypes *and* collodion among the exhaustive list of photographic materials that a Bengali supply firm such as the Photographic Stores and Agency Company sold (Ghosh, 309).³³

The arrival of dry plates in the late 1870s, did, however, result in an overall shift away from wet-plate photography, among both amateur photographers as well as commercial European and Bengali photo-studios. The dry plates also brought with them other transformations. Since the plates were portable, they enabled the use of smaller “hand” cameras instead of the bulkier, large “field” cameras. Photographic paper underwent further transformations by the 1890s, when developers no longer needed to sensitize it on the spot and could obtain it factory-produced and presensitized.

These changes did not happen overnight, and more importantly, none of the changes meant the certain death of an earlier product and method. Film studios, such as New Theaters in Calcutta, utilized large-sized dry plates and bulky field cameras to produce publicity stills for their productions until the late 1950s, in part because enlargements from smaller roll film negatives lacked the fine grain quality and tonal contrasts required for publicity brochures, handbills, and posters (Mukherjee 2007).

A report on a photographic exhibition in *The Englishman* newspaper of Calcutta from 1895 summed up the serious-amateur preferences for a combination of expensive varieties of photographic paper and labor-intensive methods of photographic image production:

Among the many general impressions a photographer will receive in the course of an inspection of the pictures, perhaps the most important is that the ordinary albumenized paper silver print is practically a thing of the past. Platinotype [or platinum paper] is certainly first favorite among printing processes, and gelatino-chloride papers [or POP], toned to a variety of different

shades, and often with a matt, instead of the usual highly-glazed surface, rank next. A very effective printing method called “Mezzotype” has been adopted by several English exhibitors, which consists in using plain salted paper, with a rough surface, and fixing the print without any toning process. Bromide papers are still popular, especially for enlargements.³⁴

What about the Kodak camera? The Kodak set itself apart from its predecessors by separating the tasks of developing and printing from the task of taking the photograph. Eastman’s strategy also devised a roll film as a replacement for the dry plate. The Kodak camera was released in 1888 and became wildly successful in the United States almost instantly. The roll film it utilized, combined with the fact that printing and developing were removed from the hands of the photographer, constituted in essence a technological system. That system addressed three functions: the production of photosensitive papers, the taking of a picture, and the developing and printing of the picture. By removing the first and last functions from the hands of the photographer, Eastman created a vast new set of photographers who had to do nothing but “press the button” to produce a photographic image. As Reese Jenkins notes, the Kodak marked crucial change, a change “in conception of who was to practice photography . . . one of the most revolutionary ideas in the history of photography” (Jenkins 1975, 13).

Who adopted the Kodak in Bengal? Bathgate and Company, Smith, Stanistreet and Company, and John Bles and Company all offered printing, enlarging, and developing services to the “snapshotter,” a type serious amateur circles particularly reviled. For a measure of the derision attached to the Kodak, one needs look no farther than George Ewing’s handbook for amateur photographers in India:

And if you want a picture, do not attempt photographs of horse races, they are not really difficult, but the unaccustomed attitude of riders and horses make them more curious than beautiful. Photographing men and women in unwonted situations may appear very funny, but it is the sort of fun that appeals to 'Arry and 'Arriet, and classes you with them. And do not yield to the impertinent demands of friends to “take them”; they really do not care a brass farthing for your efforts, and you should always try to maintain the dignity of the art, although you may own a Kodak. (Ewing 1895, 337–38)

If the target consumer for the Kodak camera was the Indian with no prior experience in photography, that person could not afford the Kodak camera in India. A glance at the advertisements in Calcutta newspapers such as

The Statesman reveals that well into the second decade of the twentieth century, in 1915, the Kodak camera was marketed largely to the elite European or Indian who could afford to vacation abroad rather than the average middle-class Indian who probably could not afford the varieties of available Kodak cameras. The cameras cost as much as fourteen pounds. A folding pocket Kodak cost five pounds and the cheapest, the Kodak Brownie, cost between five and fifty rupees.³⁵ Even a secondhand pocket-folding Kodak was an expensive fifty rupees.³⁶ In addition to the prices, per capita income levels in India, when compared with those of the UK and the United States, suggest that far fewer people in India had the elasticity of income to afford hand cameras (Maddison et al. 2003, 60–62, 87–88, 180–82).³⁷ Literacy was an implied prerequisite for camera users as they needed to read the manuals that came with the Kodak. And an 1881 census suggests that only 6.6 percent of Indian males—corresponding statistics aren't available for women—were fully literate, or thirty-five individuals out of a thousand (Joshi, 43–45).

Let me venture, however, that the absence or presence of literacy is irrelevant here. Indians did not learn to operate cameras in the discursive terrain of the photographic society where optics and chemistry ruled as disciplinary frames of reference. Nor did they have access to written manuals. Instead, they acquired the expertise at stake here through access to the camera itself and the operatively embedded technical knowledge the camera materially embodied, in the specific configurations of parts that constituted its *dispositif*. This techno-epistemology disrupts the project of a media history in favor of a media archaeology, because what occurs when the 1990s *photowallah* operates an 1870s manual processing camera is “a media archeological short-circuit between otherwise clearly separated times,” in Wolfgang Ernst’s superb characterization (2011, 240). More importantly, one expertise did not cancel out the other, so that multiple conceptions of photography coexisted. This was, if any, the superseding logic. Thus, apothecaries such as Smith, Stanistreet and Company that supplied photo-chemicals in the earliest days could by the end of the nineteenth century possess sizeable research and development wings, replicating the Kodak logic. Meanwhile, the photo-studio and the commercial photographer operated in a very different mode and world at the same time.

To what extent can we verify the claims made here, at least the ones that involve some empirical measure? Colonial records of sea-borne trade list, in a scattered and uneven fashion, photographic materials among the goods imported, but do not break down this broad category further so that we can isolate cameras. It is difficult to verify empirically the ubiquity of the photo-studios in the colonial period as they were not required to register, and when they were, no one preserved the records. The city directories for

the preindependence and postindependence era reveal increasing numbers of Indian photo-studios as the nineteenth century comes to a close, but studio names appear and disappear from year to year, and for much of the nineteenth century, city directories rarely mentioned Bengali photographers and photo-studios. For the same reasons, rural areas and small towns pose a further challenge. While the supremacy of photo-studios is anecdotally and visibly evident in India, the constraints and limitations of empirical verification suggest the importance of ethnography, of the kind practiced by David MacDougall.

How exceptional are the outcomes in Bengal in relation to Europe? My point here is not to make an overarching claim that all the methods employed in late-nineteenth-century Calcutta were already “obsolete” in Europe. Rather, I have sought to illustrate the diversity of preferences for early and newer methods of producing images. The availability of collodion for sale in the 1920s gave a distinctive character to photographic culture in India, since the wet-collodion process had indeed fallen out of favor in Europe and the United States by the 1880s. Likewise, photographic culture in Bengal, surprisingly, included ambrotypes and tintypes. In Europe, these processes quickly ran out of favor as the daguerreotype itself receded in use. In the United States, however, they were extremely popular as late as the 1860s during the Civil War years (Mace 1999, 20). These direct-positive images, it seems, were popular in Bengal later than in the United States, into the 1920s. The popularity of albumen prints declined at the same rate in South Asia as it did in Europe, in the period between 1890 and 1910 (103). Nevertheless, elite photo-studios in India, such as Bourne & Shepherd, continued to produce these prints off their existing store of wet-collodion negatives until the end of and beyond this period. The Kodak—and hand cameras in general—did not catch on, but they certainly ushered new genres of representation, as we will see in subsequent chapters. A complex combination of forces ultimately shaped photography in Bengal: technological shifts, new routes of access to and importation of the latest materials in Europe through improvements in communications and transportations, and a striated and varied colonial society.

These aspects call into question the scalar and spatial categories of the global and the local in globalization theory. The simultaneous coexistence of older and newer photographic methods and technologies, and the obviation of obsolescence, was partly intrinsic to the peculiarities of the photographic trade within South Asia (the lack of local manufacture of materials that might, through sheer scale, pressure older methods to recede), but these peculiarities were also a symptom of South Asia’s place within a broader imperial space (Bengal’s proximity to British manufacturing sources). Here, I find Aihwa Ong and Stephen Collier’s discussion of the relation between

the global and the local useful. Ong and Collier, drawing on work of Deleuze and Guattari and Bruno Latour, juxtapose global forms that are open to abstraction, dynamic, immutable, and in circulation, with an understanding of assemblages as multiply determined, unstable configurations of elements. Ong and Collier expressly note that these immutable ideal/typical “global” forms are not to be counterposed with assemblages conceived as local mutations. Instead, they argue that assemblages are irreducible to a single logic (2007, 3–21). From this perspective the task is not to come up with a grand narrative of the globalization of culture, but to look at the circulation of quite specific global forms and the process of their de- and re-territorialization within mutable assemblages.³⁸ For example, we can consider the fairground photographer as an instantly recognizable figure not restricted to South Asia. In this sense, he is an ideal/typical and “global” character. When, however, we speak of the fairground photographer in the 1990s in India, we are speaking of a specific, historically contingent re-territorialization of the ideal character in the Indian context. We are no longer thinking of the global and local as scalar or spatial categories. Instead, the two terms point to a much more contingent congealment and dispersal of practices, technologies, and expertise. The textured history of photography’s imbrication in consumer culture, state initiatives, scientific interest, and commercial exploitation, and the changing meanings and uses of the apparatus (from toy to science to commercial service) show the periodic reinvention and recalibration of the technology itself, as well as its meanings. The cinema, the next chapter will contend, needs to be understood along similar lines.

What postscripts may we add to this early-twentieth-century history of photography? One can reasonably surmise that the hand camera did little in overall terms to curtail the power of the photo-studio in catering to the need for vernacular and domestic photographs.³⁹ Over the past decade, “cybercafés” set up with refurbished personal computers armed with web cameras, and cell phones also armed with cameras, have, in varied ways, made possible personalized practices of image production and circulation. It seems that photographic history in colonial and postcolonial India bypassed an entire stage, that of the Kodak camera and the personal snapshot, in favor of a continuation of a patronage-based culture of image production and consumption, at the center of which lies the photo-studio, from which it frog-leapt to the age of the smart phone.

But such an account misses the complexity of photography’s engagement with other media. In chapter 4, I want to propose that we do pay some attention to the late-nineteenth- and early-twentieth-century hand camera if only because the hand camera intersects both with developments in print culture and with the cinema in the genre of photojournalism. Nearer to our moment, Chris Pinney (1997) demonstrates the photographic