cibly locating 243 of the mounted speakers; placement of the others was hypothesized, based on the existing archival control feed and assumptions about the geometry of the pavilion. The sound routes, which were originally controlled by telephone selectors, were mapped within a virtual model of the pavilion. This was then translated into a binaural audio feed, which, unlike stereo audio, takes into account the fact that the user will be wearing headphones. The visual materials were reconstructed from various archival sources and photographic information, including the écran from the Philips archives, the description of the content of the tri-trous from notes and photographs, reconstruction of the exact colors of the ambiances based on the score held at the Getty, and information about the actual projectors used at the time. The space was then filled with ghostly avatars to mimic the experience of being in the pavilion with up to five hundred visitors. The reconstruction was verified and validated by people who had visited the pavilion in 1958, who were invited to the VEP lab to test the virtual reality environment. Technology and ghostly avatars aside, however, the significant scholarly contribution of this version of “Poème électronique” is the fact that it reasserts Xenakis’s role in the original work. Echoing Le Corbusier’s description of the project as “entirely an interior job,” the virtual environment makes clear that Xenakis’s interior has been unjustly excluded from previous reconstructions. The film sequence is distorted against the ribs of the hypars and the speakers mounted to the doubly curving walls, and Varèse’s score travels along its multiple routes, circumscribing, intersecting, and colliding in space. The suspended volumes and tri-trous appear accurately for the first time. The entire experience was then verified “in field,” as seen in the charming scene in the documentary found on the VEP website, where visitors to the original pavilion confirm that the experience of wearing a VR helmet and being in “Poème électronique” is just like it was fifty years ago.

It is indeed remarkable that it requires such advanced technology to allow us to replicate a multimedia experience from the mid-twentieth century. Yet, despite the admirable accuracy of the VEP project, something is still missing, which perhaps should not be recovered. Like the loss of tape hiss and clicks in subsequent recordings of Varèse’s score, the VEP experience is disappointingly noiseless. One misses the exterior of the building, its modest radicalism within the context of the first exposition after World War II, theushed and disorienting silence upon entering the entirely darkened cave with five hundred other visitors (who were uncertain whether the Xenakis prelude was music or a technical malfunction), the occasional sight of the technician holed up in one of two huge, equipment-filled control rooms, and the shock of the experience itself, with sound seemingly describing the space you were in and images appearing and disappearing so quickly you were uncertain whether they were actually there at all. These things, perhaps fortunately, cannot be replicated, and although there are attempts to physically rebuild the pavilion itself (www.alice-eindhoven.nl), it is important to recall that our experience of even that most faithful replication will necessarily be a mediated one.

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Notes
4. Lootsma was also involved in a reconstruction built as part of the touring set design for the ASKO Ensemble following the release of their Varèse compilation in 1984. This version involved a partial model of the pavilion suspended over the audience with theater lighting, a simple computer-driven version of the score, and the projected film (stills only).
8. The DVD is available through Piet Lelieur or for internal use only at the Sacher Foundation.

Alain Tanner, director
Une ville à Chandigarh

Alain Tanner’s Une ville à Chandigarh is an unheralded classic. This was Tanner’s first documentary shot in color, and his signature long takes clearly revel in hues and tints burnished by the warm Indian sun. Commissioned by the BBC to make this film, Tanner spent three winter weeks in Chandigarh with his cinematographer, Ernest Artaria, and an assistant, and came back with his footage to edit and script it into the documentary with his yet to be famous friend and collaborator, the British new left art critic John Berger. The final film, almost an hour long, is a visual feast. Long slow takes with distance focus shots paint a vivid portrait of life in Chandigarh circa 1965, when the city was barely a decade old. At the same time, fast-paced panoramic takes alternating with carefully composed high-contrast still shots of light and shade showcase the architecture of Chandigarh in vivid detail. It is not just Le Corbusier’s monumental structures that are highlighted by the film (although they do look fresh and very recently built in the late evening and early morning light in which they have been beautifully captured). The camera also dwells extensively on the children playing in the crisp, modernist primary, middle, and high schools designed by Pierre Jeanneret, and Maxwell Fry and Jane Drew (with Jeet Malhotra and M. N. Sharma); the students, hostels, playing fields, and open air theater of the Panjab University, designed by Jeanneret and Bhanu P. Mathur; and also the Chandigarh College of Architecture, designed by Le Corbusier with Aditya Prakash.

Indeed, the most striking thing about Une ville à Chandigarh is that it is not the architecture but the people of Chandigarh who are its central protagonist. Shot after shot, frame after frame is populated not by vistas of empty architecture but by the working, playing, studying, eating, lecturing, combing, relaxing, resting, laughing, haggling faces of the diverse people who already had occupied Chandigarh by then.
In fact, we do not even see Le Corbusier’s Capitol or any other buildings until the twelfth minute of the film. “It is not only that [Chandigarh] contains life, life contains it,” announces the voice-over in the third minute of the film, while panning across a sequence of a outdoor vegetable market complete with sequences of price haggling (in Hindi, untranslated in the film). Soon after the voice-over states: “Chandigarh is not a futuristic city—a dream solution ignoring present realities and present solutions. Nor is it an imposed solution, a European drawing imposed on Asia.”

In this sense, by the film’s repeated insistence that it is the inhabitants who make Chandigarh, and that those inhabitants inhabit it in many, many ways, Une ville à Chandigarh is a far more gracious and accurate portrayal and analysis of Chandigarh’s early history than is Norma Evenson’s Chandigarh (Berkeley, 1966), published a year later. Evenson painted a dispiriting picture of vast, open, uninhabited spaces that were, according to her book, disowned by the Indians. While Evenson’s text set up the meaningless debate on the relevance of Western architecture to India that has continued to dog all subsequent narratives on Chandigarh, Tanner’s film completely sidesteps this question by focusing only on the manner in which the Indian inhabitants have inhabited the city, and asking questions about that inhabitation rather than focusing a priori on the impossibility of that inhabitation. It is therefore a terrible pity that, having spent the first twenty-three years of my life in Chandigarh, and my father having dedicated over fifty years of his life to the architecture of Chandigarh, neither of us, like most of the architectural denizens of the city, had ever heard of Une ville à Chandigarh. I now recommend that instructors in every architectural classroom in the city show this film rather than assign basic reading from Evenson’s text, which is at present so deeply dog-eared in the library of the Chandigarh College of Architecture that the librarians despair that they can no longer order new copies of this book, which is (perhaps fortunately) out of print.

The recipients of the loving caress of Tanner’s long shots are not just the people of Chandigarh, but more importantly, the hardworking, silently suffering workmen and women, the migrant labor (mistranslated as “gypsies” in the English subtitles) who built Chandigarh, quite literally, with their own hands. Frame after frame flickers by patiently as worker after worker files past carrying a load of concrete, a stack of bricks, a pile of earth, and/or a baby; an elderly one, or a charpai (literally “four feet,” a lightweight bed). Tanner’s question, consistent with his and Berger’s significantly leftist New Wave cinema politics of the 1960s, is why is it that the men and women who toiled to actually build this model city (or “pedagogical” city, as Tanner puts it in a later interview) do not find a place to live in it? Not without some hyperbole, the voice-over asks: “In books you read the names of kings. Was it kings who carried the stones for building? And Babylon, destroyed so many times. Who built it up again, so many times? . . . On the night the Great Wall of China was finished, where did the masons go?”

There are long silences in the film where calm sequences of precisely edited camera work ask aphoristic questions of the viewer. Their structure is that of a visual metaphor. Right after stating that the people who built Chandigarh have no place to live in it, the film cuts to a construction site where concrete is being poured to make the ceiling of a house in the same manner in which it was poured for Le Corbusier’s monumental structures—in other words, by hand. Two men standing by a rudimentary mixer on the ground load the freshly mixed concrete into small metal troughs and then lift those troughs on to the heads of a long line of half-veiled women who carry it to the edge of the building, where the concrete is then powerfully and speedily lifted up to the roof by a ladder of sweating, shirtless men, standing on the steps of a bamboo scaffold tied together by jute ropes, until it reaches the roof, where it is poured in place by the master mason, one trough quickly after the next, where it sets. From there the trough is flung back to the ground and is picked up by the women who then return to their line. The camera follows the movement of troughs, then settles on the human ladder, and finally returns to a close-focus shot of a woman’s face as she stands in line to receive her next trough of concrete. Her face is gaunt. This is where the camera dwells, on her face, trying to humanize her, make her real. The metaphor is obvious. As the scaffold that is necessary for construction but dispensed with after, the labor will be discarded.

A few moments later the camera focuses on a solitary laborer, huddled in a blanket on a charpai (her only shelter on a cold winter morning), and then pans to her rudimentary mud hut, just beyond which is a new Jeanneret house, separated by a boundary wall, made of brick with a crisp white brise-soleil, sharply contrasted against the field of brick that was so laboriously constructed by that same migrant worker.

Together with inequity, the film also focuses on responsibility. “How will we understand exploitation without understanding mankind?” asks the voice-over. As the camera disinterestedly captures the alternately studious and smiling and laughing faces of students in the schools and the university, the voice-over extols the benefits of a modern education while at the same time questioning the sense of privilege that seems to be enjoyed by the students. Panning across open-air classrooms, the voice-over queries: “Every boy and girl in Chandigarh will learn to read. . . . Will these children revolutionize India? The experience of being brought up in Chandigarh could inspire them to imagine a previously unimaginable future for India. Or will they be too privileged [sic] to do anything but try to preserve their own comparative good fortune?”

This is a question that can now be put to the test in 2009, since the first generation of Chandigarh-trained professionals are now integrated into the primary workforce. Tanner’s inquiries were somewhat precocious for their time, and there is a strong sense in the film that he knew it was too soon to evaluate the city’s successes and failure. There is a feeling of open-endedness to the film. Historically, one can note that Chandigarh was in fact not designed exclusively as a rich man’s city. Rather it was designed to offer decent
housing to all the government officials earning from the lowest pay to the highest (with a socialized subsidy system, with each officer paying 10 percent of his/her salary as rent)—but yet, the city did not anticipate and make room for the substantial underclass that inevitably furnishes the quotidian services of any Indian city today (the informal sector). Are the institutions of modern India, with their modern architecture, ultimately going to work in the interests of the poorest of the poor? This is a question that Le Corbusier had also asked but left unanswered, first by quietly framing one of the worker’s villages in his carefully conceived montages of the Capitol landscape, and second by publishing innumerable photographs of the same workers in the volumes of his *Oeuvre complète*, largely without comment. In 1966, there can be no doubt that Jawaharlal Nehru's answer to this question—Nehru had commissioned Chandigarh and was running India explicitly on the principles of a Soviet-style centralized socialist system—would have been that Chandigarh was a model city, “a symbol of the nation’s faith in the future,” as he famously put it—a future in which migrant labor would emigrate out of its villages and low-tech livelihoods, and permanently find a place to work and live in the new modern institutions and homes of the many Chandigarhs yet to be built in India.

Today, in 2009, Nehru’s promise is yet to be fulfilled. But perhaps it is still too early to call, for although Nehru’s command socialist economy failed to deliver, it did establish the conditions for today’s global capitalist knowledge economy that now offers up a new vision of prosperity. Thus while the jury may still be considered to be out on Tanner’s central question, another reading, more critical of the film’s stance, is in the offing. What Nehru’s India, India’s new economy, and Tanner and Berger’s leftist positions assume is the demise of India’s rural economy, or, so to speak, of Mahatma Gandhi’s India. As the world crosses the 50-percent-urbanized mark (3.5 billion now live in cities), Gandhi’s Ruskin-Tolstoy-Thoreau–inspired vision of making the self-sufficient village the constitutive unit of India’s economy continues to dim like a receding echo. In 1965 one senses that Gandhi’s vision of India, which he invoked to bring down the British Empire, must still have been a powerful image in the mind of those like Tanner. It is difficult not to miss several shots of women sitting in their homes spinning their *charkhas*, the central instrument and symbol of Gandhi’s India. Today they are all gone. In the film, they are in silent contestation with the straightforwardly leftist voice-over, which is silent when it comes to the spinning wheel, but extols the factory workers laboring in the large industrial cotton mills. However, since the amount of time that the camera spends on rudimentary village life is so disproportionately more than what it spends in the factory, one senses that that contest is not quite so resolved in the film.

This silent contest has its most poignant moment when the camera dwells for an exceptionally long time on the sight of an old man and his son tilling the soil with the help of two bulls. A beautiful long, curved wooden yoke, held together by a shiny piece of iron, occupies the center of the frame as the white bulls slowly
move along, guided by the careful ministrations of the elderly father with a long, flowing white beard, who repeatedly sidesteps the bulls, making sure that the furrows of the land are straight and correct. Immediately behind him the son, already in his middle years, seems to follow his father, double checking the work and still learning from the older man. In this long sequence, which Gandhi would have certainly approved, the voice-over is silent. One imagines a moment of quiet contemplation, such as the many that Le Corbusier quite clearly enjoyed, judging by the sketches of cows, bulls, workers, and other agricultural scenes that extensively populate the pages of his Chandigarh sketchbooks. But then the camera pans just beyond the scene of the plough and finds another even older man, lying in the shade, clearly much too old to work in the field any longer. Here we find an intergenerational scene that could easily arouse much discussion on the pros and cons of family, kinship structures, locally held knowledge, and so on. This scene Gandhi also would have approved. Instead, at this point the voice over pipes up: “The Indian cow has a curious hump behind its shoulders—like a perpetual yoke beneath the skin, as though it were accommodating itself to its own servitude. It is somewhat similar with men. Their religious teaching encourages them to accept all that befalls them. Patience has been the necessity and tragedy of India.”

In Gandhi’s hands, patience, or nonviolence as he rechristened it, was one of India’s greatest strengths, and a powerful instrument of self-realization and active resistance. The voice-over’s conception of an “unchanging, fatalistic India,” orientalist in origin, forgets that the migrant labor’s exploited life today is not a consequence of caste-based discrimination (although this certainly had a hand in it) but a consequence of the very modern processes of the international global economy, called colonization. Most of the migrant labor that worked on Chandigarh (as indeed in most of India) comes from the states of Bihar and Eastern Uttar Pradesh, the areas that were among the most prosperous in precolonial India (and indeed were the center of many of India’s empires) but that were among the first (since they were closest to Calcutta) to be devastated by the uninformed “land reform” brought about by the colonists, starting in the late eighteenth and early nineteenth century. These land reforms, motivated alternately by conservative, aristocratic, or romantic peasant-based conceptions of land ownership, inflicted devastation on a population that depended on ancestral tilling rights, rather than land ownership, so that they were left with no demonstrable means of securing the land they worked. This resulted in land consolidations, which eventually forced most of the underclass to migrate out and work as laborers. The economy shifted to growing cash crops—jute, cotton, indigo, opium—for the mercantile and industrial economy of nineteenth-century England.

It is remarkable and it is the film’s greatest weakness that it contains no interviews. Not one person—none of the senior government officials, small shop owners, students, workers, or the much-commented-on women—are asked what they think of where they are, their lot in life, or their role in the world. Here Tanner loses a major opportunity to ask the workmen, who are so silently celebrated by Le Corbusier in his Oeuvre complète, what are their histories and what they think of their life today and this architecture that they are building. After the long, silent shots of laborers lifting concrete, instead of garnering the voices of the oppressed, the audio switches to the plaintive wail of a Hindustani classical song “Rasiya aavo na” (Lover won’t you come?)—untranslated in the film.

What is one to make of this “mistranslation,” as it were? Metaphor, with all its beauty, is also the film’s greatest liability. The consequence of the lack of voicing is that, in spite of the close focus and long shots that linger on the faces of the labor, the film inescapably maintains a certain distance from its subjects. And this stems, in my opinion, from the film’s stated and unfortunately unexamined claim that the lives of the workers lacked any kind of modernity and agency—that they had remained unchanged for millennia. One can also accuse Nehru of this unexamined claim. But as we move forward, and as we learn from the social focus of Tanner’s beautiful film, we will forget only at our own peril that the subalterns have identity and agency, and most importantly, histories of their own.

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