

# TAKE THE B TRAIN: RECONSTRUCTING THE PROTO-CINEMATIC APPARATUS

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Media saturation: so ubiquitous, so mercurial, that we must read the business section of the New York Times to find out how to see the newest crop of blockbusters (and by extension, every little experimental animation ever made): streaming, VOD, YouTube, file sharing, handheld devices in all sizes, speeds and colors. And note, the delivery methods make you stay at home in your entertainment pod or walk while staring at your own miniature gadget. What follows is a glimpse into non-mediated, concrete animation, also known as physical animation, situated in a unique space; you have to seek it out. Instead of being pervasive, a part of the hypertrophied tsunami of eye candy, it demands our concentrated attention: it asks to be perpended.

## BACK TO BASICS

Consider sequence drawing for character animation. The heroic in-betweeners stands athwart two flows of segmented time and decides where to place each line for character consistency and spacing-as-pacing, while considering past and future poses. Often the animator's timing ladders have already defined accelerations and tempos, but the actual micro decisions affecting subtle attitudes and degrees of inertia occur at this primal stage of animation, an exacting task where the apprentice begins to learn his craft. It is also the moment when unconscious impulses, pencil wiggling, hesitations, erasures, etc. conspire to shape the image, the single phase of motion, the "privileged instant."<sup>1</sup>

Yet this free rendering of a phase of time, from a fungible universe of possibilities, has always, paradoxically, been considered the boring, time-consuming, technical aspect of animation, no different from the machines that record and project the images. The engineering at the heart of this period of animation was shunted off to a dimly-lit utility room where obsessive loners (unionized, highly-specialized tradesmen) stitched together a synthetic alternative reality.

The disdain for the engineers of animation has historically informed conventional wisdom ("so much work"), elite art-critical prejudice ("if it moves, it's not for us") and the bottom-line orientation of management ("if only we could eliminate this costly labor"). Despite the enormous recent public interest in animation, particularly its convergence with live action through motion-capture, 3-D and CGI, we have overlooked animation's fundamental exceptionalism, its paradoxical antagonism with cinema.

Step off the A Train, animation's mainstream express bound for mass entertainment, the Cotton Club of the mind. Instead, take the B Train. It passes through an alternative territory inhabited by three artists, among many, who design and make objects of enchantment which come to life under a variety of conditions, using a wide range of

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<sup>1</sup> A delicious term coined by Andre Breton, theorized by Gilles Deleuze, referenced by Rosalind Krause, reconfigured by Steve Reinke: *The Sharpest Point*. YYZ Books, Toronto, 2005.

technology as old as the zoetrope and as new as wearable LCD shutter lenses. The territory isn't geographically literal (though Brooklyn is home to one artist, a past home to another and the site of a public art sculpture by a third), but more like an experimental, tinkering attitude toward the engines of synthetic motion and perception. The work is unmediated, literally confined to actual space and time, without the benefit or drawback of distribution, transmission and duplication. You must seek it out in museums, galleries, public spaces. There are certain parallels to proto-cinema but it is incorrect to see the work as nostalgic or traditional: it has one foot in the past, one in the future.

#### GREGORY BARSAMIAN

An artist whose studio is a machine shop, Gregory Barsamian makes kinetic, sculptural objects to exacting technical specifications, which come to life when lit by an intermittent strobe light. Apart from its utterly guileless simplicity, the purpose is to re-invent a new architecture for animation, one that re-focuses the eye and mind away from the shadowy illusion of images to behold the objective reality of a concrete object, fixed in a series of momentary glimpses. The shock and pleasure of viewing his work suggest the allegory of Plato's Cave, like averting your gaze from shadows and images cast on the wall to peering out into the real world to see something tangible, familiar, yet as if for the first time.

#### THE COMIC

Your delight and astonishment may be complemented by laughter. Henri Bergson's proposal, in 1900, deals with the social structure and causes of laughter. As would Freud, he admits the unflattering and unacceptable implications of laughter, e.g. reaction to pain of others, deformity, violence. But instead of a "comic of words"<sup>2</sup> he stresses its physics: inflexible, machine-like behavior, gestures, mimicry; hyperbolic, dynamic materiality, metamorphosis; and significantly, repetition. We laugh at the man slipping on a banana peel and falling because the action is automatic, unlike the fluidity of natural motion, and it's even funnier when repeated by unsuspecting anonymous pedestrians. These kinds of actions are the soul of slapstick, Chaplin, Jerry Lewis. And Barsamian fits easily into this ageless, universal tradition while also distilling the comic through his mechanistic virtuosity to a higher level of philosophical wit.

The experience is also frightening. One could say awesome if the adjective still retains its visionary, ecstatic connotation. It might compare to the audiences' first reaction to the Lumières' train entering the Gare de La Ciotat in 1895 (or 1896), due more to that iconic film's illusion of deep space, devoured by a steel behemoth, than to its documentation of kinetic properties. Barsamian's steel machines contain a similar array of gears, switches and armatures, whizzing about—revolving—at rapid speed. You feel air currents and vibrations and hear industrial clattering; there is a disturbing compulsion to reach out, to touch it, counter-balanced by sobering lessons from childhood

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<sup>2</sup> Le Rire. Essai sur la signification du comique ("Laughter, an essay on the meaning of the comic"). Henri Bergson, 1900.

experiments. It would certainly lead to injury and the machine's damage or even destruction.

#### WINDOWS OF PERCEPTION

With few exceptions, Barsamian's works are free-standing and can be viewed from almost any point along its perimeter. Your view of the constant movement is arrested by the instance of its illumination. This kinetic theater in the round offers a rich reading of actual space as every facet of the three dimensional figures is visible depending on your (theoretically infinite) points of view. Unlike the zoetrope, Barsamian's persistence of vision phenomenon is not merely a function of a mechanical shutter, which can introduce a blur, but is produced by a finely-tuned, powerful strobelight pulsing synchronously yet for a much shorter duration, thus freezing the motion like a fast shutter speed on a still camera.<sup>3</sup>

Shortening shutter time and increasing illumination (related inversely Edward Weston's strategy for super-sharp still-life studies, using an f/64 diaphragm compensated by increased exposure) both freeze the motion and enhance the resolution and depth of field because the eye's pupils are contracted. The result is hyper-realistic, fixing a more vivid virtual image on your retina; and the temporal performance of these successive glimpses is other-worldly, preternatural. The spinning contraption produces an exhilaration, as if driven by centrifugal force, similar to that of an amusement park joy ride. All conspire to "create disturbance in your mind."<sup>4</sup>

#### CRAFT

Each Barsamian piece is a unique machine, not a prototype for mass-production. It is fabricated entirely by the artist, not sub-contracted to specialists. He has mastered a broad panoply of self-taught skills to fashion wood, glass, metals (cutting, casting, forging, bending, drilling, milling, welding, etc) and electronic circuitry to make the mechanism operate flawlessly, not in a modernist parody of machinery, like Robert Breer's or Yves Tinguely's witty contraptions. Each possesses a high level of finish,

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<sup>3</sup> The cinema apparatus captures and projects a static image for a longer duration (about 1/60 of a second) which introduces a "pleasing" motion blur, smoothing and tapering the action. The projector shutter disc is often divided into 3-60 degree openings to blink the single image 3 times which further smoothes out the discontinuities between frames.

Viz. Paul St. George.

<http://journal.animationstudies.org/2009/11/10/paul-st-george-using-chronophotography-to-replace-persistence-of-vision-as-a-theory-for-explaining-how-animation-and-cinema-produce-the-illusion-of-continuous-motion/>

<sup>4</sup> Ooh Poo Pah Doo. Jessie Hill, 1960.

craftsmanship, even sincerity. Marx imagined that the worker in a socialist, classless utopia, freed from wage slavery, division of labor and alienation, would have time to devote to art. But could he have imagined an artist using tools and processes appropriated from the assembly line? Maybe yes, if had lived long enough to witness the industrial arts movements, like the original Bauhaus, built on a hands-on approach to design, craft and technology. The hot-rod, Radio-Shack, DIY ethos of the America's postwar years, culminating in Stewart Brand's Whole Earth Catalogue, encouraged a generation of other directed middle class youth to take up working class tools and construct their own utopias. Barsamian's work stands as a philosophical pillar amidst these diverse sources. It runs counter to the modernist tradition of inversion and irony which covertly mocked well-crafted objects; it by-passes the conservatism of post-modernism; it collapses the art/craft dichotomy.

### ENGINEER OF HUMAN SOULS

Stalin left us this unfortunate, indelible phrase. But isn't this exactly what animators do? By subjecting inert matter to machinery's cunning contrivance, we cobble together a kind of enchantment, not for unifying the masses toward some social ideal, but for its own delight. Even Frank Gehry's flights of fancy remain miraculously aloft due to the genius of Rick Smith, his barely acknowledged structural engineer.

Barsamian explicitly states that his work is an attempt to recreate his dreams, to access the subconscious well to counteract the "chauvinism of consciousness,"<sup>5</sup> which is so busy excluding the rich data we absorb everyday. He says,

"we need to listen a little more closely to this portal into the lost, the feared and the ignored. Here we experience things not through the drip, drip of the conscious mind but rather the full torrent brought to us by all our senses."<sup>6</sup>

And yet, the experience is as much about how you see as what you see. The two could be considered contingent insofar as dreams are unique experiences demanding an exceptional method of recreation which word and image can barely satisfy. To reclaim his dream-life Barsamian creates figures and things ripped from context, like all dreams recalled, and reassembled, like something out of a Max Ernst collage expanded to the third and fourth dimension: a pair of green hands scoop into an open book and haul up a fresh catch of tangled letterforms in the form of a lizard, then the hands begin to scoop again. The visions can be cycles or metamorphoses, or a combination of the two: a squadron of putti circles overhead while morphing back and forth into helicopters, a claustrophobic room is invaded by a crumbled newspaper which retreats leaving a behind a discrete turd, a monochrome head screams its pink mouth open to consume itself, and in a tour-de-force, a sleeping head (also a self-portrait) emits a blob thought balloon

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<sup>5</sup> Extracinematic Animation: Gregory Barsamian in Conversation with Suzanne Buchan

Animation November 2008 vol. 3 no. 3. Sage Publications

<sup>6</sup> Gregory Barsamian 2010 statement on Artifact.

that, ever ascending in a jack-knife, becomes an acrobatic human form, a curling larva, a tire, finally a human settling down to sleep on a giant mouse trap, a titular pun on trap and sleep<sup>7</sup>.

You stare at this kinetic dream world, sculpted out of malleable material like clay, plastic, or industrial strength material like steel mesh, even venerable materials like wood and cast bronze. You can parse the action as a narrative or as thread of movement connected in space or as autonomous glimpses. The sequential forms retain the primitive imprint of the artist's fingers and tools that retain a direct, tactile innocence. The process is gestural and idiosyncratic, personal yet without straining to impose a signature style. It is both surreal and wonderfully artless.

#### ARTIFACT

(Previewed in 2010 at The Boiler in Brooklyn's Williamsburg, before opening at the Museum of Old and New Art, Tasmania, which commissioned it.) The cavernous brick and iron industrial space is lit by intermittent beams emerging from minute fissures running throughout an enormous, stationary, recumbent steel head, 12' diameter at its greatest span. The cracks are seams intentionally left open between welded tacking points suggesting a shattered skull; they paradoxically lend a feeling of flexible fragility to the hulking mass.<sup>8</sup>

The initial effect is eerie. It is much larger than the Colossus of Constantine or Ron Meuck's self portrait, Mask II, but stripped of all detail, save the staring eyes; more in the spirit of a graphic head by Redon: meditative, distracted, alive, static, maybe under a spell or deeply anesthetized. This is not self-portrait. And it is the first major piece Barsamian has totally enclosed. You are drawn forward to discover what's inside the head. The surface is smooth, buffed steel containing 7 oval openings of varying dimensions and heights, each with a glass blister molded to follow the head's convex contour. These "portals" to the unconscious reveal a thicket of disconnected events like a falling apple becoming a red pepper landing and disappearing into a bright green hand, or a glistening yam-like shape birthing a yellow bird which then seems to be fluttering everywhere. A falling book, a staring purple head sporting bright red lipstick, an up-turned fedora — all exist in pulsating, transformative confusion. The only other orifices, the nostrils, allow you to hear (and feel the wind created by) the whirring internal mechanism, a rotating armature of twisted steel tubing which support the animated objects. When it catches the strobe light this jumble becomes a chaotic field suggesting randomly firing synapses, a dynamic inner-ground for the morphing multi-hued forms welded to their arcing loops.

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<sup>7</sup> Die Falle, 1998.

<sup>8</sup> The compound curves of each skull-shard was hand-formed by the artist on an English wheel, a massive tool with two rollers (one of which is called the anvil) used to shape auto body prototypes or ship hulls.

#### RUNNER (exhibited with Artifact at the Boiler)

Runner, created before Artifact, has a modest scale and deceptively simple premise. A table-top wooden cabinet is crafted like a 1920s radio, gracefully rounded at the top with a 4" diameter window on the front where you might expect a dial or speaker grille. Peering into the hole you see a vision of comic futility, lit by an unobtrusive strobe. A tiny bronze man is running in place on the teeth of a 10" carbon-steel rotary saw blade, spinning fast enough to give the scene a hint of momentary disaster, continually threatening and avoided. The strobe freezes the blade's spin making it appear to be practically stationary but inching ominously forward, toward its prey. The twinkling irregularities of the face (dings, nicks, spots) hint at the blade's high speed, its relentless danger. The little man, actually a series of 12 figures, each about 4" high, performs a dance cribbed from Muybridge. But Barsamian molds the design into a primitive, anonymous everyman, anatomically correct, without distinguishing facial characteristics, a sprightly, even unperturbed homunculus. The contrast between fine art (cast bronze figurine as might be found in a vitrine) and industry (practical steel tool, part of every carpenter's kit) is typical of Barsamian's genial dialectics.

#### ERIC DYER

Animation festival audiences were startled in 2006 by Copenhagen Cycles, a film that re-animated footage shot from a bicycle along the baroque streets and canals of Copenhagen. This was no ordinary "rotoscope trope" or time collage, for Dyer had printed, cut out, and mounted his captured frames to build elaborate multiplane zoetropes which he then re-constituted in real time by shooting continuously through the shutter slits. The result is a dizzy push-pull effect, sandwiching the animator's obsessive concern for animation's privileged instances between video's dogged pursuit of real-time documentation. It is a beautiful, multilayered tone poem that sways in and out of abstraction. The film is a mesmerizing, satisfying work, complemented by John Adams' Phrygian Gates. Dyer cut his teeth in the world of music video, TV and experimental film before embarking on the meta-cinematricks of Copenhagen. At the Platform Festival of 2007, he installed three of the "cine-tropes" with simultaneous live feeds projected on screens in a room which immersed the viewer a 270 degree cyclorama.

His latest work, titled Bellows (suggesting the energy-sustaining power of injected air), uses an array of high-tech processes to ratchet-up animation engineering and perception into a scientific fantasy on morphology. First he designs and animates CGI figures which wiggle and contort through evolutionary and scalar phases. Many are designed using an accordion motif recalling a slinky, that delightful, perpetually loping children's toy. These

shapes are then using 3D laser-cutting printers<sup>9</sup> to achieve an exacting microminiaturization, then hand-painted to achieve chromatic transformations. The figures are arranged on lazy-susan platters, often stacked high like elaborate multi-tiered wedding cakes. Dyer employs staff and students of the Image Research Center at the University of Maryland Baltimore County, where he has been a professor since 2004, to render each phase of the production. The final vision, where everything springs to life in real space, is achieved by LCD shutter glasses similar to those used in commercial features with two important differences: the lenses blink simultaneously, not alternating left to right, and the speed can be fine-tuned to synchronize with the rotating platter. (Symmetrical blinks refresh both eyes to successive phases of the moving diorama, while asymmetrical blinks force each eye to view alternating 2D stereo images in rapid succession to simulate 3D.) The controllers driving Dyer's lenses are prototypes, i.e. expensive experiments.

The optimal viewing conditions require intense light flooding the platter and a close proximity to the spinning sculpture (about 1 to 2 feet) to marvel at the tiny objects mobilized into mysterious actions. It is a lapidary, hyper-realistic phenomenon, similar to Barsamian's, of actual objects defying expectations by moving in synthetic time. The spectacle is enormously complex as hoards of life forms swarm and wiggle through their permutations in forced perspective. Your eye can gimbal from an elevation view up to a bird's eye view as if airborne. And the cycle is consistently seamless. At this intimate proximity you are tempted to reach out to pick up one of these squirming creatures to feel its form and texture which appear to be pulsating in an impossible, random rhythm. As with the flat bottom panel of the traditional zoetrope drum, often embellished with spiraling designs, Dyer's sculptural masses reference biological development based on the Fibonacci Sequence, the essence of the golden spiral, by which some creatures can grow without altering their shape.

As with Copenhagen Cycles, Dyer has translated his sculptural inventions into an exquisite, eponymous film. The spectacle is based on all 18 platters blended into a delirious life-cycle. Beginning with jaunty marching concertinas, hinting at Fischinger's cigarettes<sup>10</sup> yet undercut by the stark metallic nightmare of jackbooted fascism, Bellows slips incongruously into a polychrome Garden of Eden. Emerging from a primordial ooze, writhing buds transform to larvae, then flowering forms which dance in complex patterns before resolving into ranks of abstract tubes and semaphores. The gaudy, pastel palette (hot pink and lime green) reminds you that this menacing hybrid species is purely synthetic, with slight chance of survival in a real jungle. The off-kilter, squeeze-box music of Nik Phelps keeps the mood of unsettling whimsy. Dyer the sculptor is constantly planning ideal settings for the cinetropes, like improvisational "happenings"

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<sup>9</sup> A precise Zcorp printer based on a subtractive process also used in Aardman's sprightly film, *Nokia Dot*.

<sup>10</sup> Muratti Greift Ein. 1934.

of live musicians. Dyer the filmmaker sees his work as an effort to extend narrative structure beyond linearity to a cyclical “waterfall of loops and spirals.”<sup>11</sup> He says his Copenhagen cinetropes were “thrown together quickly” as a means to an end, but with Bellows sculpture and film attained equal footing: “separate experiences, different audiences.”

His current project, *Short Ride*, now in development with the National Film Board of Canada, is a giant zoetrope, a 20’ long spinning tunnel which visitors will traverse on a footbridge wearing shutter glasses to view spiraling, sculptural forms. The film version will be shot in stereo 3D. Capturing an animated spectacle with continuous media continues to drive Dyer’s paradoxical practice.

Dyer hopes the substantial cost of his experimentation will soon abate (through a variant of Moore’s Law) so the sculptures can be seen more widely. His hopeful optimism extends to medical research for a cure to his degenerative eye disease, Retinitis Pigmentosa. The artist who has conceived and produced a remarkable animation vision increasingly has trouble viewing its full 3D effect.

#### BILL BRAND

The literal B Train refers to the visionary work of Bill Brand, *Masstransiscope*, completed in 1980 and recently restored to its bright, cartoony exuberance. It is the first work of art commissioned by New York’s MTA and without doubt one of the most successful works of public art ever built yet, like the Chauvet cave drawings, still remains nearly hidden from view. It demands a patient search to navigate the vagaries of the subway schedule, and an alert, dedicated response. It is an unobtrusive gift to the everyday Manhattan-bound B Train commuter who may casually peer out the subway window as the express train hurtles by an abandoned local stop. Suddenly the gloom is pierced a luminous, animated sequence of 80 paintings (abstract doodles of angular shapes and funky blobs snaking into a child’s version of a rocket blasting off). Brand concedes there may be an “epic narrative about biological, cosmological, social and human development” but there is a winkle in his eye.<sup>12</sup>

Following the first peak of the subway graffiti art movement of the 1970s (yet preceding Keith Haring’s subway drawings of the 1980s), Brand’s project came to life when the subway system (and the city government) was in distress. It shares with graffiti art a bold graphic sensibility, a non-commercial disdain for the art market and an involvement in appropriating public and/or forbidden spaces. Lucky for us Brand was able to sell his rejuvenating concept to the MTA on its artistic merits alone, without having to stress civic virtues.

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<sup>11</sup> Email letter to Griffin, 2011.

<sup>12</sup> Conversation with Griffin, 2011.



The very title Masstranscope is a winking reference to 19<sup>th</sup> century pre-cinema gadgets. And it is seen from a train, that rich, symbolic vehicle of modern life which was then reaching its apogee under the consolidating monopolies of transcontinental rail tycoons like Leland Sanford, Muybridge's first patron for his motion studies. The locomotive was able to propel humans at astonishing speed to create distant panoramas and close-ups of flickering sequences like telegraph poles, blurred yet possibly refracted in a row of windows, suggesting, like a flipbook, the potential for animation. And the gleaming rails, streaming by like a waterfall, were pinned by successive crossties that jerked and blinked relentlessly, just like frame-lines.

#### PRIOR TO THE SCOPE

Brand had his eureka moment while riding Chicago's El Loop which transports riders past block after block of densely urban architectural monuments. The hypnotic effect of row upon row of flickering steel columns and girders catalyzed ideas already set in motion as an undergraduate at Antioch College, where his teacher was Paul Sharits. Brand tells of collaborating with Sharits on *Sound Strip / Film Strip* (1972), the seminal 4 projector installation of one continuous line scratched on film, projected horizontally. The result had a major impact on Brand's thinking about murals and the synthetic temporality of cinema, just as his own film, *Moment*, (which re-recorded mind-numbing oscillations of advertising signage using an innovative front-screen projection system) would extend the boundaries of the structural film movement of the 1970s. The threads of precedence include Brand's early cartoon work, in the mode of Robert Breer and Len Lye, personal-political documentaries and optical film effects created by a range of geared contraptions of his own design, which rotated and tilted mirrors and cameras<sup>13</sup>. Another precedent is the visionary work of Stan VanDerBeek, the renaissance man who juggled animation, from flipbooks to computer graphics, within sculptural space to make installations by projecting films where you would least expect them: onto the ceiling of his geodesic dome, or onto a wall of artificial steam clouds.

#### LINEAR ZOETROPE

The methodology is based directly on the venerable cyclical zoetrope which Brand re-jiggers into a linear track by calculating the distance from passing train to art to shutter-wall and its specifications: interval, size, interstices. Like film, Brand's scope is theoretically of limitless duration, but kept in check by the subway platform length, just as Muybridge had a limited supply of cameras. Each shutter slit has a full-spectrum fluorescent tube which keeps the array of panels of sequence paintings well-lit in otherwise total darkness. Brand further enhances the luminosity by painting on retroreflective material used for highway speed limit signage (also in Stanley Kubrick's 2001 front projection effects). The image is thus brightest on the narrow axis with the shutter and the viewer; it is telegraphed directly to the eye. The spectacle reclaims abandoned public space, it reclaims the mobile energy of the passing train to generate the necessary continuous transport and, aside from replacing the light bulbs, it requires

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<sup>13</sup> Brand's professional services, as BB Opticals, are in high demand for film restoration.

no maintenance. It is art based on sustainability, long before the term percolated into our consciousness, but more important, it's stealthy and cool.

Even though he says “all media is fleeting and concrete kinetic maybe the most fleeting” Brand could be referring to the experience of Masstransiscope, a vision caught out of the corner of the mind's eye.

### THREE CHAPTERS ON THE SAME PAGE

These artists have found different ways to tinker with the interstitial nature of perception — those brief, vivid glimpses of real things. All of them make unique constructions of continually flowing space, interrupted and interpreted at decisive moments. The processes are transplanted from earlier eras, rooted in steel machines, gears and levers, appropriated from unlikely inventories of our infrastructure, or stolen from the latest digital technologies driving the juggernaut of mass entertainment. Brand's single, influential installation has survived over 30 years underground and will last as long as the trains are running, to be discovered by successive generations. Dyer makes intricate optical machines for art space installations, then records and edits the performances into a single channel movie for a broad spectrum of performance venues. Barsamian dives into the past worlds of industry and hand-craft to draw us back into a world of the unconscious, where objectivity has come unhinged. Each artist in his own way is still exploring where his audience is located: art gallery, public space, forbidden zone, film festival. And those of us making animation, perennially struggling to re-define our place within or without cinema, could do worse than ponder anew those in-betweens, and take a ride on the B Train.