From theater to laboratory: two regimes of apparatus in the material assemblages of media culture

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ABSTRACT
This research examines the apparatus concepts in the last decades of film studies, from the apparatus theory in the 1970s to the revisionist historiography of the early cinema and new media theory after the 1980s. Diagrammatizing the operation of a cinematographic apparatus as a process to make a fold between its machinic sensor and motor embedded in the material assemblages of media culture, it suggests two prototypes of apparatus, namely theater and laboratory, defined respectively by their different ways of enfolding an inside, problematizing the outside, and reassembling them to each other. Apichatpong Weerasethakul’s ethnographic experiment in Mysterious Object at Noon provides an example of the laboratory apparatus that transforms its operational environments into the assemblages of singular problems, never representable, but only concretize-able by the apparatus’s function to network them.

Apparatuses and assemblages

The status of ideology for Marx was analogous to “the theoretical status of the dream among writers before Freud,” something to form an imaginary assemblage (bricolage) “arbitrarily stuck together” (bricole), once the eyes had closed, from the residues of the only full and positive reality … that of concrete history of concrete material individuals materially producing their existence” (Althusser 1971a, 159–61). In short, “ideology has no History.” Relocating this imaginary assemblage back to the material inscriptions of ideological state apparatuses (ISA) and rephrasing Marx’s thesis into “ideology is eternal,” what Althusser emphasizes is however the imperative non-historicity of ideology or its “transcendent to all (temporal) history” to represent the historical formation of alienations as something eternal and “omnipresent in its immutable form” (161). For the sustainability of industrial capitalism, ubiquitous disjunctions among alienated individuals should be re-staged, through certain discursive intermediaries, as the deficiencies that could be reimbursed only by their imaginary participation in something bigger than real. In film studies for the last decades, especially in its Marxist and Althusserian tradition, the operation of cinematographic apparatus was discussed as a prototype of audio-visual media that provides this discursive supplement to the disjunctive assemblages of capitalism by enfolding the alienated audiences around its perceptive and responsive surfaces within which the normative state of subject and desire is re-programmed.

On the other hand, in the new phase of capitalist accumulation with its affective and cognitive mode, these assemblages intertwined by material and discursive strata become arbitrarily stuck together once again since the individuals isolated in abstract wage labor and normative desires are not sufficient for the capital’s reallocation of them to the niche and singular nodes in consumer and producer networks. Alienation today is neither resulted from immutable distances nor imaginarily overcome, but communicational in its modulating individual boundaries into the forms arbitrary enough to be flexibly plugged into and unplugged from each other. It is not enough just to build stable paths for productions to flow in fixed directions. The disjunctions should remain “metastable” always potent to be re-individuated into as many different modular circuits as their possible enrollments to different programs of production (Simondon 1992, 304; Deleuze 1992, 5). Given this necessitated arbitrariness of precarious labors, the sustainability of assemblages is not achieved solely by discursive inscriptions of apparatuses to re-stage the imaginary “relations of interiority” to stick the individuals together into an organic whole. Instead, the “relations of exteriority” needs to be inscribed in every disjunction of assemblages to experiment more interoperability among the entities becoming metastable in their constant displacements.
(DeLanda 2006, 10–11). As Deleuze says, the “perpetual training [that] tends to replace the school” incubates the individuals called precariats today, who should ceaselessly update their connectivity in response to their incessantly disturbed connections. The recent use of the term assemblages to describe the social is understood in this context as supplementary to a new sociotechnical logic of alienation called modulation, or “continuous variation” and deformation of individuals (Deleuze 1992, 4–5). If it is still true that alienation is the function of apparatuses, what is notable in their recent strategy to mobilize the individuals dividualized is its shift from staging something transcendent to problematizing something immanent, such as the dangers of jamming, piracy, virus lurking within the material assemblages (6) or precarity of life. The solutions to these problems require individuals to be dividual, mobile, and connectionist in more ad hoc manners. For the perpetual training of this ever-updated connectivity, the disjunctions of the perceptional and responsive surfaces that recent audio-visual media widely distribute to black-box their audiences within, such as the indeterminate gap between your seeing a blog post and clicking “like,” also need to be reprogrammed as the plug-ins flexibly assembled one another.

As a methodological suggestion to diagram this changed function of media apparatuses in the last decades, this research theorizes two prototypes of cinematographic apparatus, theater and laboratory. Comparing these two different places, one for representation, another for knowledge production, it also focuses on their common processes to enfold a disjunction between screen and camera, or sensor and motor. They distribute and re-distribute these gaps over the material assemblages of media culture to capture and mobilize the responses from audiences, but in their own ways of managing alienation; to stabilize the disjunction through transcendence or to keep them metastable for incubating more immanent relations. The ideological operation of cinema in the apparatus theory of the 1970s and its non-ideological function reframed in the revisionist historiographies of the early cinema and the new media theories after the 1980s, which this research assigns respectively to the theatrical and laboratorial regimes, reflect this change in the media apparatuses’ modes of operation.

Assemblages diagramed: on a method

As one example of the assemblages with lots of disjunctions not stabilized yet, we can examine how the material inscriptions of a church in Althusser restage the historical formation of religious belief as something transcendent. Four different modes of materiality, namely “material actions inserted into material practices governed by material rituals” all aligned in the last instance along the church as a “material ideological apparatus” are discussed in his early work. But the question of how “the four inscriptions of the adjective ‗material‘ … are affected by different modalities” (Althusser 1971a, 169), which he leaves aside for another study, is more clearly articulated in his late “aleatory materialism” (2006, 192). Drawing a short genealogy of the “underground current” in materialism from Lucretius to Deleuze, Althusser relocates the thousands years of materialist thinking in the Western upon “the same materialism of the encounter or … conjuncture” (196, 187). A conjuncture for him is characterized by its relations of exteriority in which “every mode of production comprises elements that are independent of each other … in the absence of any organic, teleological relation,” like Lucretius’ atoms “falling parallel to each other in the void” before “the swerve of the clivamen” makes them encounter (199, 168). These arbitrary entities are however also occasionally assembled together as “congealed (albeit shifting) encounter,” like the capitalist mode of production comprises of the elements “in a ‘floating’ state prior to their ‘accumulation’ and ‘combination’” (193, 198). Destabilizing his early apparatus concept “obsessed with structures, their relations of determination,” Althusser’s late speculative work transposes all conjunctions constituting ISAs, once put in the forms of the entities “inserted into” and “governed by” each other, upon a sort of “non-Althusserian” assemblages; in which each connection is no other than “a lacuna, a blank or void that is filled by the aleatory” (Bargu 2012, 93–94). In this porous platform for the “floating elements” to congeal into a regime or shift to another in our question, the power that governs its transformation can be expressed in terms of attractor which functions to “create the conditions for a swerve, and thus an encounter.” For Althusser, a nameless Prince in Machiavelli’s fiction was one example of this attractor who “gradually aggregate[s] the [alienated] Italians around him in the grand project of founding a national state” as the transcendent (2006, 172). But I prefer to use a Deleuzian term diagram to describe this abstract agent that redistributes vectors or each entity’s “capacities to affect and be affected” over the assemblages, not so much to integrate them into a transcendent whole, but let them just arbitrarily stick together (DeLanda 2006, 125–6; Deleuze and Guattari 1987, 91).

Reframed by this assemblage concept implicit in his late work, the material inscriptions of a church eventually appear to be in fact assembled along lots of conjunctions between its elements, whose encounters are guided by the vector distribution of a diagram hidden in the program of the church. We can take this assemblage stretched and folded by a diagram as a methodological framework to make the structural construction of ISA malleable once again. For instance, a ritualistic pathway for a churchgoer can be now redrawn from two separable series: first, along the encounters following his/
her “displacement for going to mass,” “kneeling down,” “gesture of the sign of the cross, or of the mea culpa,” “act of contrition,” “hand-shake,” “external verbal discourse” and so forth that produce visible patterns on one hand; and then from the encounters that swerve inwards as the physical patterns are inflected through her/his meditation and enunciated as “a penitence,” “a gaze,” “internal’ verbal discourse” on the other (Althusser 1971a, 169). Just as Althusser postulates the isomorphic structure between ISA and Freudian system of Perception-Consciousness (Pcpt.-Cs.), the church-diagram’s operation, like Freudian diagram of Mystic Writing Pad, stratifies the assemblage along something visible reflected on a surface of ritualistic inscriptions and the enunciable as inflected visibility. Presenting his method of criticism termed “my little theoretical theater” (174) in the following manner, Althusser paves a virtual line within the material assemblage of the church to re-stratify its structure (169).

Disappeared: the term ideas. Survive: the terms subject, consciousness, belief, actions. Appear: the terms practices, rituals, ideological apparatus.

Let me diagram his theoretical theater into a form of an arc (Figure 1) that re-inflects the descent of the Holy Spirit or ideas “endowed with an ideal or spiritual existence” into a fold formed along the church’s programming of the churchgoer’s pathways; in which a subject swerves constantly between two series of encounters that would be concealed respectively into the strata of ritualistic gestures and inner discourses. Ceased to be Platonist, the descent along the line I draw anew then no longer means the degradation from the ideal but demystification of ideas by re-folding them into a primitive disjunction between the visible and enunciable, from which their transcendent beings are effected. As the virtual theater embedded in a machinic theater to pave an alternative circuit to “reshuffle” its assemblage (169), Althusserian criticism substitutes for a line of enunciation that the churchgoer once generated in alienation. Illustrating an apparatus’ operation as a process to enfold individuals in disjunction along its perceptive and responsive surfaces (or along a line of visibility inflected through a line of enunciation), this diagram shows how the two levels in the material formation of reality, namely the visible and enunciable, are stratified or de-stratified according to the assemblage’s different strategies to fold its inside. The “assemblages of enunciation,” whose ceaseless occurrence in succession symptomizes the churchgoer’s alienated consciousness, “function directly within machinic assemblages,” folded and fragmented along the church-diagram’s distribution of the “lines of articulation or segmentarity” (Deleuze and Guattari 1987, 3, 7).

However, the churchgoer’s enunciations do not simply supplement the machinic assemblages with the discursive constructions imbuing the fold, such as her/his religious belief or “a representation of the imaginary relationship of individuals to their [alienated] conditions of existence” (Althusser 1971a, 162). They also draw the “lines of flight, movements of deterritorialization and destratification” just as Althusser’s theoretical theater results in the “rupture with the language of ideological spontaneity and the constitution of a body of scientific concepts to replace it” (1971b, 226). Illustrated as an arc inflected by a diagram’s vector distribution, the assemblages provide an immanent footing for the systems of visibility/statement and their subjects/critics to be multiply nested within. As a conceptual scaffolding to reassemble the material construction of apparatuses, this arc can be applied to the apparatus concepts in the 1970s’ film studies and those revised after the 1980s. The following examine how an arc operating in each concept diagrammatizes the assemblages of media culture into a different figure; how the two regimes enfold the alienated inside, problematize the abandoned outside, and reassemble them to each other.

**Regime one: theaters**

For the film critics in the 1970s called apparatus theorists, a movie theater was a model for Althusserian apparatus given its reality effect occurring between the images projected on a filmic screen and their inflection into a retina as a biological screen. Their application of the apparatus concept in this regard located film theories in between two black-boxes (or two camera obscuras) facing each other. By unboxing and reassembling them, we can illustrate a machinic assemblage in which these critics embeds their own theoretical theater as extended towards both sides from the disjunction of the human and nonhuman screens in the middle. The assemblage of camera-filmstrip-projector would be first placed on the nonhuman side as what Comolli termed “the machines of the visible” (1980). Then we could put Freudian Perception-Conscious-Unconscious system, possible to be termed the machines of the enunciable, as the psychoanalytic

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**Figure 1. Church-diagram.**
inflection of the visible on the human side (Baudry 1986). The Althusserian project of film theories in the 1970s was in this sense to experiment the ways to pave the alternative lines of enunciation between a screen-reflection and screen-inflection as the substitute for those of reality effect that a moviegoer enunciates in isolation. Illustrated as a visible surface inflected into a black-hole along which the theory “inscribes its signs and redundancies” and “lodges its consciousness,” the assemblage of cinema is also folded in two by something similar to the church-diagram but having a new form that Deleuze and Guattari call the “white wall/black hole system” (1987, x, 167). In the article on the “basic cinematographic apparatus,” Baudry exemplifies this new diagram with a literal hole on a geological surface in Plato’s allegory of cave: a “cavernous chamber underground” which has “a mouth open toward the light” (1986, 697).

In the book VII of The Republic, Plato mentions this theater of galantry show built upon the earth’s crust as an allegory of the prismatic scene of the Western intellectuality. According to his description, the “prisoners” in the chamber whose “legs and necks [are] chained so that they cannot move” have only two possible behaviors, seeing and speaking, and this restriction makes the shadows on a wall inflected into the prisoners’ “naming what was actually before them” (1968, 193–4). In the cave, the reality effect is programmed along a geological fold that problematizes the surface outside as a thing to be caught inside by the disjunction of the visible and namable. However, when a philosopher, who recovered his motor function and took a journey to the outside, replaces the prisoners and begins to cognize the shadows as the simulacra of ideas, the cave’s enunciative function changes. Re-inflected through “the intellectual,” the shadows no longer necessitate the correspondence but problematize the rupture between the visible and enunciable as a symptom referring to the existences beyond the wall. As the fold stops being closed in a reality effect but demonstrates its alienated condition from the other portions of the assemblages, the words once stuck in the cave’ stratification begin to swerve to the things beyond the wall but only by referring them negatively as things outside and lost, accessible only by symptoms or shadows. Philosophy is spoken as a subjective discourse still in a fold but its intellectual enunciations are intensified through the negative statements able to be inflected multiple times in pointing the outside of the outside, from “the shadows” to “things in themselves” and to “things in heavens” (195).

It should be noted that the outside of a theater for the apparatus theorists was not the Real non-degraded by human sensorium in Plato, but closer to the Lacanian, non-differentiated by apparatuses. The assemblages of enunciation in their theaters were not drawn from the verbal discourses of the chained audiences but from the visual narratives inscribed upon audiences’ (un)consciousness through the kinetic function of camera movements and montages. Nevertheless, when Baudry takes the basic cinematographic apparatus as a prototype of the mental apparatuses for the Western epistemology that the cave symbolizes, he covertly situates himself in a position of Plato’s philosopher. Like Socrates in The Republic who decouples the shadows from the names and re-inflects them through “the intellectual,” the apparatus theorists in 1970–80s re-coupled the images and narratives in a way to reveal the rupture between two. Their strategic reading interprets the narrative coherence embedded in filmic texts not as the necessity of suturing the excessiveness, but as the neurotic symptom for the beings beyond the black-box for the Modern subject. Baudry’s analogy to Plato’s cave in this sense narrates how the lines of enunciation along which the disjunction of a theater is re-enfolded would in turn reconnect the inside to the totality beyond representation. The outside is produced alongside the enfolding of a theater and paired with the inside as its lost object, which the critics could never dispel in their repeated and slippery discursive inflections over the signified as much as the voyeuristic moviegoers are obsessed with seizing a reality outside. Althusserian distinction between ideology and criticism is now illustrated as two different strategies of bending the assemblages along the lines of enunciation drawn either by moviegoers to inflect the incurved visibility to suture a fold or by critics to inflect it multiple times to rupture the fold. The totality of Modern worlds and their atomized subjects are entailed by this set of complementary strategies: one for making inside, another for problematizing outside. Disjunction as the state of isolation both for moviegoers and critics becomes their distinctive way to be coupled to the other portions of the assemblages as their imaginary inside transcends outwards and the outside as the lost object intensifies their symbolic inner discourses.

Foucault defines apparatus or, more properly, an assemblage of apparatuses called dispositif as “a thoroughly heterogeneous ensemble consisting of discourses, institutions, architectural forms, regulatory decisions … in short, the said as much as the unsaid.” The heterogeneity of discursive inflections, with which this network supplemented the logic of discipline in the 19th century, was a strategic choice of state power “responding to an urgent need” to govern the manifold disjunctions created by the disciplinary apparatuses such as prisons, barracks, and hospitals. The questions on the visibility and statement that each apparatus raised in displaying the madness and delinquency as the outside of culture were for him not simply about stratifying visible symptoms through the manageable discourses for “justifying or
masking a practice” of imprisonment. Conversely, for each inside to be interconnected along this heterogeneous network of ever-expandable cultural project, the outside should remain not fully enfolded by any single practice of discipline in order to afford “a secondary re-interpretation of this practice, opening out for it a new field of rationality” (Foucault 1980, 194–5). For the outside to be re-folded and re-inflected ad infinitum through the manifold insides despite its constant withdrawal to the transcendent, these secondary discourses on the remnants in representations are indispensable. And that is also how the Althusserian criticism in film studies, once said to rupture the structural closing of an ideological inside, functions as complementary to cinema’s expansion of its theatrical inside(s). As “a perpetual process of strategic elaboration” to re-fold the slippery outside under the ever-inflected critical enunciations, the apparatus theory in the 1970s, like the imprisonment of outlaws in the 1830s, produced an “unforeseen effect” of “the constitution of [an alienated] milieu” of criticism that “came to be re-utilised for reproducing the Modern’s incompatible desires for a stable inside and pursuit to the unattainable totality (196), that Fredric Jameson considers as the “political unconscious” of Althusserian criticism.1

Deleuze describes this dispositif that redistributes the visible and enunciable throughout a network in terms of the “lines of visibility” and “lines of enunciation” which the “lines of force” “at the diagram level” intertwines one another (2007a, 342, 2007b, 255). He diagrams an apparatus in a disjunctive node of a dispositif as a geological fold created upon the earth’s crust (Figure 2).

Though this diagram is not for an Althusserian theater, it looks not difficult to be applied to our scenario of Plato’s cave. According to his description, the “line of the outside” represents an immanent plane with the “linkages … in continuous variation” and “pure connection” (Deleuze and Guattari 1987, 493) neither reflected as things nor inflected into words. The “strategic zone” attached to this plane on the other hand describes a diagram’s operation to redistribute vectors to bend the outside through its black-hole and stratify the visible and enunciable facing each other across a fold or “zone of subjectivation.” This diagram shows how subjects and their worlds outside are bifurcated simultaneously from the fold defining the modern sense of alienation, which is connected but only disjunctively to the outside. As the philosopher’s thought in this fold “continues to ‘hold’ onto the outside” such as the things in heaven enunciable only as something multiply inflected, the outside “appear[s] inside as what it does not think or cannot think [without discursive inflections]; an unthought in thought.” As a result, the fold re-inflects itself repeatedly into a depth of “an inside that is deeper than any internal world just as the outside is farther than any external world” (Deleuze 2007b, 255–6). Taking this as the description of theater-diagram, we can rethink how the basic cinematographic apparatuses in film studies after 1970s operate upon the material assemblages of media culture to reproduce (or rupture) the Modern regime of representation (Figure 3).

**Efferent/afferent, sensor/motor**

In the diagram above, the mythical correspondence between the visible and enunciable is no longer based on the subject’s existential alienation from the outside. The inside is the outside folded in two. The camera obscura and its implied mind-in-a-vat, that orient the discourses of the Modern towards the problem of representation (Latour 1999, 7), now come to be reasssembled along an arc. There is no such a subject whose unstoppable enunciations symptomize its transcendental alienation insofar as the location of a subject is still continuous with the outside as its folded inside. Alienation is formed around the incurved line of visibility when its inflection closes a fold whereas what it folds first inside is not a subject but a line of enunciation that realigns the visible according to its reactive inflection. Cinema’s invention at the turn of the 20th century was, for apparatus theorists, what signified a technological

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1. The diagram above shows the lines of visibility and enunciation, their strategic zone, fold, and complementary relationship. 

![Figure 2](image2.png)

**Figure 2.** Deleuze’s diagram of apparatus (1988, 120).

![Figure 3](image3.png)

**Figure 3.** Theater-diagram.
regime in which this arc of alienation is re-inscribed around its visible surface, such as lens or screen, inflected along the motor reaction of shutter, dolly, and their montage. And this way of diagrammatizing a theatrical apparatus as an arc curved along its efferent and afferent, whose embedment in the assemblages stratifies a church, movie theater, and a geological fold, leads us to a missing link in Baudry’s rough genealogy from Plato to Freud and Althusser. In the late 19th century, the physiological optics first devised this diagram of an arc and enfolded the idealized human inside around its sensorimotor apparatuses even before the cinematic and psychoanalytic operationalization of the arc in the early 20th century.

In “The Facts of Perception,” Helmholtz in 1878 infers the condition of human perception from the assemblages of nerve fibers. According to him, the perceptual categories in Kantianism such as substance, object, geometric space, and causality are nothing but the functions of reflexive arcs habitually inscribed on the assemblages of cellular apparatuses. Since the primary operation of the apparatuses is to discharge the sensations through the orderly inflections from the afferent to efferent, the signs (which Helmholtz calls “presentables” (1995, 350) inscribed first on the assemblages refer not so much to something outside but the relations between afferent and efferent nerves coupled by the circulating stimuli. For Helmholtz and his time’s studies on reflexes, the most well-known example of this order-giving inflection was the sensorimotor response of an organism which functions to realign sensations accidentally reflected on a receptive surface according to the movements of its motor parts, controlled not only by mechanical reflexes but also by one’s volitional activities. In his thought experiment, the signs in the most immanent forms are thus inscribed initially by the sensations’ inflection through an arc folded around the central nerve which correlates a motor apparatus’s activation in a periphery to a receptive apparatus’s excitation in another. Insofar as this first-order between a sensor and motor can be associated to another arc with another first-order, like a surface inflected towards two motor apparatuses perpendicular to each other, the visible on the surfaces are gradually realigned along a two-dimensional matrix with a second-order and then finally the Kantian spatial intuition with a third-order is assembled from the manifold second-orders as they become multiply interconnected.²

His thought experiment is not facture from today’s neurophysiology given the supposed zero-order between the neural apparatuses neither transcendentally categorized nor genetically coded. However, precisely for that reason, his assemblages draw a line of the outside in Deleuze’s diagram, that is no other than just un-stratified linkages in continuous variation nevertheless capable of enfolding an optical cogito. It is notable that Soviet montage theorists in the1920s, baptized by the physiological theories of mind in their time, also theorized cinema’s operation as a process to embed an arc in the zero-degree of the modernity similar to what Helmholtz suggests. However the zero-degree of a space in their project for perceptual revolution was not something hypothesized, but excavated by the cinematic montage of reality through its motor inflection of filmic images in the orders never alienated in a physiological system. A sense of place and perspective in theaters for Eisenstein and Vertov are supposed to be re-folded along the elaborated “conditioned reflexes” (Eisenstein 1977) or “visual formula” (Vertov 1984) which realign the visible on a screen according to the order of the camera(s)’ motor functions. Responding to this zero-degree that Deleuze terms “any-space-whatevers” (1986, 108), the urgent need to restore an folded inside for the subjects under constant displacements is in this sense performed by the prosthetic operation of cinematographic apparatuses. Their machinic kinesiology replaces the sensor-afferent and motor-efferent parts of the classical reflexology, just as the cinema that Deleuze terms movement-image polarizes between perception-image as the world incurved towards a sensory center on the “one side of the gap” and action-image realigned towards a motor center on “the other side” (64–5). On the other hand, whom the perceptual reformation of the theater-diagram alienates in the middle are audiences though they still take a significant role as the surplus labor to make an actual arc between a sensor and motor. In this machinic disjunction, the only process left for humans as the center of indetermination is to reassemble a set of the visible punctuated by the camera’s motor function along the imaginary arcs that they fabricate anew.

For instance, the psychoanalytic “system of Perception-Consciousness (Pcpt.-Cs.),” that Baudry extends his previous analogy further to in the latter part of the apparatus essay, is folded as a pure human construction since the mechanical task of “reality test” to re-adjust one’s sensorium to motorium in the waking state is, in a theater, all imputed to the technologies given “the suspension of ’motoricity’” Baudry assumes (1986, 700). Audiences are instead mobilized as the alienated power of enunciations for reproducing the imaginary signifiers that re-enfold the disjunction through their ever-regressive inflection towards the unfathomable depth, which supplements the outside ever-extendable through the new connectivity of technological sensors and motors. In another analogy of Freudian unconscious to one of the early cinematographic apparatuses, chronophotography, Doane also examines how this machine’s operation to take twelve
consecutive pictures a second on a frame simulates the basic motor function of the unconscious that “stretches out feelers, through the medium of the system Pept.-Cs., towards the external world and hastily withdraws them as soon as they have sampled the excitations coming from it” (Freud 1961, 231; Doane 2002, 61).

Figure 4 shows how a single chronophotography condenses the continuous deformations of a movement-image in its surface that records the “two facets” of filmic shots, namely the relative positions of visible elements framed in a moment (each vertical set of points and lines) and how this set is constantly re-situated by the action of the camera (along the horizontal time axis) (Deleuze 1986, 19–20). We can interpret this cryptic image now as an illustration of the theater-diagram’s enfolding of the orders in the zero-degree outside of the modernity. Each disjunction formed between what is perceived and what is moved as the result of each blink of the shutter inscribes an almost constant line element along the time axis. If this disjunction the shutter’s constant motor function punctuates shows a metrological first-order that an arc of mechanized sensor and motor enforces, the many-folds inscribed for the whole duration suggest what the machine left to human mind after its substitution for the Freudian unconscious’ motor function of stretching out feelers to sample the outside in fragments. In other words, audiences alienated from their own control of selective attention to the outside are mobilized only to reassemble a disjunctive set of the visible that enfolds their sensorium into a continuous and animated space in an imaginary second-order. On the other hand, as critics replace audiences, the animated whole is re-inflected into the concept of unattainable totality, problamatized as a theoretical third-order. The emergence of cinematic time in the late nineteenth century was, as Doane says, to restore a location for the modern subjects from the placelessness of the modernity but it was only by re-enfolding them around the assemblages of technological sensors and motors that substitutes for the volitional motoricity in Helmholtz’s thought experiment and the reality test in the waking state. As much as the cinematic montage of the manifold sensors and motors makes the zero-degree outside “farther than any external world,” the enfolded human inside becomes “deeper than any internal world” through its ceaseless unfolding the orders of interconnection (Deleuze 2007b, 255–6).

The Modern’s knowledge production and regime of representation are, Latour says, conditioned by its Constitution of Nature as pure objectivity reflected through a technological surface, which is both separated from and interfaced with Culture as pure social construction of human subjects (1993, 13–15). The history of film studies repeated this distinction in its either/or switch from Bazinian realism, which purified the technology’s indexical surface “to lay bare realities … stripping its object of all those ways of seeing” (Bazin 2005, 15), to the apparatus theories in the 1970s about the symbolic construction of a reality from subjective enunciations. If this separation of the subjective from objective is what orients discursive orders of modernity towards the reunification of object by subject, or the representation of reality (Latour 1993, 35–9), our diagram of the Modern Constitution (Figure 5) alludes how the separation however has “never been [fully] modern.” The human enunciation inside is to be patched over the perceptions already inflected through the technological fragmentation as much as the objective reality outside is always already attracted to the human inside. Nevertheless, the diagram’s disjunctive synth-
esis of the objective/subjective and natural/cultural tunes the normative operation of cinematographic apparatus to its assembling the visible along the machine’s motor reactions such as camera movements and montage, that would be interpreted as purely subjective and fictional movements of point of view in the imaginary inside.

Regime two: laboratories

The Althusserian apparatus in film theories declined or at least revised after the 1990s as digital cinema substituted for the old chemical medium and the omnipresence of screens from mobile phones to colossal LED façade made the ideal inside of camera obscura implose. In the so-called digital convergence, film has integrated into the studies of screen in general now characterized by its interactivity (Friedberg 2006; Jeong 2014). The “hypermediacy” of the screens as multi-tasking interfaces (Bolter and Grusin 2000; Manovich 2002) contradicts the previous diagram of screen as a white wall inflected through a single hole. Screens become more porous and their surfaces to be touched for interactions are “full of dens where virtual force and motion are stored” to be mobilized for a variety of unspecified human tasks (Parisi 2009, 365).

It is notable that, at the time of these oversupplied screens, film theorists began to draw new attentions to the early film history responding to the questions catalyzed by new media. According to this revisionist historiography, the theaters in the early twentieth century were far from strengthening audiences’ perceptual reliance upon a single hole in a camera obscura. They disrupted the old chamber habitually embedded in the Helmholzian sensorimotor apparatuses of the Western epistemology in that the emergence of cinematic screen distracted the traditional conjunction of the visible and enunciability. Audiences were situated back to the zero-degree of perception in the early cinema and the sensory and motor parts of their perception temporarily shrank to the “tactile” middle (Benjamin 2003, 268) or what Burch calls the “haptic space” (1990, 62). The “exhibitionist tendency of early film” was, Gunning says, irrelevant to “creating a self-sufficient narrative world upon the screen.” Rather, audiences “went to exhibitions to see machines demonstrated (the newest technological wonder, following in the wake of such widely exhibited machines and marvels as X-rays or, earlier, the phonograph), rather than to view films” (2006, 383). For instance, Hale’s Tour, one of popular attractions in 1900s, constructed as a hybrid of a motor (train) and sensor (camera) of the time, demonstrates what Virilio calls the “phenomenon of acceleration” through its accelerated speed of folding outside into a railroad car that obliterates “our experience of distances and dimensions” by short-circuiting between the afferent and efferent (1994, 4). Contrary to Plato’s cave and other theatrical analogies that describe disjunctions either transcendently given or historically formed, early films in this revision were said to cause a jamming in habitual differentiation of the visible and enunciable as well as their correspondence. Folding outside had to neither reflect it as pure indices nor inflect into signs, but kept it in the middle of sensor and motor, or what Deleuze terms “affection-image” that “surges in the centre of indetermination, that is to say in the subject, between a perception which is troubling in certain respects and a hesitant action” (1986, 65). As the alienated enunciability in a fold, audiences were in turn paralyzed by the sensations not sutured in a cultural inside that was already shrunk through the unexperienced speed of the new sensorimotor apparatuses.

Revisiting the historical origin of cinema as a stenosed disjunction that symptomizes the immanence of things and words in a same affective plane, the apparatus concept in film studies after the 1980s has shifted from the theatrical regime to somewhere else. The product of the cinematographic apparatuses is not the stable strata for the assemblages to enfold its human inside, but something incurred and oscillating between sensor and motor. A diagram’s strategic function to reassemble subject/object, said/unsaid is no longer to supplement the existing gap with a transcendental depth coupled to a transcendent outside. Instead, what redistributes the vectors over the assemblages to make the fold habitable once again is the exhibition of a tactile object. It occurs when the metastable feature of tactility, or its ambiguity under constant motor inflection without being aligned to any predefined dimension, attracts the movements of adjacent objects and mobilizes their trajectories as the new lines of enunciation along which the images incurred are translated into something touched, lived, used, or spoken by virtual actors. For instance, Burch points out how the American and French films in 1910s mobilized the objects such as “floors, tabletops, etc.” for displaying their surfaces with multiple “parallelogrammic lines” to reanimate the audiences’ habitual spatial projections; how the virtual lines of movement that the camera drew in the early action films such as Chase genre began to enfold “ubiquitous subject” sporadically within the disjunctions between the objects edited together; and how “the slow forward, backward and sideways tracks” of the camera gradually provided “the point of contact” between the “haptic space” of film tableaux and “ubiquitous subject” (1990, 180–1). In short, to re-widen the short-circuited gap, more lines needed to be paved between the sensor and motor. But they did not necessarily restore the normative arcs for a geometric viewpoint insofar as the tactile object could also draw these lines from the remediation of other media forms in the past and contemporary. As Musser says in his reinterpretation of the popularity
of Edwin Porter’s *The Great Train Robbery*, another hybrid of mechanized sensor and motor in 1900s, the tactility caused by the disjunction of camera/train was, in its travel to many local screens, able to mobi-

lize “so many trends, genres, and strategies funda-

mental to the institution of cinema at that time” as its allies to extract more enunciations from its exhibition of tactility; such as “re-enactment of contemporary news events”, “a well-known stage melodrama”, “vio-

lent crime genre” from England. Contrary to the 1960s’ canonization of the film as “the blueprint for all Westerns,” a dimension of the geographic western was first enfolded as an eclectic mixture of these media forms all converged upon a filmstrip, and then stratified into the *Western* as a genre when film industries expanded along the generic programs of nickelodeons (Musser 1984, 56–7).

In the assemblages of early cinema reframed through a new “technical diagram” characterized by its tactile plane to redistribute the vectors for “a kind of ‘unnatural selection’” in the media culture (Terranova 2004, 4), attractions occurred not only just between two connected shots for stratifying them into an organic whole like in Eisensteinian montages. Beyond the physiological closures of human mind, the gap also attracted many experi-

ments to re-wire existing sensorimotor apparatuses, including those habitually embedded within the col-

lective perceptions and reactions of audiences, along the chemical assemblages of filmstrips. Just as Rube film as one of popular genres in the early 1900s exemplify through its “character repeatedly making category mistakes about the ontology of the cin-

ematic, filmic and profilmic spaces” until finally reach-

ing at the screen to grasp its surface for the reality test, the tactility of cinema, which persist in remain-

ing metastable due to the ban to be touched by behavioral responses, arouses lots of different “onto-

logisation” across categories from audiences (Elsaesser 2004, 101). *Dispositifs* are now redefined not as the assemblages of disciplinary apparatuses to suture the surplus of representations further from one place to another, but to relay filmed objects along lots of technical and cognitive sensorimotor apparatuses with multiple non-linear genealogies.

Given Kuleshov’s montage experiments in 1910s, there was an early period of montage theory in which attraction was still a research object under develop-

ment, not black-boxed yet. According to his recollec-

tion of the research in Moscow, this *urtext* of film theory originated from the open-ended loop he wired across the city rather than a single theater. For Kuleshov, the editability of filmstrip to be “cut apart into its separate shots” means the medium’s mobility not only in an editing room but in an urban geogra-

phy, from the “dark loges” in “the city’s central cine-

mas” to the cheaper theaters in outskirts. Insofar as this geographical displacement increases the medium’s reach to different social classes, its mobility also means its ability to mobilize different responses from different audiences; from emotionally reserved reactions of “wealthy and well-educated” but “psy-

chologically disturbed viewers” to the more direct appraisals of the people “less educated, much rougher and more spontaneous” (Kuleshov 1974, 44–6). Just as the laboratory protocols that science and technol-

ogy studies call *immutable mobiles* (Latour 1990, 19–68), the circulation of filmstrips in his field studies multiplied the number of subjective inflections compatible and comparable.

On the other hand, in Kuleshov’s workshop, a film was produced as a “catalogue of effects” to record these mobilization processes (Levaco 1974, 9). As his famous question “Will the face reacting to the soup and the face reacting to the sun appear the same on film or not?” exemplifies (Kuleshov 1974, 55), montages still occurred along a visible surface’s inflection into a hole, a bowl of soup or sun. However, the filmed objects should be kept in a metastable middle in order to experiment more possible responses mobilizable according to the vectors that he assigned to its surface; towards a sun or soup, expensive theaters or cheaper ones, a street in Moscow or Leningrad, and so forth. As a visible surface inflected always towards somewhere else, a shot was dispatched to reassemble the many-folds inscribed upon the masses as collective Helmholtzian sensorimotor apparatuses, that was not so much hypothesized to form a zero-degree any longer but historically differentiated along the social classes and geographies, and finally modularized and re-mobilized in a theater-laboratory. We can define this protocologi-

cal operation of the cinematographic apparatus by the term laboratory-diagram which facilitates the unnatural selections of media culture.

**Mysterious Object at Noon**

Apichatpong Weerasethakul’s ethnographic experiment in *Mysterious Object at Noon* (2000) provides a more recent case of this protocological use of cine-

matographic apparatus, whose laboratory-diagram reshuffles the assemblages it operates within.

Through a four minute long-take of Thailand’s urbanscape recorded from a camera fixed in a grocery truck, the opening sequence of the film shows how the eclectic landscape of the city is folded into 16mm filmstrips along the vehicle’s operation on a winding road. The non-synchronous radio sounds filling the inside of the truck at the same time empha-

sizes the excessiveness of the incurved images unable to be resolved by a single narrative arc. In the inter-

view with a woman following the opening, it is told how the disjunction of the visible and enunciable exhibited earlier caused her to vomit always for the
first three months she was chained to the truck. Despite the woman’s effort to suture her traumatic experiences in a self-diagnosis, Weerasethakul does not allow the excessiveness of the opening’s long-take to be simply resolved and tries to extract more stories from her no matter how real or fake. Responding to this insatiable request, the woman begins to tell a story about a disabled boy and his private tutor while her pointless story is staged on screen in Weerasethakul’s direction. This story is however finished shortly leaving a mysterious ball-shaped object rolling out from the tutor’s skirt, “that was too strange” to be explained by any single narrative.

In this ethnographic project, Weerasethakul’s role as an ethnographer and story collector is to wire an open-ended loop across people in Thailand to make the woman’s story extend farther in a surrealist manner of exquisite cadaver. The film progresses as his camera and cassette player deliver the mysterious object to other interviewees to make the story relayed from mouth to mouth along the object’s displacement to a farmer’s house, marketplace, travelling theater, elephant farm, vessels on a river, trucks and trains connecting to other cities, Muay-Thai stadium, restaurants, night clubs, elementary schools and etc. Throughout its travel, this tactile object attracts various narrative forms, such as the folk literature of a farmer, traditional theater, gossips in a marketplace, synopsis for filmmaking, news reporting, talk show and fairy tale of school kids, even though the object itself is never sutured by any of those cultural forms. As a result, the ethnographies are assembled along the manifold narrative arcs arbitrarily stuck together, or bricolé by the protocological operation of the apparatus which connects the end of a story to the beginning of another along the passage of the mysterious object, also transformed into many different figures, such as an alien boy, tutor, giant, ghost, tiger and so forth (Figure 6). All required for the different narrative forms to be enrolled to his experiment is just a slight change in a tip of each story’s beginning to put this mysterious connection-making object without damaging their cultural singularity.

Since the object can be delivered to any other stories, its circulation gradually transforms all the geographical locations it passes through into the nodes of a network in the making. By exhibiting the mysterious object plastic enough to attract and adapt to each different form of enunciation and mobile enough as a protocol to render lots of singular narratives compatible and interoperable in a same network, the laboratory-diagram moving along the whole geography modularizes each local narrative into the form able to be called by others. For the diagram, a fold embedded within the urban assemblages by each singular experience of modernity such as the traumatic inscription of the grocery truck in the opening is not to be stabilized through a single coherent discourse like the woman’s self-narrative. It is not because the engraved side of the fold, hitherto called the afferent or visible, contains too much excessiveness to be sutured by discursive inflections, but because the excessiveness should be now modulated into a tactile object mysterious enough to attract more lines of interpretations in its transmission to another fold along the assemblages. The diagram’s strategic function is, therefore, neither to fold the outside in stable two nor problematize it as to be represented inside; rather, to reconnect all the cultural singularities historically formed and accidentally embedded in the city through the circulation of the
mysterious object. By doing so, the laboratory-diagram reassembles the interviewees he met in Thailand into potential allies mobilizable for his experiment in the maximum variation in collective narratives and memories. Bending the assemblages into a network figure, the diagram could make any local problems potentially enunciable by a set of narrative arcs temporarily mobilized and reassembled around them. Eventually, a new regime is installed as the outside is re-problematized as full of singular problems, each of which is never representable but can be only approximated further if more enunciations are added around it.

We may understand the newness of this regime according to how Manovich defines new media as a system to which “new properties can always be easily added” and that “legitimizes experimentation with [other] media” as its normative function (2013, 92). Besides this practical definition, Weerasethakul’s persistent requests for the new stories on the other hand signify a complex that characterizes this regime differently from the theatrical regime. Whereas a theatrical inside is intensified by the previous regime’s pursuit for totality, networking is the strategic function of the new regime to fulfill its obsession with more; wanting more stories, more connections, more problems, and more allies to enfold any locales along their collective enunciations, without wanting the totality which adds nothing more to extract. As the avatar of this obsession, the object that comes out from the woman’s story is not fully individuated by any stories it passes through because it should always remain ambiguous and metastable enough to draw more connections around its ongoing individuations. The tactile object that the laboratorial regime cultivates within its sensors and motors in this sense transforms the outside into the interconnected manifolds (Figure 7) as its circulation as an attractor mobilizes the entities responsive to its ambiguity and networks their responses. For its wanting more to be sustainable, the assemblages should also appear to enfold lots of non-representable singularities which can be approximated only by the lines of enunciation ever-stretchable and transformable through the networking. The more folds are interconnected the better approximations are enunciable. Just as Kuleshov and Weerasethakul ceaselessly put the new vectors to their research objects to extract more enunciations from the experimentees and interviewees, film as new media should constantly update its allies for the collective enunciations in order to further individuate its tactile objects.

Figure 7. Laboratory diagram and manifolds.

From theater to laboratory

Let me use the term signal for something in the middle of visible and enunciable but adaptable to many different systems of visibility and statement. Like Weerasethakul’s mysterious object, its circulation detects the singularities ready to respond to its ambiguity and reassembles them along a network. Each node of the network is neither to be represented nor representing, but concretizes itself as it exchanges signals with others. There is no such a fixed reference to represent a signal, but “circulating references” indicating “the safety, fluidity, traceability, and stability of a transverse series of aligned intermediaries, not an impossible correspondence between two far apart vertical domains” (Latour 1999, 149). The Real whose shadows are reflected as indices to be inflected in subjective discourses is no more realistic than the streaming of signals pluripotent to be many different forms of visibility and enunciation as they are relayed along a network in the making.

If a theater enfolded by a screen and camera is the prototype of the theatrical regime from which the Althusserian concept of reality and criticisms emerged, the ubiquitous sensors and actuators embedded in the environments today as the “machine[s] for generating ecologies” (Gabrys 2016, 15) are the most typical in the laboratorial regime. The recent new media projects, such as “citizen-sensing” smart cities and the Internet of Things, are built upon the geographical domains that become programmable through the manifold sensors and actuators. In these assemblages of the cybernetic sensorimotor apparatuses, human participants do not simply face a smart phone or tablet to control the “more-than-human entities” in the opposite side of the screen such as smart appliances, smart home/offices, smart vehicles, and smart cities. Conversely, these smart objects also mobilize our nonconscious responses to extract more signals to be circulated through their network. The problems, to which this network is supposed to figure out the most optimal solutions, are often non-representable. Their symptoms are distributed over the assemblages too widely to be identified as a unity like our unknown needs
whose machine-readable symptoms filling in a smart home, the dangers of terrorism lurking everywhere in a smart city. This sort of problems can be concretized further only as they are relayed farther along the more number of sensors and actuators.

Ecologies for the new smart urbanity in these projects are therefore written as collective equations for the correlations between each sensor and actuator forming ubiquitous folds in their assemblages, just as a geometric space for an optical subject in Helmholtz’s thought experiment is enfolded as a set of correlations among the manifold cellular sensors and motors. However, contrary to physiological optics enclosing all the possible sensorimotor relations in a single coherent reference system, the goal of ecological optics is to experiment the maximum “interoperability” among the apparatuses. Just as a smart city promises the “further possibility for participation” in the collective problem solving processes to the citizens as human sensors (Gabrys 2016, 234), in order for the problems embedded in the assemblages to be specifiable, the responses of both human and nonhuman participants to ambiguous signals should be diversified and correlated to each other. In that these non-representable problems can be instead further concretized as they are relayed and re-acted by more participants, we may need a different language to describe a type of semantics accumulated from these signals “not statements, or things,” nor their correspondence. Latour suggests “proposition” as the name for this that means no other than “what an actor offers to other actors” (1999, 141, 309). According to him, to do an experiment in a laboratory is to associate a network with as many relevant actors as possible by inducing them to interact in favorable ways to sustain and expand the network in the making. Experimentation is a process to cultivate collective assemblages of propositions within the material assemblages of particles, chemicals, microbes, experimental apparatuses, and human observers. In the same sense of the word, we can say that Weerasethakul’s ethnographic cinema and lots of “smart” projects today are experimental as their redistribution of tactile objects and signals mobilizes the participants’ collective responses for the expansion of the ethnographic and machinic assemblages.

This change in the apparatuses’ way to fold a system of reference for Latour suggests a shift in the places of knowledge production from the theatrical chambers of Science in the past to the ever-expanding laboratories of Research. Through the standardized “experimental protocols” (1999, 46), a series of propositions produced in a local fold of Research is modularized and circulates beyond the physical boundaries of a laboratory. In the expanded assemblages, “the only realistic way for a mind to speak truthfully about the world is to reconnect through as many relations and vessels as possible within the rich vascularization that makes science flow” (113). This is also the only realistic way to diagrammatize “a heterogeneous space” of today’s mediascape “in which representation is conceived of not as a window on to the world, but rather as ‘windowed’ itself—with windows that open on to other representations or other media” (Bolter and Grusin 2000, 34). In the media cultures connected all along a topological network, “OUTSIDE each cave is another cave” (Wark 2007, par.11).

Notes

1. See Jameson’s explanation of Althusserian “semi-autonomy,” how it does not simply state “reified space of the bourgeois disciplines” but “the interrelatedness of all elements in a social formation; only it relates them by way of their structural difference and distance from one another, rather than by their ultimate identity” (1981, 40–41).

2. For Helmholtz’s physiology and its coincidence with the early cinematographic technologies, see Ahn (2013).

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