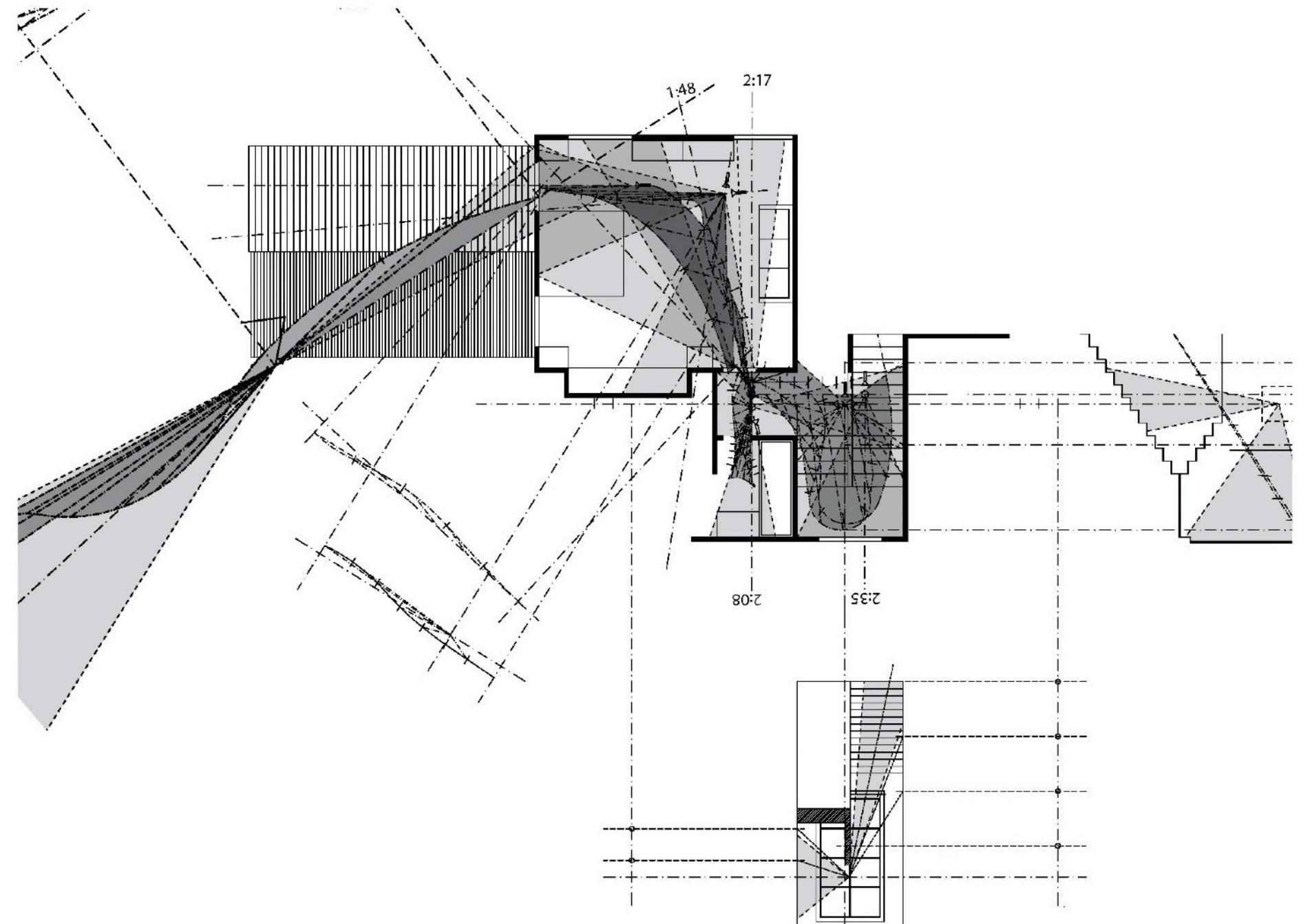
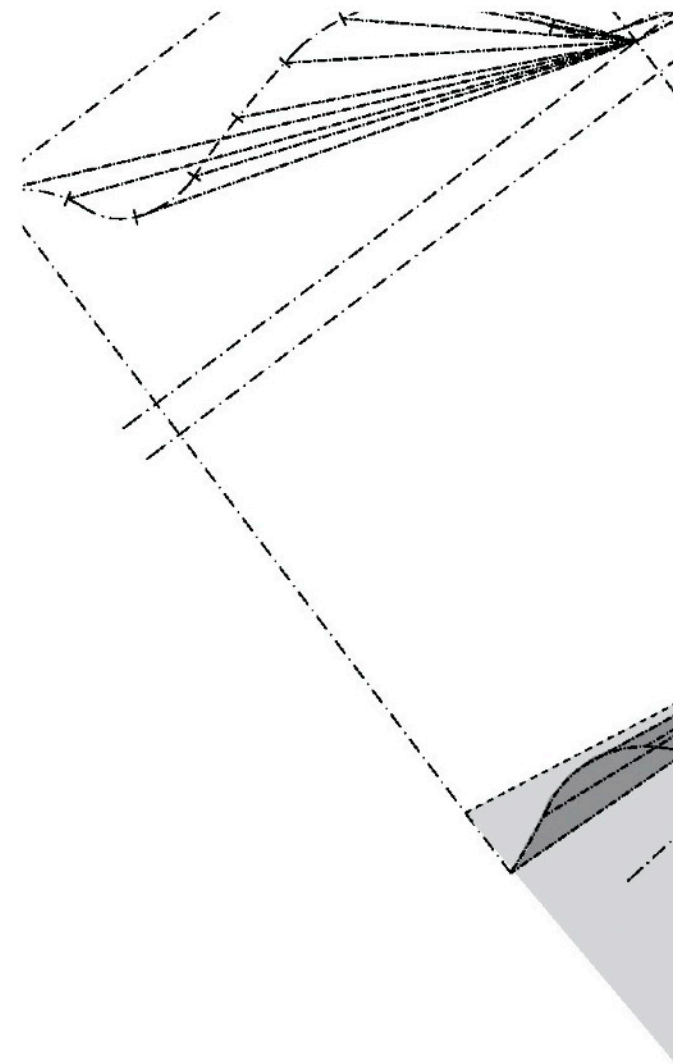


cinematics (brian mcgrath)

(in) forma⁵
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Cinematics: Embodying architectural representation in the digital age

How can architecture emerge from the prison of its current forms of representation? David Grahame Shane interprets the concluding diagram of Robin Evans' *Projective Cast: Architecture and its Three Geometries* as a critique of postmodern architecture's self-reflection and lack of engagement with the world. Shane argues that Evan's diagram depicts architectural representation as a self-reinforcing, closed, conceptual triangle of mirrored reflections between the human observer, the scopic regime of perspective, orthographic architectural drawing conventions, and designed objects. Shane characterized Evans' critical view of postmodern architectural practice and representation as a "self-correcting means of stabilization and pacification of the physical, built environment." This paper introduces the theory and practice of *Cinematics* to demonstrate how contemporary architectural production, with the aid of digital tools, has the capacity to break this closed, static system with dynamic, open-ended, embodied cybernetic feed-back loops engaging a wider public culture in the making and imagining of architecture from interiors to the city. *Cinematics* argues that this break can be accomplished by embodying architectural representation through a careful engagement with Gilles Deleuze's philosophy of movement and time images derived from cinema and Henri Bergson's theories of memory, at-



1 Mapping of topological invariant space between the camera and the main actors in the final scene of John Cassavetes' *Faces* (1969).

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Conclusion

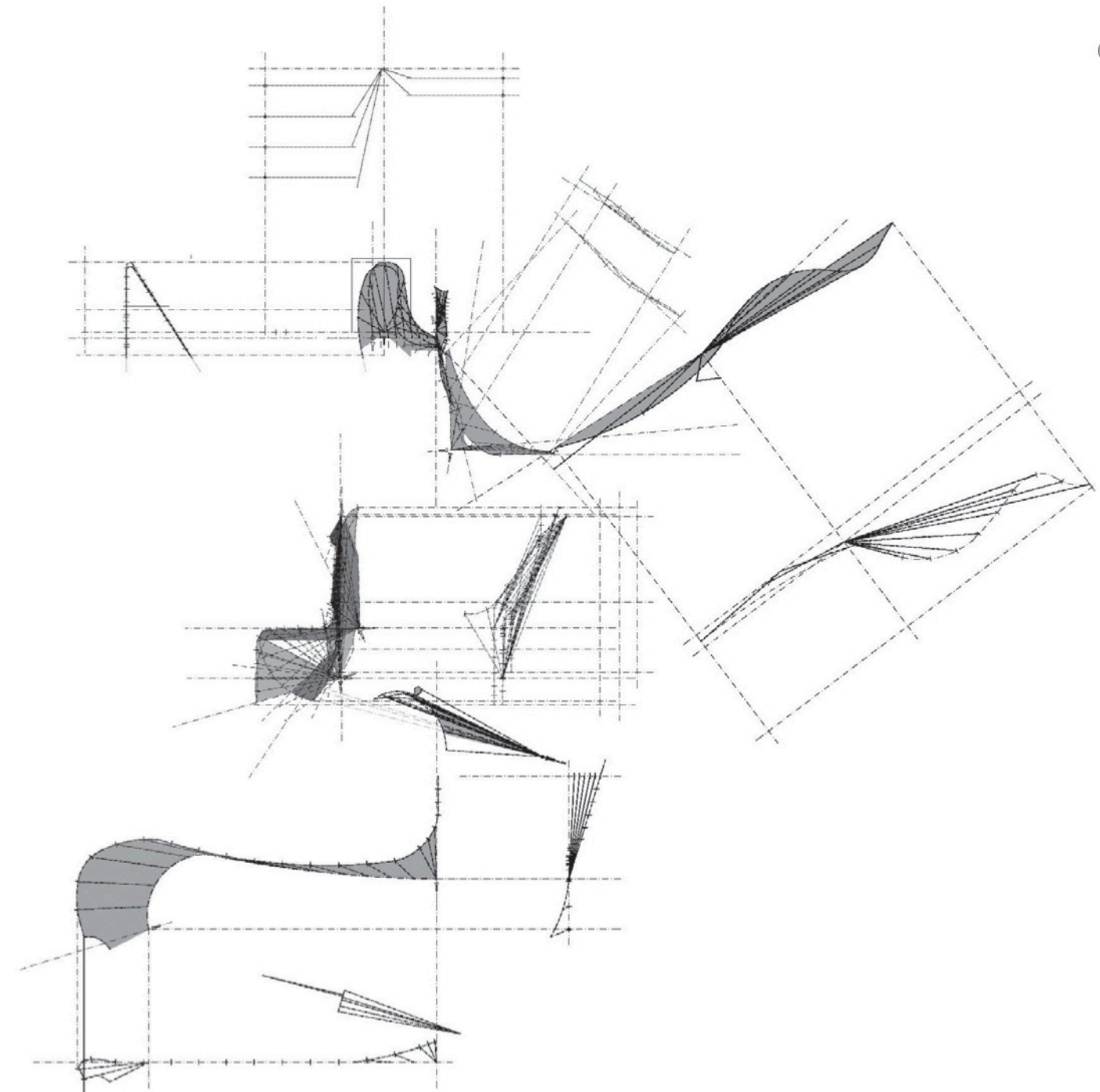
If in the late 20th century the world's sensori-motor schema –its way of habitually operating– broke down. Perceptions, affections, impulses, actions, reflections and relations which previously formed a feed-back loop of checks and balances between individual and social behavior and the balance of natural systems were disrupted. A few Cinematic workshops conducted around the world recently asked the question of what new possibilities can be created when the habits of modernization finally break down. In the fall of 2008, sixteen students from Parsons The New School for Design in New York traveled to Bangkok and collaborated with fourteen students from Chulalongkorn University in a workshop that also included Professors Paul Chu from Chu Hai College and Hsueh Chen from National Chung Keng University in Taiwan. Nine student groups were formed to work in the style of one of the three film directors would in one of three sites along the San Saeb Canal in the heart of Bangkok. The field work and digital video recording over the course of the ten day workshop served as an extensive archive and data base

for a semester long studio at Parsons, which was presented in public exhibitions both in New York and Bangkok the following year.

The Ozu groups produced design work that followed the slow, close, intimate and repetitive qualities of his film style. Their projects benefited from their direct engagement of the life of the communities they filmed – the daily life of a Muslim urban village, the patterns of commuting, informal transportation infrastructure and food vending. The Godard groups were able to carefully document the complexity of the “any-space-whatever” of the city, the spaces that were not planned, but exist in between water, road and elevated transportation systems. Finally, the Cassavetes' group found unpredictable trajectories through the city, whether from the back of a motorcycle taxi or helping a Buddhist monk collect food offerings early in the morning. These experimental workshops indicate how the way we frame, shoot and assemble images around the life of an urban site will often determine the character and quality of the design project.

Cinematics is a framework for integration of the best of architectural and cinematic modes of spatial analysis, representation, design and communication. As Robin Evans carefully demonstrated, in the post-modern era architectural representation locked itself into a closed, prison-like system of self-reflection. Digital technologies have infused architectural representation with the possibilities of cinema – not only through representations of movement and time, but ways to artfully frame life as cybernetic feed-back loops of attentive reflection and relation. As Godard has said, in art object of cinema is the camera and the subject or content is life itself.

Cinematics Architectural Drawing Today by Brian McGrath and Jean Gardner was published by John Wiley & Sons in 2007. All courtesy of Brian McGrath. Drawing assistants Stan Gray, Mark Isarangkun na Ayutthaya and Pin Wei Dylan Kuo.



7. Mapping of the last scene of *Faces* as the husband returns home, finds his wife in bed with a stranger, chases the intruder out the bedroom window, where the interloper escapes off the roof. A topological invariant space generated between the actors and the camera circumvents the rectangular world of the domestic architecture.

tention and duration. Examples from domestic interior sequences from Yasujiro Ozu's *Early Spring*, Jean-Luc Godard's *Contempt*, and John Cassavetes' *Faces* will provide a cross-cultural basis for proposing a new expanded and dynamic drawing system for architecture that fully engages movement and time at all scales of the built environment, from interior to city.

Framing Matter Flux

The camera sits on the floor of a darkened room looking through a threshold towards a background of curtains and gridded screens barely emitting soft morning light behind the heads of a couple sleeping on the floor. The sequence cuts to the camera positioned ninety degrees clockwise, and it now poises the viewer on a pillow gazing at the face of a woman sleeping in profile. We are so close to her we are afraid to move without waking her. An alarm clock rings, the sleeping man in the background turns over and covers his head with his blanket, and the woman mechanically reaches up to turn off the alarm and sits up. Just as her head is cut by the top of the camera frame, there is another cut in the sequence and the camera returns to

its original position looking at the feet of the sleeping couple. The woman turns in profile, inhales deeply, and rotates her body up in a twisting motion with her back to the camera to face the gridded screen at the back of the scene. She partially opens the curtain bringing the soft morning light onto her still sleeping husband. As she turns to the left to begin her day, her body disappears out of the field of vision of the camera frame. Again, a precise matching shot conveys a continuous fluid movement of her body as the camera changes position again. Now it is positioned on the pillow where her husband sleeps, and frames her back as she steps down into the kitchen and opens a sliding door to the alley beyond.

Notational drawings from the book *Cinematics* capture the spatial position and timing of this sequence of four camera shots. The camera has stayed absolutely still within the duration of the four shots and has only changed position during the cuts in between shots. The time of this repositioning is lost to the viewer, as the illusion of an uninterrupted sequence is achieved in the editing process of the film.

In this opening scene, the film director Yasujiro Ozu quickly establishes and clearly lays out rules of film construction, and we quickly learn to anticipate each shot to follow his strict code of camera behavior. The position of the camera always maintains an orthogonal relationship to the scene, and its repositioning is always at ninety-degree intervals. The film continues strictly adhering to this set of rules, and the narrative emerges from the daily movements of the couple between this domestic scene, to an alley shared by neighbors, to commuting office workers, to the workspace itself, and many of the social spaces between home and office that animate Tokyo in the 1950s. A substantial slice of the whole of life in post-war Japan is unfolded in Ozu's film, *Early Spring* (1956), as we move from interior to house to neighborhood to metropolis. Since this unfolding is filmed with a stationary camera while shooting and coordinated by ninety-degree angles of camera movement between shots, it represents an architectural drawing system in addition to a way of creating a film narrative. This architectural drawing system implicit in Ozu's filmmaking has the capacity to do much more than we ask of architectural

...the theory and practice of Cinematics explores how contemporary architectural production, with the aid of digital tools, has the capacity to break a closed, static system with dynamic, open-ended, embodied cybernetic feed-back loops...

drawing today. It has the capability to capture much more of life's vicissitudes in all its aspects.

Reading the making of *Early Spring* as a drawing system provides architects with an expanded dynamic representational system for the digital age. Ozu's technique follows the corresponding orthographic conventions of measured plan and section drawings of architecture, but also vividly demonstrates how built space is not an empty void, but is materially embodied, and exists as flowing matter flux in space and time emerging out of life's infinity of movement. The stationary camera of each shot captures and returns to specific spatio-temporal slices of the built environment in order to frame flowing matter flux. The repositioning of the camera to different spaces throughout the films interconnects architectural interiors and urban space into a continuum of interrelated spaces, movements and experiences.

There is another important trait that distinguishes Ozu's film technique: when the director changes camera positions between shots in a particular scene, he also changes the distance between the camera and the subject of the scene.

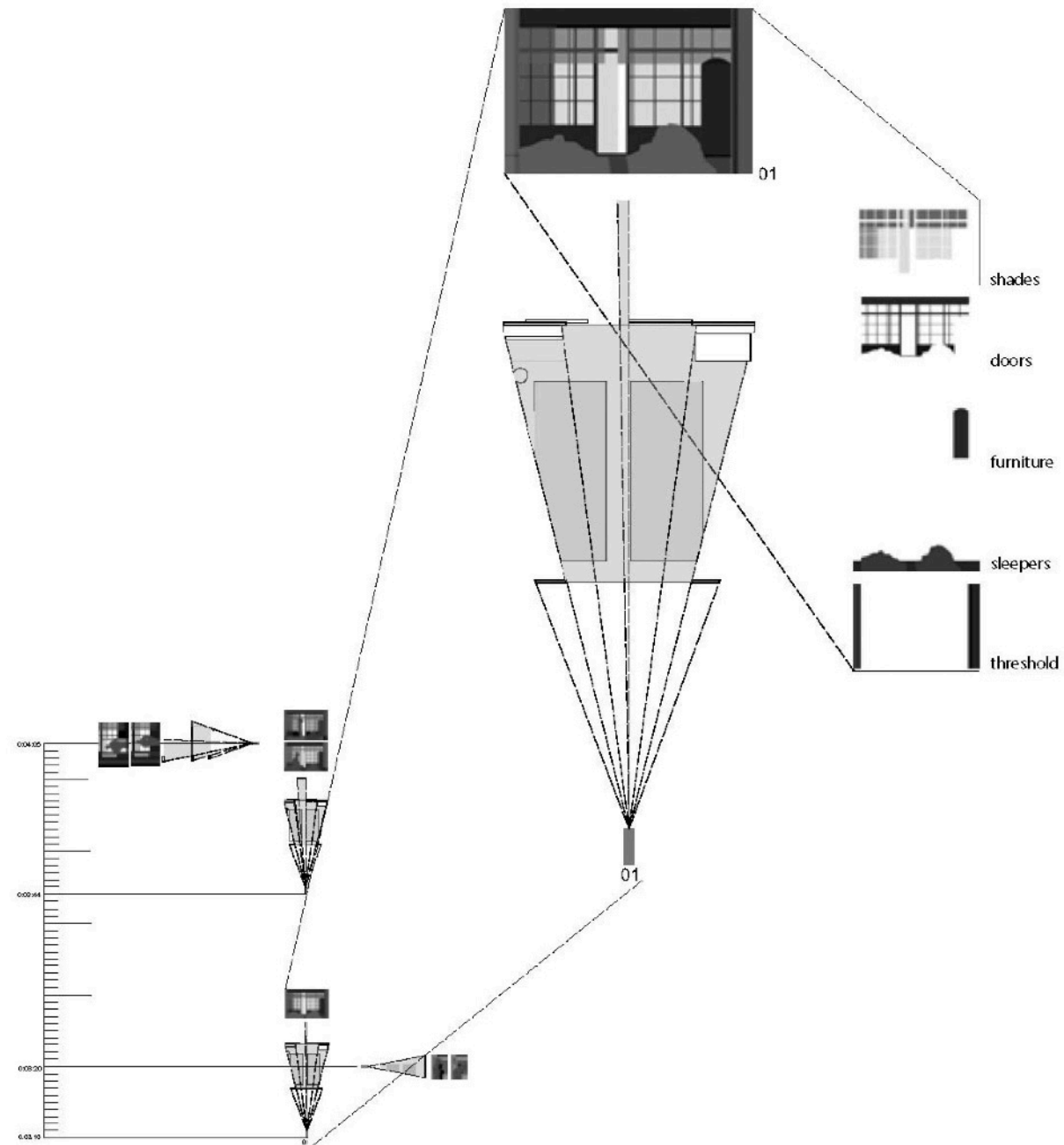
The first shot of *Early Spring* maintains as much distance as possible between the sleeping subjects and the camera. We barely notice the sleeping figures at first, but take in the whole space of the bedroom and the morning light beyond. We can identify this first long shot, following Gilles Deleuze's taxonomy of cinema images, as a perception image. The second shot of the sequence is a close-up.

We are gazing directly into a sleeping woman's face in profile. While the opening shot is almost like a theater set, this second shot is implausibly intimate, not possible in any visual media other than cinema. This is an example of what Ozu's commentators call a "pillow shot". The close cropping of the camera frame removes all data from the set of information provided by the film frame to just one element – the woman's face. All else is in the "out of field" outset the closed set of information captured within the film frame. The close up shot lingers much longer than the opening perception image, even though nothing is happening.

There are no elements of perception other than the woman's face, and no ac-

tion is taking place. The movement present in this shot is not physical movement of bodies in space, but we are moved emotionally as we grow to empathize with the sleeping woman through the duration of the shot. Deleuze calls the close-up in cinema an affection image.

After the camera returns to the original camera position of the perception image, it moves again to a third angle, framing the woman's back at a medium distance. Her body dominates the frame, and we notice the drape of her kimono and her graceful body gestures as she steps down and opens the latch of the house door. The medium shot, by focusing on body movement in space is the action image. While the action image focuses on the translation of movement of bodies in space, the affection and perception images focus on the transformation of embodied space in time. This range of movement images from perception to affection to action constitutes, for Deleuze, a human sensori-motor schema, where we continually perceive images, are affected by them, and act in relation to our perceptions and affections, which again create new perceptions and new affections.



2_A diagram of the framed set of elements as informatic layers that generate a perception image, from the opening scene of Yasujiro Ozu's *Early Spring* (1956).

Ozu's cinematic system is informatic: it creates sets of quantitative and qualitative information about the human sensori-motor schema in relation to built, social and natural environments. The translation of bodies in space within Ozu's stable frame creates a set of quantitative data of flows – not just of human bodies in motion, but visible material flows – light, air, water, materials and information.

This quantitative data set is complemented by the qualitative information through perception and affection images that provide insight into duration by indicating transformations of the larger vibrational whole of existence. In this philosophical framework that Deleuze identifies in cinema, the world is seen not as a space of objects, but as system of dynamic flows, which we can never grasp as a whole, as we are living images inside this vast set of movement, but only observe through new patterns of perception and attention which alert us to subtle changes and movements.

Following Deleuze, *Cinematics* points to developing a system of drawing for drawing systems. In both cinema and in

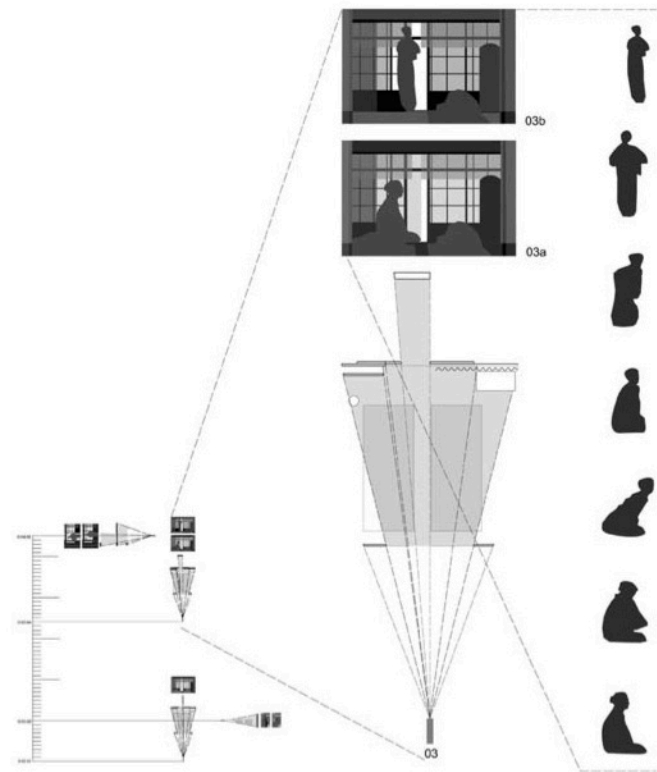
human cognition, images and movement materialize out of matter-flux. According to Bergson, we are living-images framing or selecting other images out of the open whole of sensations. Movement is a qualitative transformation in time as well as measurable translation in space. Matter-flux is the open vibrational whole – the medium from which all movement, images, thoughts, and matter generate. As all design disciplines search for ways of adjusting human behavior in relation to a world of limited natural resources, this ability to draw quantitatively and qualitatively the transformations initiated by design interventions in relation to the flows between objects and spaces is absolutely necessary.

Shooting Any-instant-whatever

The title sequence to Jean-Luc Godard's film *Contempt* (1963) breaks with usual film practice. Instead of viewing a rolling list of credits, the director reads the titles, names of actors, producers, etc. while we view the opening scene of his film: a sequence being shot on a movie set on the studio lots of *Cinecitta* in Rome. In the far background a woman is slowly walking towards us, the movie

audience, while reading a book. Advancing towards in pace with the woman is a large movie camera on a wheeled device with a cinematographer aboard, accompanied by several assistants carrying a microphone and slowly guiding the camera apparatus along a set of tracks, like a small train car. As the woman and the camera crew grow larger, and come closer to fill the foreground, we see the cinematographer turn a wheel, slowly panning his camera away from the walking woman until his viewfinder is pointing directly at us. Godard begins his film by revealing the tools he will use to make the film we are watching in one fluid shot that transforms from the deep space of a perception image, a moving action image, and finally a close-up of another camera, creating an unusual affection image.

In filming *Contempt*, Godard used a large, heavy cinemascope camera, which can track, pan and tilt through mechanized controls. By displaying the slow and limited movements of the camera apparatus in the opening sequence of his film, Godard immediately provides an understanding of the attributes and limits of his filmed images. *Contempt* is



3_The third shot of Ozu's *Early Spring* returns to the same position as the opening frame, but generates an action image of the woman getting out of bed in the morning.

essentially a movie about making movies in the Hollywood system. If *Early Spring* shows the transformation of modern Japan following World War 2 into a modern society, Godard's film, the only one he every made with Hollywood financing, is a condemnation of post-war Europe selling its cultural heritage to American corporatist and consumerist culture.

While both films are thematically focused on the enormous political, economic and cultural change in Asia and Europe in the 50s and 60s, Ozu and Godard present the experience of this societal mutation through scenes of every day life. Godard's film, like Ozu's follows a married couple as their domestic lives are turned upside down by the new realities of modern life.

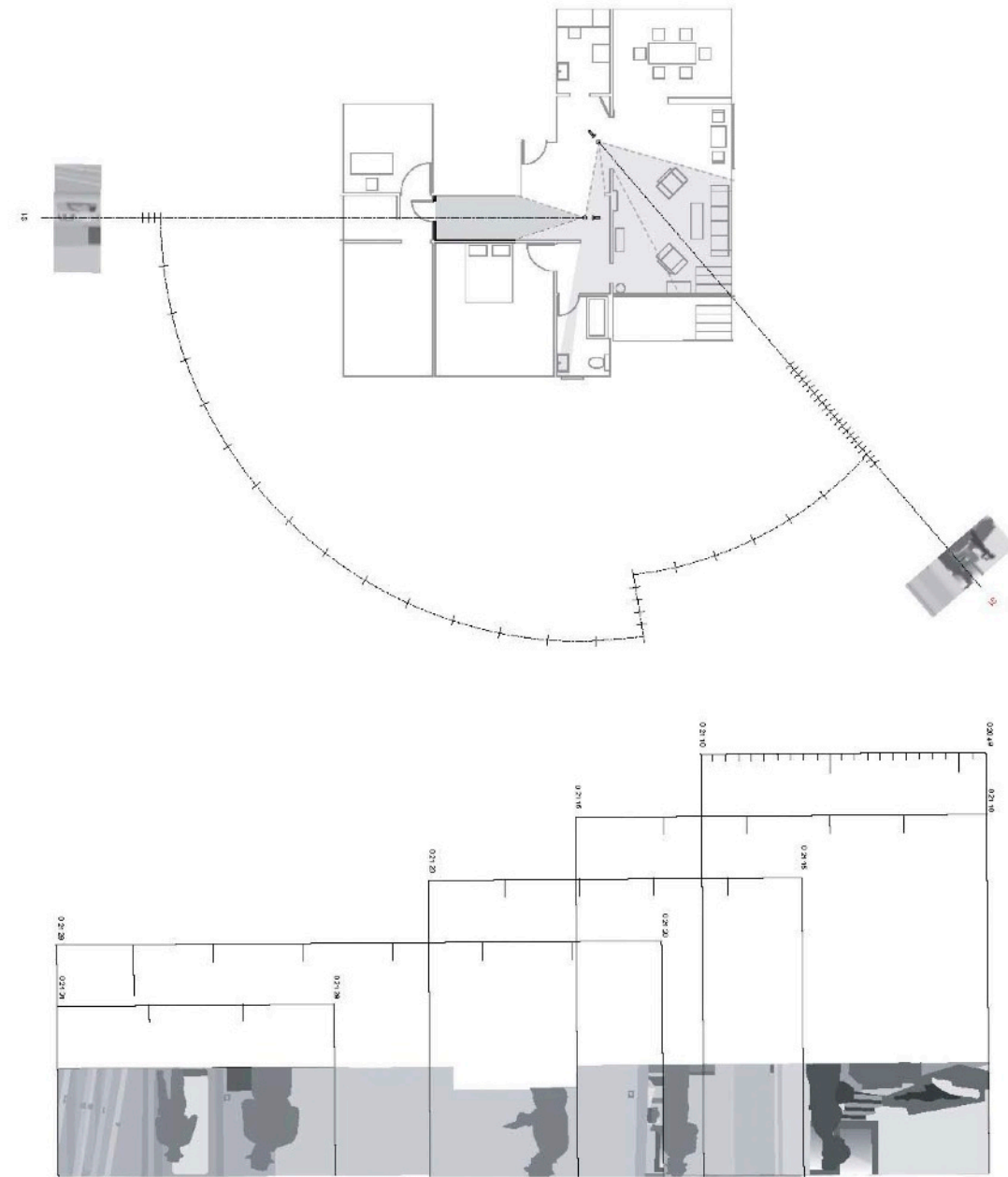
Midway through *Contempt*, a married couple returns home as the camera frames the empty entry vestibule. The camera frames a medium distance shot, with the wide aspect ratio of cinemascope, allowing us to see the entry door to the apartment and into a small adjacent kitchen. The couple enters and proceeds to go through various banal activities such as walking about, talking, ar-

guing, reading, drinking soft drinks, and ultimately bathing and changing clothes to go out again. The camera slowly pans to the right as the husband hangs up his jacket and the wife goes into the kitchen to fetch a soft drink. The camera follows the husband as he walks out of the camera frame to the living room to the right, but he returns and the camera follows him ninety degrees counter clockwise to the left as he walks down the apartment hallway and disappears through a doorway in a long shot. Here the sensory motor schema we learned from Ozu – the movement between perception, affection and action is supplemented by an impulse image caught between affection and action. The camera, like the characters, is caught in an endless repetitive cycle of automatic behavior from perception to affection to impulse to action and back to new perceptions.

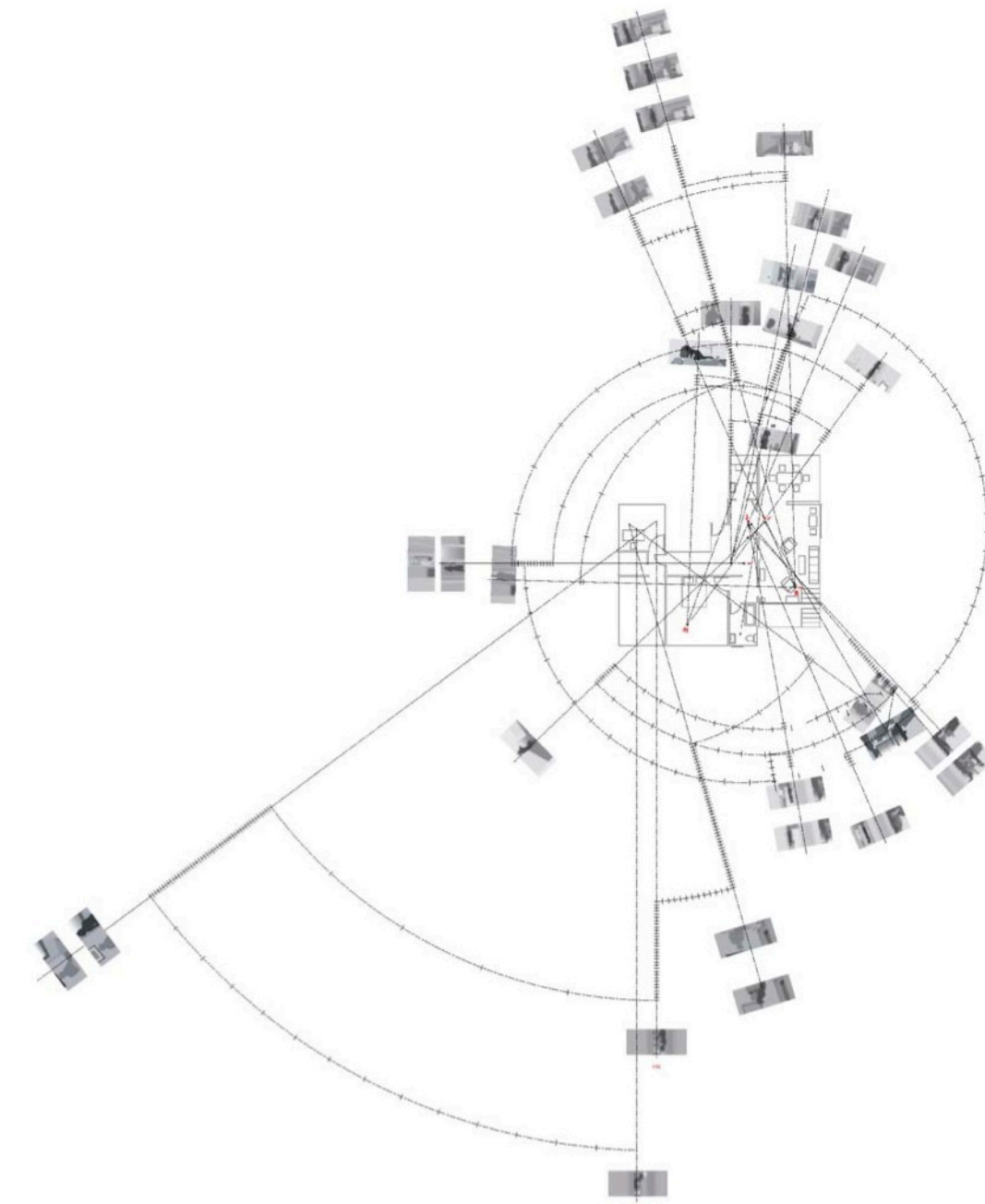
Ozu's vocabulary is also present here: the framed medium distance action image and long distance perception image at right angles to each other, but in between we have the slow panning of the camera during which our attention is less focused on a single framed shot. The perception, affection and ac-

tion images are still there as well, but they flow in and out and overlap as the camera continuously moves during the shot rather than invisibly moving in between the cuts separating Ozu's shots. An individual shot is no longer limited to one type of movement image. If in the classic cinema of Ozu, each shot frames a carefully composed privileged pose, Godard's camera is a semi-subjective frame, shooting what Deleuze refers to as "any-instant-whatever." According to Deleuze, when movement is not related to privileged poses, 'it will not be actualized (in) ideal forms, but (in) any-instant-whatever, which can be '...regular or singular, ordinary or remarkable.' This creates an experience of newness within a field of relations within the open whole.

The apartment scene in *Contempt* continues with Godard's restless camera scanning the interior of the apartment for the next half and hour of film time. The camera finds it impossible to settle in one space, as the characters are restless themselves, and the spacious apartment is filled with corridors and passages in which to hide. If Ozu constructed his scene through editing



4 Mapping one panning and tracking shot in the middle scene of Jean Luc Godard's *Contempt* (1963). The camera starts framing the living room for about 20 seconds, pans clockwise for 6 seconds, tracks forward for 5 seconds in order to set up a 15 second clockwise pan to shoot the husband retreating to his studio.



5 Final diagram of all the shots and camera movements in the central scene in *Contempt* depicts in "real time" a couple returning home, showering, arguing, changing clothes and going out again. The camera continuously pans the space shooting "any-instant-whatever" rather than privileged poses.

or montage of individual shots, Godard, in this famous protracted sequence, defines the art of *mise-en-scene*, where cuts are infrequent and shots linger on in real time. Closeups are rare in this restless sequence, but there is non-the-less a strong affection image produced by the *mise-en-scene* itself – a sample of what Deleuze calls “any-space-whatever”, which produces a feeling or emotion through its banality and emptiness. Any-space-whatever is an absence or void in time rather than a space filled with narrative action or discernable character.

By the end of the sequence, every room of the apartment has been surveyed by the camera as the characters move in and out of rooms, beds, couches, chairs, toilets and bathtubs, as well as their clothes and interact with various objects and carefully selected set pieces of art and furniture. Yet the sequence is unresolved.

We, like the husband, never quite understand why his wife is so upset and acts in such an unpredictable manner. The *mise-en-scene* flows out in real-time – there are no time lapses in between cuts. But, remarkably, one moment of

time in this unfolding scene is expanded in a sequence of flashbacks and a flash-forward to the next scene of the movie. The husband no longer understands the behavior and feelings of his wife. For a moment, his sensor-motor schema is broken. What happens when perceptions no longer result in action? This rapid sequence of jump cuts introduces a new kind of image in addition to the four kinds of movement images we have already acknowledge, here we have the introduction of the time image.

Sensori-motor Breakdown

A man exuberantly leaps from his car, pirouettes to his front door, performs a little soft-shoe two-step routine in the vestibule and leaps up the stairs to his bedroom to greet his wife. Instead he is greeted by a shock. We only see the back of his head, but we know he has caught his wife in bed with a young man.

He impulsively runs in pursuit, but is unable to further pursue his younger rival who athletically bounds out the window over the garage roof and escapes down the winding suburban hills of Los Angeles. This is the beginning of the end of John Cassavetes’ film *Faces* (1968), the

opening shots of the final scene of the movie. The dramatic and frivolous escapades of the main actors, culminating in this dramatic moment near the end of the film have all been filmed in a unique and original style by Cassavetes, as in his independently produced films introduced the hand held camera to cinema. The stable camera of Ozu and the careful mechanical panning of Godard are abandoned by a feely moving camera that behaves like another sensory motor apparatus in relation to the human bodies in the film. The hand-held camera as a perceiving feeling, thinking and acting machine takes on human qualities of impulse, unpredictability and spontaneity. Although Cassavetes carefully scripts his movies, he can never control what actually will happen when the camera rolls and his actors perform.

In this scene we experience what happens when the sensory motor apparatus breaks down and perceptions no longer lead to actions. *Faces* is a vivid description of both the sensori-motor system of affection, impulse and action out of control until the last scene of the movie when the actors finally experience a breakdown. At first they struggle

to change and to think in the new ways when they can no longer act in our normal and habitual patterns. After his rival has disappeared out of the camera frame, we are presented with a long and slow close-up of the husband’s back and then his face in profile as he attempts to cope with the unimaginable and the unknowable. Over the next few shots he wanders through his house retracing his steps trying to restore his sense of his life and his place in the world. However in spite of the momentary bliss both the husband and wife found in their affairs outside their marriage, they slowly resume their old habits, as they sit on the stairs he recently bounded up, sharing cigarettes and a lighter. The film ends with the empty stair, a shot held long and steady. Here we have come full circle back to the silent and empty still camera of Ozu as both directors’ still empty cameras fully embody the time image within the shot.

Assembling Time Images

By focusing on the assemblage of shots into sequences, instead of focusing on individual shots themselves, we can understand the difference between direct and indirect time images. As we

have seen in the first sequence of *Early Spring*, Ozu carefully matches the continuity of the movement of the wife waking up in the morning. His mastery at matching continuity of movement is one of the hallmarks of his film making style. Ozu is a studio film director. His interiors are all sets constructed in the sound studios in Tokyo where he controlled every aspect of filming. Like in the classic Hollywood system, his actors must perform the directed movements of the scene multiple times. Classical editing requires the laborious technique of matching continuity between repeated takes of a shot.

So while the movie viewer feels time is continuous and uninterrupted as we move from the close-up on the pillow of the wife to the perception image of the bedroom as she sits up in bed, or as the shot seamlessly switches from the long perception image of her at the back window to the action image of her stepping into the kitchen, in fact shooting time has been manipulated by the film editing to give the illusion of continuity. This is an indirect time image where time is measured by the lateral movement of bodies in space.

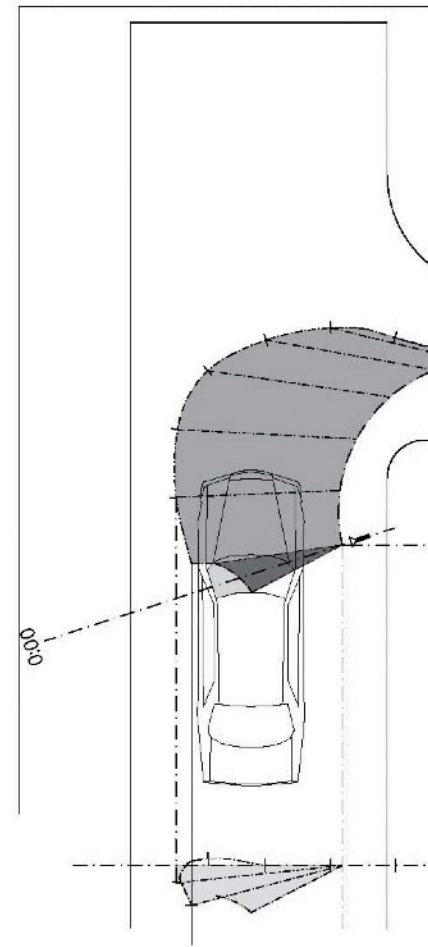
Two diagrams from Henri Bergson’s treatise *Matter and Memory* offer direct time images that arise from relation and reflection rather than indirectly through movement of bodies in space. Bergson’s first diagram distinguishes between “sheets of the past” and “peaks of the present”. Time is like a cone, the point of which is the present, always moving forward. Memories do not just occupy the general space created by the cone as it expands forward, but are mentally stored in separate sheets of the past. When we are in the present and need to uncover a memory from the past, we do not just dip into the past in general, but search within one of these specific sheets or zones.

Orson Wells’ great film *Citizen Kane* is constructed much like Bergson’s diagram, and is the first movie of direct time images based on this act of reflection on the past in relation to the present. *Citizen Kane* begins at the end of Kane’s life. The opening shot is his death scene and his dying words “rosebud” are overheard and become the film’s narrative driving force as a newspaper reporter seeks to find out who or what rosebud was. As the movie progresses in an ongoing narrative present, the reporter and the film dives



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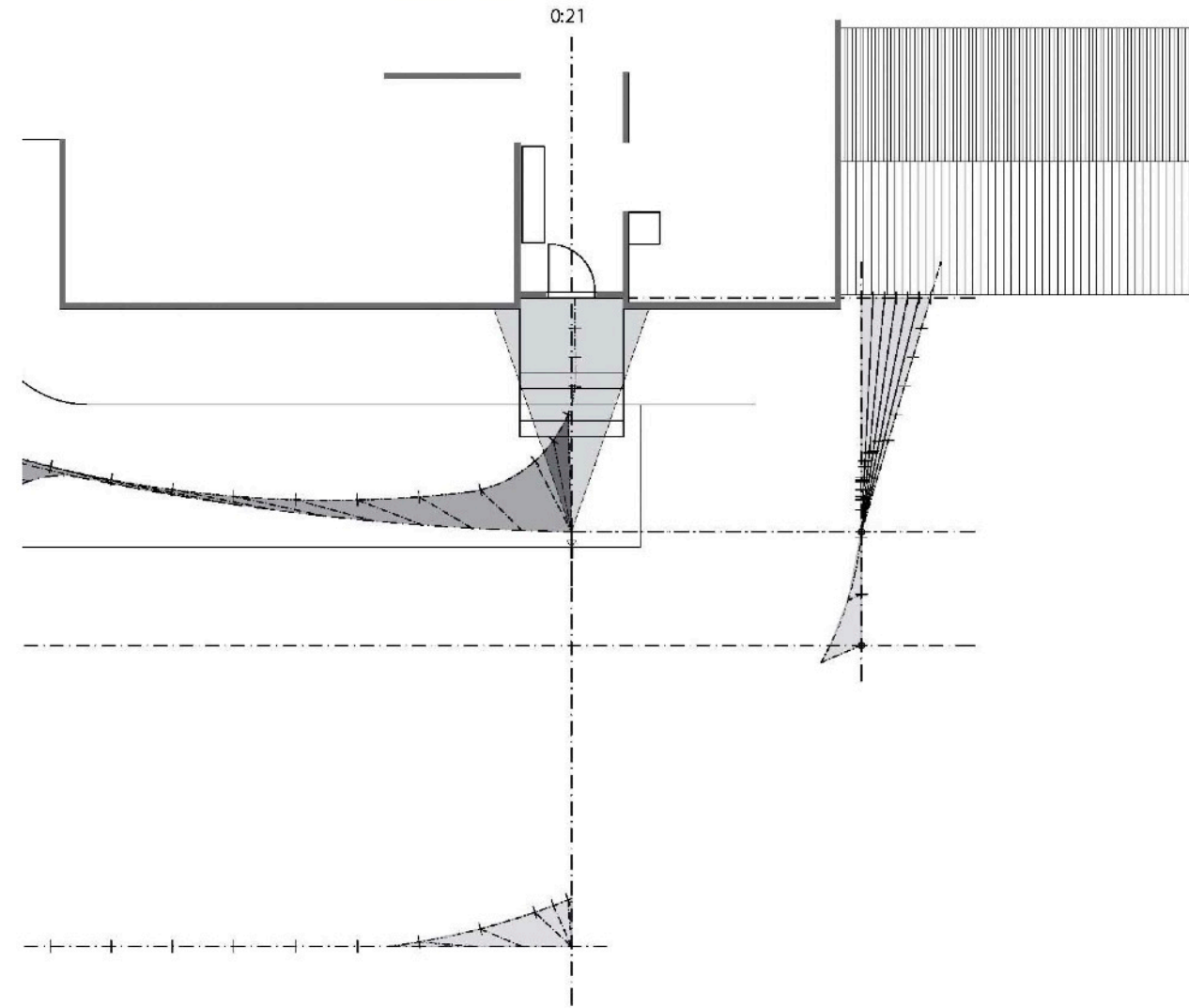
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6 Topological invariant mapping of the actor in the final scene of *Faces* dancing from his car to the front door of his house with the hand-held camera trying to follow him.

into the sheets of Kane's past through interviews with people who Kane lived and worked with and through dramatic transition shots where the film narrative moves from the present to the past and back again. The film both moves forward in the present and progressively through the layers of Kane's past, one sheet at a time. The past is not seen as absent, but continually reflected in and related to the present.

The husband in Godard's film is never able to retrieve the lost memory of what he did to cause his wife to feel contempt for him. A momentary event in the beginning of the film is seared in the wife's memory, and she can recall that moment in detailed flashback later in the film's first sequence as we move from the movie studio to the American producers' plush villa. During the long takes of the apartment scene that is the core of the film, there are a series of jump cut memories that flash through the husband's mind as he panics at his wife's new feeling of contempt for him. His mind's internal movie projector flashes with a series of sentimental and erotic images of his wife, so he is unable to remember his own behavior the mo-

ment he betrayed her by compromising her integrity and putting her in a car with the vile American film producer. His lack of attentiveness is what drives his wife to leave him.

Bergson's second diagram distinguishes between automatic and attentive reflection. If an object, labeled "O" is recognized in an immediate perception, such as in every day life, for instance when the wife wakes up in Ozu's film, or the couple return home in Godard's, then it is an example of automatic reflection. The wife can automatically go through the morning rituals of waking up before it is even light. Godard exaggerates the automaton nature of his characters in the apartment scene of *Contempt*, as they barely notice their surroundings, in some times comical ways. We barely see the objects around us in every day life because through repetition and routine everything is already known in our memory. On the other hand, what happens to us, when, like the husband in *Faces*, we return to familiarity of home to see everything has changed beyond our expectations. Bergson's diagram shows that only through circuits of attentive reflection, we achieve both a higher ex-

pansion of thought and reach a deeper stratum of reality.

A memorable work of architecture, such as Casa Malaparte, which is the setting for the final scenes of *Contempt*, is worthy of such attentive reflection. According to Marida Talamona, the house is a personal biographical reflection, which we can compare to the biographical structure of Citizen Kane. The Italian writer Curzio Malaparte built his house as a testament to his life. While at a glance the house may appear as a striking but typical example of modern rationalist Italian architecture, closer examination reveals multiple historical and biographical associations and meanings. The dramatic wedge shaped staircase which dominates the profile of the house, resembles the Church of Annunziata on the island of Lipari, where Malaparte was exiled by the Fascist regime of Mussolini. The performative aspect of the roof in relation to the stair acts like a Greek theater, dramatized by the final sequence of Godard's film, where a scene from the *Odyssey* is filmed. A dramatic 360-degree pan shot by Godard unfolds a great stone-floored living room, with giant picture windows looking over the

Mediterranean Sea. The living room with the windows serving as Pompeian frescoes resembles the atrium houses excavated by archaeologists just prior to the construction of Malaparte's house. The writer's studio at the back of the house, provocatively shot as the scene of the Brigitte Bardot's stolen kiss in *Contempt*, in fact is a reconstruction of the author's prison cell in Lipari. Finally the view of the house from a distance resembles a Roman tomb, and it acts as such for Malaparte, since it is now a state monument in his honor and dedicated to his memory.

Attentive reflection through repetition is notably present in Ozu's film, as the characters' actions are replayed out in the same domestic space over time, and resolve their marital conflict at the end of the film. The film continues to return to the same action in which the film opens as new conflicts arise and are confounded. If we examine not the scenes from *Early Spring* chronologically as they move from domestic to leisure to office spaces, but synchronically, by overlaying subsequent sequences filmed in the same space, we see how affective the director is at creating attentive reflection in

his film, not in the individual sequences themselves, but in the continual return to the same spaces of every day life.

The couple in Cassavetes' film is unable to alter their habits in any way in spite of the dramatic upheavals in their lives brought by their mutual infidelities. Life is split into the routines of marriage and the thrill of affairs. It is only in their respective affairs that both the husband and wife find true moments of intimacy and affection. In the end while all three films are focused on domestic disputes and betrayals between married couples, they all grapple with huge cultural changes that took place in the last half of the twentieth century as a new consumer society emerged across the globe. By the time *Faces* is made the world is experiencing a sensori-motor breakdown as the civil rights and post-colonial liberation movements usher in a new era in the world political stage. But what does the form or content of these three films offer us for the twenty-first century, where the life styles and behaviors of the era in which they were made need to be so radically altered in the face of rapid global urbanization and climate change?