The Movement Movement: Histories of Microanalysis at the Intersection of Film, Science and Art

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Abstracts

Heather Love (University of Pennsylvania, Philadelphia)
"Meticulous student of the real": Goffman's Lessons for Queer Studies

In this presentation, I consider Goffman's role in the development of microanalysis, taking account of his observational gifts, his promiscuous borrowing from fields outside sociology, and his attention to both fictional and non-fictional scenarios. There is something ironic in Pierre Bourdieu having called Goffman a "meticulous student of the real," in that his attention was so often turned to literature, or to odd angles on everyday life that brought out its unreal qualities. I focus especially on Goffman's interest in the detail as a way to apprehend larger social dynamics and on his faith in unveiling the workings of social machinery as a path to transformation, tracing the persistence of these modes of thought in the contemporary field of queer studies.

Igor Karim (Goethe-Universität, Frankfurt): Camera Movement as Exploration of the Body – or How Gestures Construct Personhood During Documentary Filmmaking

The paper deals with a plot twist within a trans-disciplinary research using ethnographic films on body techniques involved in production processes. The research aim initially was to gain insights into the intergenerational knowledge transfer within the material culture of the Aparai and Wayana communities in northern Brazil. To achieve that, we compared their current production techniques with the ones in old ethnographic films on pottery, basketry and weaving, portrayed in 179 films made by Manfred Rauschert (1928-2006) during the 1960s in the Guyanas. What started as a trial into reviving the original purpose of the film collection as a visual compendium of gestures and motions, became by accident a speculative inquiry about the body and gestures the filmmaker, and the camera-mediated relationship with his indigenous partners. By perceiving framing and composition displayed in his films as indexical traces of the gestures and movements of the filmmaker, was possible to shift the original aim of the study, and to use the film material to research instead Rauchert's body techniques, his relationship with the camera and other materials involved in the film production. The analysis suggests that it is possible to understand not only the dynamics of his personhood construction but also the institutional scripts he performed during his fieldwork, as also the dynamics of his relationship with the indigenous partners during fieldwork, through retracing the Rauchert's gestures behind the camera. Rauchert shot the series of industrial films using a handheld Bolex H16 camera, following the production guidelines laid by the defunct Institute for Scientific Film (IWF) for ethnographic films on material culture. The films would be included in what was known as the Encyclopaedia Cinematographica, organized by the IWF and

would function as a catalogue of gestures and movements of the Aparai and Wayana. Therefore, retracing his embodied camerawork was possible due to a particular configuration of documents which are recurrent in the IWF films. The filmmaker would not only shoot the film but also write detailed reports about the production, to keep track of the direction and mise-enscéne used in a particular scene. By analyzing the films and Rauchert's "behind the scenes" reports, it was possible to infer how Rauschert's embodied camera – expressed through his framing, composition and camera movement, shows his personhood and the ideologies of the institutions funding his fieldwork. Therefore, what first begun as a provisional investigation on transgenerational changes in the Aparai and Wayana industrial gestures, became an endeavour into the phenomenology of film production and the relationship between body and environment during the process of camera-operation. This method of analysis invites us to think the "making-of-films", especially the ethnographic films produced with handheld cameras for the IWF, as a particular configuration which affords the reoperationalization of motion studies films. By retracing the body techniques behind the camera, it is possible to produce knowledge on the visual meta-discourse within ethnographic films about the construction of the filmmaker through technical processes and re-locate visual anthropologies of movement and gesture in a broader dialogue with STS studies, Film Studies and processual philosophy.

Vinzenz Hediger (Goethe-Universität, Frankfurt): Series, Comparison, Nature: Biology of Human Behavior and Cinematic Method in Irenäus Eibl-Eibesfeldt's Human Ethology Film Archive

From 1966 to 2007, Austrian biologist and behavioral scientist Irenäus Eibl-Eibesfeldt conducted a comparative longitudinal study in five indigenous populations across the globe with the aim of discovering infra-cultural universals of human behavior. The primary research tool was a 16mm camera designed to shoot sideways to capture behavior as if unobserved. Over four decades Eibl-Eibesfeldt and his collaborators compiled an archive of 600 hours of film. This contribution will argue that this collection is an archive of a certain notion of human nature, which is located in the interstices between film recordings and which the ethologist retrieves through a comparison of a series of film recordings of bodily behavior.

Oliver Gaycken (University of Maryland, Baltimore): The *Encyclopaedia Cinematographica* as Microanalytic Archive

The *Encyclopaedia Cinematographica* was a signature achievement of the Institute für den Wissenschaftlichen Film, which was active from the early 1950s until the early 2000s. This presentation will situate the *Encyclopaedia Cinematographica* project among other projects with which it was contemporaneous that also used cinema as a means to catalogue and (micro)analyze, such as Ray Birdwhistell's kinemics. The paper will discuss both certain shared characteristics as well as fundamental differences in approach and execution.
The EC was formally modeled on the encyclopedia, sharing that mode's fundamentally open-ended form as well as a reliance on compilation as a compositional strategy. Above all, the project relied on a systematic form whereby smaller units were only truly meaningful as part of a larger whole. Thus, the key formal feature of the EC was the so-called smallest thematic unit, which was thought of in relation to a general organizational matrix. The conscious emphasis on short, discrete, and

comparable units, which the project's foundational figure, Gotthard Wolf, often used the term "mosaic" to describe, distinguished EC films from other forms of documentary cinema.
Many of these units relied on cinema's ability to manipulate time, especially the ability to slow rapid movements. So, for example, slow-motion sequences of predation allowed for a comparative analysis of suction feeding in the South American bonytongue or paiche, a fish that is found primarily in the Amazon flood plains, and the mata mata, a freshwater turtle also found primarily in the Amazon. The films that constituted the EC were meant to be documents more in the sense of cinema's pre-Griersonian documentary tradition, what Paula Amad has characterized as "cinema's inventorial applications." These applications were more prominent in the period of early cinema but have been eclipsed by one the one hand cinema's hegemonic formation as an entertainment medium and on the other hand the specific discursive parameters of what we call the documentary tradition.

Michael Lempert (University of Michigan, Ann Arbor): Small Talk: Media and the Microscopic Science of Conversation

When the sciences of face-to-face interaction crystallized in postwar and early Cold War America, many imagined interaction to be a small-scale level of social reality that demanded fine-grained, "microscopic" methods, methods that depended on mechanical recording and playback technologies. Tropic (non-literal) microscopy is familiar and nearly as old as the optical microscope itself, but what did scale—as discourse and practice--mean in these midcentury sciences of human behavior? What did their scalar discourse convey and betray, who did it excite—and antagonize—and what effects did it have?
In interaction science, tropic microscopy usually featured mechanical recording technologies. In two rare but notable cases, these were dedicated "interaction recorders" (Robert Freed Bales, Eliot D. Chapple) designed exclusively for one object of knowledge, interaction. More often tropic microscopy involved the repurposing of existing media technologies (for sound, and later for film and sound-film) while experimenting with ways to transduce source media into analytical and evidentiary textual (and sometimes also graphical) artifacts—paper "transcripts" of talk. Turning to US-based research on interaction over a fifty-year period, from the mid-20s to the mid-60s, I ask how, why, and with what effects this research scaled its object as small and cultivated a microscopic observational sensibility. In this talk, I focus on and compare (1) Robert Freed Bales' Interaction Recorder and his influential "Interaction Process Analysis" (IPA); and (2) linguist Charles Hockett's work with psychiatrists on The First Five Minutes: A Sample of Microscopic Interview Analysis (1960). Each scaled interaction as small but for different reasons and with different effects. Together they illustrate two distinct currents that explain how and why interaction science went micro in midcentury America. The first current, exemplified by The First Five Minutes, stems from the mid-1920s and involves a shift in technosemiotic ideology that we may call indexicalization (in stricter Peircian terms, dicentization). This shift, I argue, was the result of an intimate dialogue between psychiatry and communication science and was facilitated by experimentation with media technologies. The second current, exemplified by Bales' IPA and Interaction Recorder, was that of "small group" research, which became a social science boom industry in the immediate postwar period. The scalar aspirations of small group science were kindled not by indexicalization but by the imperatives of postwar and early Cold War social science, notably the insistence on scientism and social engineering.

Katie Joice (Birkbeck, University of London): Mothering in the Frame: cinematic microanalysis and the pathogenic mother 1945-67

This article examines the use of cinematic microanalysis to capture, decompose and interpret mother-infant interaction in the decades following WWII. Focusing on the films and writings of Margaret Mead, Ray Birdwhistell, Rene Spitz and Sylvia Brody, it examines the intellectual culture, and visual methodologies, which transformed 'pathogenic' mothering into an observable process. In turn, it argues that the significance assigned to mothers 'small behaviours' provided an epistemological foundation for the nascent discipline of infant psychiatry. This research draws attention to two new areas of enquiry within the history of emotions and the history of psychiatry in the post-war period: preoccupation with emotional absence and affectlessness, and their personal and cultural meanings; and the empirical search for the origin-point, and early chronology, of mental illness.

How much or how little does it take to be definitively changed or irretrievably damaged in the formative period of infancy? How does the presence, absence or confusion of maternal emotions, as expressed in facial expressions, gestures and holding patterns, effect this change? And how much weight, epistemologically and socially, can be brought to bear upon changes which occur at a barely perceptible, micro-level of analysis? These are questions which preoccupied many British and American psychiatrists during the post-war period, as psychoanalytic, environmental and interactionist theories came to replace racial and genetic concepts in the search for the aetiology of mental illness. Many of these therapists and their associates in allied disciplines turned to the impassive eye of the film camera in order to generate an evidential base for their research. New advances in film technology, particularly its increased portability, enabled child psychiatrists and analysts to enter into the very interstices of the mother-child relationship, and to interrogate the constituent elements of mother-love itself. By examining these films frame-by-frame, the micro-expressions and gestures that were deemed to inflict damage – at an almost subliminal speed – could be identified and potentially corrected.

Whitney Laemmli (Carnegie Mellon University, Pittsburgh): “When Words Fail: Movement Notation, Trauma, and Therapeutic Practice in the Post-WWII United States”

In the early 1950s, the Vienna-trained psychiatrist and psychoanalyst Judith Kestenberg became known for an unusual talent: her ability to spot Holocaust survivors by the way they moved. Kestenberg, then practicing in New York City, believed that the analysis of human movement represented a revolutionary tool for accessing the inner lives of her patients. Even when they could not or would not speak, telltale gestural patterns might signal schizophrenia, depression, early childhood trauma or repressed aggression. Kestenberg’s work relied a tool derived from “Labanotation,” a complicated graphic technique initially developed to record dance on paper. Its later users, however, had more ambitious aims for the technology, painting Labanotation as a “new Esperanto:” a language not of words, but of the body, one that would allow clear and unencumbered communication across borders, languages, and psychic states. This paper explores notation’s use in psychiatry and psychology in the years following World War II, focusing particularly on work with Holocaust survivors and war veterans. It argues that the widespread adoption of Labanotation in the United States was driven by anxieties about the body’s capacity to silently incubate trauma, fear, and aggression and the consequences of that persistence for postwar order.

At the same time, psychological professionals hoped that the mastery of this new "universal and scientific" language of the body would bolster their claims to a new form of expertise.

Stefanie Bräuer (Universität Basel): Electronics in Experimental Animation: Para-Cinematic Practices and Sites

The proposed paper engages in a critique of a topos well established in German Media Theory: mass media originate from measuring instruments. Common examples include the description of devices within 19th century physiological research as proto-cinema and of the electronic oscilloscope, originally employed in physics to visualize and measure alternating currents, as proto-television. With a focus on microtemporalities, such as the recording of events occurring underneath the threshold of human perception, this approach traces genealogies of technical media and their operation. While bringing attention to one blind spot of media history, this media archaeological angle nonetheless creates another, losing sight of the histories of social systems, such as institutions, and the structures of power and knowledge supporting them. The proposed contribution attempts a hybrid approach, considering the relational dynamics between diverse actors in experimental film production, while acknowledging the operational agency of non-human actors during that process. Choosing this perspective, the electronic oscilloscope as employed in animation filmmaking – the subject of the proposed contribution – doesn't appear as proto-television but instead as an unstable tool for generating images set in a specific context of bricolage, as well as institutional affordances, which resulted in experimental films that themselves partake in histories of minor cinema. The focus sits therefore on the intersection between cinema and electronics in the early 1950s, and more specifically on experimental animation. Animation occupied, and still occupies, a volatile position within the changing systems of media. In recent years, animation has been portrayed as situated in between genres and techniques of filmmaking, traversing art, science and film – even an epistemological dimension has been ascribed to animation. In resonance with this claim, recent studies on the para-cinematic described practices of minor cinema, useful cinema and multi-sited cinema in terms of circulation and exchange between various fields. Based on these studies, the aim of this contribution is to argue for an understanding of early 1950s experimental animation as embedded in specific media assemblages, in para-cinematic practices and sites where animation could integrate electronic imagery, and where animators worked together with engineers. Two examples shall guide the argument: Mary Ellen Bute's collaboration with the communication engineer Ralph K. Potter of Bell Telephone Laboratories and Norman McLaren's collaboration with the engineer Chester Beachell in the setting of the National Film Board of Canada. Mary Ellen Bute worked outside of an institutional framework, but used the facilities of the Ted Nemeth Studios, a New York-based film studio offering services such as titling and animation for educational and industrial film, as well as for TV advertisement. In these cases, collaborations and specific sites of film production engendered the use of electronic imagery generated through the aforementioned oscilloscope. These electronic experiments in animation indicate that electronics entered cinema not only through the use of triodes in sound film, through video or digital processes but also through para-cinematic practices and sites of useful and minor cinema in the intersections of film, art, science and engineering.

Ken Eisenstein (Bucknell University, Lewisburg): Row Roe Micro Your Tod: Hollis Frampton and the Currents of Time

In 1974, after a screening at Cooper Union in New York City, Hollis Frampton recounted, for his audience's benefit, a dream that he had had back in 1970. In it, he presents his friend, fellow filmmaker, and sometimes collaborator, Michael Snow, with a gift: a homemade sign of the single word SPACE. In the dream, Snow returns the gesture with a parallel (or is it perpendicular?) construction: "an empty frame, very elegant, within which was suspended a white neon that said TIME and blinked once a second." On and off may be two different states, but whether or not Snow's sign could be said to move between them depends on how one resolves the resonances of "suspended" and "blinked." What's the connotation of the "empty frame" around TIME, anyway?
Change and alternation are usually thought to require temporality, but a survey of Frampton's thoughts about, and aesthetic interactions with, time, as well as the tracking of movement within it, isolates a number of nuances. From Frampton's 1958 "Letter to a Choreographer," which touches on dance notation, to his 1973 essay on Muybridge; from his idea for a film with "numbered frames" à la Birdwhistell, to one "about a painter, in the manner of The Ax Fight"; from his belief in the ability to discern single frame differences in the length of shots, to his conviction that in the 1/48th of a second that the projector hides the advancement of its filmstrip there is time enough to "think about the frame you've just seen," it would appear that the swiftest and most complex unfoldings are graspable with the right approach. Yet one kind of progression baffled Frampton, a propulsion he had trouble graphing: the montage of Stan Brakhage.
After laying out a range of Framptonian plays with motion and its measurement, this presentation will turn to a note Frampton made about studying Brakhage's "points of articulation…the two frames adjacent to a [Brakhage] splice." By taking up Frampton's own desire for the microanalysis of an unruly momentum, I will explore whether the conceptual kinesics that come with dance, grids, and lineage are sufficient to parse Brakhage's editing.

Eszter M. Polonyi (University of Nova Gorica): Between Film and Graphic Arrangement: Thom Andersen's Flicker

When the California-based filmmaker Thom Andersen made his documentary Eadweard Muybridge, Zoopraxographer in 1973-4, he recovered an aspect of Muybridge's work that most viewers had not seen before. Projected on the screen at the top of the theater, these iconic nineteenth-century chronophotographs were allegedly first seen in movement. Viewers could watch as his half-clad and nude subjects lifted water buckets, walked up and down stairs, ran, stood, heaved, threw, jumped, crawled and kicked. Throughout the film, Andersen shows each action multiple times, so that an athlete, for instance, leaps his hurdle firstly slowly, then at increasing speeds. Almost none of the sequences appear in the tempo in which they might have taken place in front of the camera. And, despite this being omitted from reviews, many of the passages drop to frame rates below the minimum necessary to sustain the illusion of motion, dissolving Muybridge's images in a pulsing, jagged flicker. If Andersen's recovery of Muybridge's image sequences continue to appear spectacular, this is because watching the motion studies suddenly lurch into moving images proves just how little their "movement" can be explained by a history of the "movies." This paper examines Andersen's film as a way into an alternate genealogy of the moving image provided through the phenomenon of the flicker.

As has become increasingly clear with the publication of a recent anthology of his critical writings (Visible Press, 2017), Andersen was part of a generation of North American filmmaker whose practice and writing resonated with the academic critique of the film apparatus as it began to emerge from France in the 1960s and 1970s. The fixed temporal parameters of film consumption constituted a recurring consideration for Andersen, for whom "clocked" time literalized the destructiveness of capitalism's "eternal present" (review of Christian Marclay's The Clock, 2011). His recovery of Muybridge, for which a frame-by-frame projector allows Andersen to reconstruct what were this precinematic recording systems's famously arbitrary time intervals, is read within the context of such a critique but also of an emerging tradition of expanded cinema practice. To this effect, comparison is made between Andersen's process and the efforts of Tony Conrad in the 1960s to research the frequencies at which human vision registers photocelluloid film's flicker. Conrad's ability to produce the flicker is ensured not by modification of the projector's microtemporalities, which would have restricted the number of projectors on which he could show his flicker film, but through alterations at the level of the photocelluloid. Both Andersen and Conrad are shown to turn the basic apparatus into a rhythmic instrument by accessing its frame rates through what I argue is a graphic rather than filmic method.

Peter S. Collopy (California Institute of Technology, Pasadena): "Pass Through the Barrier of the Skin": Video and Microanalysis at the Boundaries of the Self

Sometime around 1970, philosopher Victor Gioscia and artist Paul Ryan sat facing each other and recorded their conversation. "A week later," wrote Ryan, "we played the tape back using slow motion and no sound. We both sat facing the screen imitating the kinesics of the other on the screen and verbalizing how we felt going through the motions.… When I woke up the next morning, I felt like I was wearing his body."

This was an unusual experiment in microanalysis, an effort to use the careful study of human movement not to understand the other but to become him. Although neither was quite one of them, Gioscia and Ryan were part of the network of behavioral scientists who had begun experimenting with movement analysis using film and video in the 1950s. They both knew Gregory Bateson, with whom Ryan later recorded a "metalogue" in 1977. Indeed, Ryan had met Bateson through Gioscia, who invited both to a conference on social change in 1970, Bateson to participate, Ryan to document. Much of the discussion ended up being on the format of the conference itself and the role of video in it. Ryan, fellow artist Frank Gillette, and psychiatrist Warren Brodey challenged the epistemic authority of behavioral scientists. Psychiatrist Albert Scheflen fired back, observing that the scientists present included "the first person to put video cameras in the home… and the second person to ever film psychotherapy sessions,… so you have got a funny carrying of coals to Newcastle."

Unlike most in the behavioral sciences, though, Ryan was influenced as deeply by Bateson's metaphysics as by his methodology. Bateson, he later wrote, was distributing his "The Cybernetics of 'Self': A Theory of Alcoholism" at the conference. In it, Bateson argued that mind is not bounded by our individual bodies or selves, but rather "is immanent in the larger system—man plus environment." Reading Bateson prompted Ryan to reconceptualize his experiments with video in more explicitly cybernetic terms and extend his notion of infolding beyond the individual. "The cybernetic extension of ourselves possible with videotape does not mean a reinforcement of the ordinarily understood 'self,'" wrote Ryan. Instead of "zooming in on 'self' to the exclusion of

environmental or social systems," people could use video to become more aware of their unity with their environments.
This paper will explore the uses of careful observation of the self and others at the edges of the scientific community of microanalysts, paying particular attention to Ryan's suggestion that these practices could foster new modes of relationality and embodiment.

Seth Barry Watter (eikones, Basel): Minimal Units and Good Vibrations: The Work of Paul Byers

It is just as impious, according to Pascal, to claim a knowledge of small things as it is to profess omniscience. Frustration, in any case, will be its own punishment for the ones who persist in seeking nature's fundaments. Such a one was Paul Byers, who sought a minimal unit of human interaction. At first he thought he found it in one-tenth of a second. Later he refined this to 0.105 seconds. He began his career in behavioral science as a consultant on photography for the anthropologist Margaret Mead. They published a book together in 1968 that featured his photographs of conference behavior. Throughout the 1950s he made his living as a photographer with a specialty in families, which attuned him to relationships: those between the subjects in front of his camera and those between himself as photographer and his subjects. Trained as a musician, he became preoccupied with rhythm, and it seemed to him that choices of when to close the shutter had something to do with interaction rhythms. In analyses of films of the !Kung and the Netsilik, he found a shared rhythm of participant movements. It was as if all began their movements on one of the beats of a fixed 10 Hz rhythm. And since Byers felt that voice and movement are not independent but are integrated systems, he analyzed sound tape of these same groups. This too showed the rhythm of tenth-of-a-second beat units. From 1972, then, until his death three decades later, his increasingly private research was devoted to analysis of acoustic waveform data—and the rhythm they shored up. He maintained that this rhythm was innate, biological; its evolutionary value was to allow human beings to tune to one another. Not averse to '60s slang, he spoke of "good vibrations": feelings of rapport that one could actually measure. In the 1990s he was able to use digital signal processing (DSP) to study vocal sound at the granular level. His research was inconclusive but it seemed to him now that the 10 Hz or rather, 9.52 Hz rhythm could be broken down further into numerous partials. It could likely be divided with no end in sight except for the limits of digital software. The more he used DSP and the more that 0.08-second intervals filled up his screen, the less he talked of interaction or engaged in theory-building. The relative obscurity of Byers' career should not prevent us from seeing its value for media history. From photography to waveform, he covers the entire spectrum of microanalysis; hence his biography is a study in comparative media.