Film Education in Bauhaus: Understanding Theory and Practice of László Moholy-Nagy

Kankan Zhang

Ningbo Institute of Technology, Zhejiang University, Ningbo 315000, China

kenacademic@sina.com

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Abstract: Film, a little attention for Staatliches Bauhaus Weimar, is whereas valued by its Hungary master-artist László Moholy-Nagy, who is both socially critical and historically awake, to bear his light display and as much his new concept of the organic man. His predictions about film, and in general, media art, during his stays in Weimar Germany and later the US exhibit as much conciseness and insightfulness as in most Bauhaus compendiums is still witnessing its embodiment and extension in the Digital age. With Moholy-Nagy, we can answer the question classic-what is cinema-differently.

1. Moholy-Nagy in Weimar Bauhaus

1.1 Modernity and Film

A brief look at the prologue of the never shot film *Dynamic of the Metropolis* scripted by Moholy-Nagy reveals a montage of Dada, Eisenstein, impressionism, pure cinema, the destructive vigor of modern city, the cliches of photographic movement and much more iconoclastic use of them. Purportedly, the shutdown of the project was attributed to insufficient money, but whether Moholy-Nagy really wanted to make a film was unclear as the script itself was a collage artwork. Anyway, another well-known film *Berlin: Symphony of a Great City* (Walter Ruttmann, 1927) shows temperament not different. What did Moholy-Nagy find through the Symphony? Given "film practice has so far been largely restricted to reproducing dramatic action without, however, fully utilising the potentialities of the camera in an imaginatively creative manner", he must have noticed in the film "formal tension, penetration, chiaroscuro relationships, movement, tempo".[1]

According to Moholy-Nagy, exploring the potentialities of a medium is dependent on understanding its particularity. He has less interest in performance or narrative than employing some technology to catch, to revive, the lines, facades, lights, and shadows, whose relationship most of all avant-garde artists have groped. Thus he writes:

"The potentialities of the film include reproducing the dynamic of different movements; scientific and other observations of a functional, chemical type; quick and slow motion pictures; *radio projected film newspaper*. The consequences of exploiting these potentialities include: the development of education, criminology, the whole news-service and much else. What a surprise it would be if, for example, it were possible to film a man daily from birth to his death in old age. It would be most unnerving even to be able to watch only his face with the slowly changing expression of a long life and his growing beard, etc., all in 5 minutes... microscopic observation will reveal the profoundest connections." [2]

While Moholy-Nagy extols the Symphony, he mentions a second film *Napoléon* (Abel Gance, 1927) that is revolutionary in its use of polyvision. As He holds, the film, to a certain extent, realizes what his *Painting, Photography, and Film* conceives as "simultaneous cinema". Consistent with Bauhaus' basic postulation about architecture as a total work of art, his discussion about "simultaneous cinema" addresses not only film but also its exhibition condition. Moholy-Nagy's blue print of simultaneous cinema include adjustable screen and curved screen on which different films will be projected spatially, in particular, lives of different characters on the curved screen encounter when the images are superimposed. Moholy-Nagy was most possibly inspired in this

experimental approach to film by everyday life of modern metropolis, remarkably, its visual and auditory simultaneousness. “The realisation of such plans makes new demands upon the capacity of our optical organ of perception, the eye, and our centre of perception, the brain. The vast development both of technique and of the big cities have increased the capacity of our perceptual organs for simultaneous acoustical and optical activity”.[3]

Pedagogical advice 1: Screen can be anything. Try and find the screens.

Meanwhile, not only one’s head is brought into play by film, his entire body, a understanding and participatory body, will move kinetically as well. It is the synthetic perceptive capacity that simultaneous cinema tries to culture, coordinate, and respond to. Although today simultaneous cinema has not come to be the standard of spectatorship, it succeeds into avant-garde film, video, contemporary art, and even advertisement. Applicability does not have to be, or even is not supposed to be, the primary concern for experimentality.

The revelation of new image technologies’ vantage in crystalizing perception and popularizing education leads Moholy-Nagy to the knowledge that the art of light can not only present structures and movements discovered by artists, but also play a part in the formation of a new society, because “concentrated work of organisation is the spiritual result which brings all elements of human creativity into a synthesis: the play instinct, sympathy, inventions, economic necessities”.[4] As an old new medium, television, in its very infancy, was perceived quite positively to cross intercultural barrier and make demos around the world visible to each other. Therefore, the mass art advocates, Moholy-Nagy included, did not study and make film within a system of exclusiveness, in contrast to which, quite alike their commercial counterparts, they see film in line with media such as from traditional print-illustration, newspaper, magazine-to visual culture constitutions: typophoto, neon light, and X-ray.

1.2 Methods towards the New Experience

To achieve the abovementioned end, Moholy-Nagy suggests two methods. In short, first, exploiting new technology, and second, creating new vocabulary. As Moholy-Nagy points, human per se is an optical phenomena, and he calls photography, film, and environmental artists “optical creator(s)” to make the invisible with naked eyes visible, whose fields might range from kinematics, zoology, phytology, to mineralogy. In other words, opposite to the visual monopoly in fine art(via frame, aura, and other technologies), the creatively implemented light extends the reach of representation. Apart from this, the historical avant-gardists’ dissolution of realism and naturalism matches forward to the absolute painting that centers on color, tension (form, position), light(brightness, color temperature), movement(forward/backward, centripetal/centrifugal). These components and their configuration in a manner are anti-narrative and tend less to be affected by localism tenets in terms of universality. Accordingly, the time span for film’s transition from representation to abstraction seems narrower than any other art forms, well before film found its own dominant formula. Following the convention of naming a new medium with an old medium, Moholy-Nagy entitles film as “light painting” or “kinetic painting”.[5]

Photogram, that is, putting objects between film rolls and light source, under unmediated exposure, to form highly structured or distorted shadows, is an good example for what I say about exploiting new technology. It is not to say that we had better turn to technologies of the 1930s, despite cinema of attraction still pulls contemporary audience. Rather, in film making, we should render whatever medium anew or alternative in our negotiation with the reality. An awry applied technology, makes possible, like with X-ray, to see the interior of physical body and cultural politics, and like with a filter, to see the same thing differently. The technological derivative also involves the possibility of media democratization. In Moholy-Nagy’s imagination, there would emerge a new domestic space-family gallery, where films could be shown without a theatrical screen. His prophecy was soon to be proved.

The other method, in analogue to Deleuze’s definition of philosophy’s mission, is creating new vocabulary. Moholy-Nagy’s wordbuilding exemplifies his attempt to construct new relationships in an interesting and enlightening way, such as “color photography”, “sounding picture”, “optophoetic

composition", "photoplastic". One might challenge: "Aren't color and sound intrinsic parts of film?" It is worth noting, nevertheless, Moholy-Nagy proposed these fantastic concepts in a time when film was mute and gray. Here, with the consideration wordbuilding in fact is an passing through set boundaries (the semiotic delineations that are staked as to address the world), what words shall we create, for instance, in the realm of film? We already have "total film", "expanded cinema", "mini-movie" and even "vertically screened film" ...What will "game-film" or other "whateverfilm" look like?

Pedagogical advice 2: Splice two completely different things to make a new word. Find the relation. Describe it, or maybe draw it down.

"Art attempts to establish far-reaching new relationships between the known and the as yet unknown optical, acoustical, and other functional phenomena so that these are absorbed in increasing abundance by the functional apparatus." The course finds its substrate in and serves ever "the synthesis of all his functional mechanism", "the composition of man". As Moholy-Nagy regards, art, instead of being pastime as traditionally defined, takes its root in our desire to acquaint ourselves and our environment, so "rather will unity have to be produced by conceiving and carrying out every creation from within its fully active and therefore life-forming propensity and fitness". No matter in science or in art, only when every medium's or skill's speciality gets properly tapped will it, as a part, better contribute to the total diapason. In few, practise that measures up to laws of nature can connect subsidiary practise and practise for which it is subsidiary. Art, technology, and life compose a supplementarily iterative trinity.

From Gesamkunstwerk on the basis of fully exploited art compositions to Gesamwerk on the basis of man's specialization, it is not hard for us to spot the pulse of Marxism Utopia, where work stemming from physical-psychological need becomes a universal demand, and the absolute development of society is the consequence of absolute development of everyone. Bauhaus' ideology of collective thinking and acting partly explains its doomed close down by Nazis who came in power and sparked a different version of "total work of art" and the total war.

2. Moholy-Nagy in new Bauhaus-Institute of Design, Chicago

2.1 Curriculum: Fundamental, Professional, and Workshop

After he migrated to the U.S. that was then undergoing a fierce round of industrialization, Moholy-Nagy tried to refine his earlier thought. In *The New Vision*, He repeats his emphasis on that Bauhaus education expects to, by cooperation of mentors and students, to renovate the use of certain medium or technology, and "to keep alive in grown-ups the child's sincerity of emotion, his truth of observation, his fantasy and his creativeness".[6] If one earnest of the aims of education is learning how to understand and solve a system of questions, what questions does Bauhaus assign to its apprentices?

As Moholy-Nagy believes, man's development should establish its foundation in pertinent extension of his physical-psychological needs. However, our educational system of specialization, which not hesitantly at all takes over the business of an super-industrialized society oriented to consumerism, lends itself to some other unnatural compulsive needs as its driving force that will end with individuals being molded into a swarm of kee-jerk accessories. Besides, Moholy-Nagy realizes fighting against technology itself is wrongly guided and will both bring chaos and set back the future of a democratic culture. Hence the more justifiable scheme: keep at "the purposive observation and the rational safeguarding of the organic, biologically conditional functions through art, science, technology, education, politics" and "the constructive furthering of our overspecialized scientific culture, e.g., relating its results to all single human activities".

The new education embraces "actual life examples of strong-minded people, leading others onward; an integration of intellectual achievements in politics, science, art, technology, in all the realms of human activity; centers of practical education". If students of today are citizens("voters") of tomorrow, Moholy-Nagy's judgment of probability to build cultural groups in art school parallel to that of scientific research institution meets the school-as-lab paradigm.

Obligatory fundamentals are put mostly ahead in Bauhaus' pedagogics. And in this way, first, the students get opportunity to experience the substances they will cope time and again with across their future profession; second, the students can have brain storms with new concepts of media, and find out most suitable modality for himself. The reason is simple. The first touches with media basics will raise a feeling in the students that can be seen as a vital starting point for future problem solving. What modality of feeling do I share with other people? How will I, by dint of the language of art or science, express related problems precisely, and gives a counter force, an antithesis (as in accordance with the majority's need and understanding as possible), to recreate the modality, or to push the frontier of thinking in a positive way?

Pedagogical advice 3: Show the students cinematic devices, like film rolls, microphone fur, or even circuit board, etc. Encourage them to damage the film rolls.

Afterwards comes the professional training, which facilitates perception and thought harvested from such fundamentals, in virtue of artisanship and teamwork, to combine material, function, process, meaning pertaining to "here and now" into research and design. These stages will carry the students to practical work in industry and public education.

To sum up, a series of concentric circles, based on "the experimental shop" and "the laboratory of the new movement" continue to vibrate and proliferate in a recursive course. As Moholy-Nagy holds, everyone can be relevantly instructed toward a healthy intelligence, and act effectively in his own field, recovering his integrated perception and game spirit lost for long, which belong to characteristics of the primitive man and child. Notwithstanding Moholy-Nagy doesn't yet reject talent education and free artist education, from his view of point, overemphasis on subjectivity will cripple the connection between an artist and his community.

Moholy-Nagy's study on each of the art forms is grounded in his investigation of Art History as a whole. In everyday education, both diachronic and synchronic research look forward to, on one hand, once again, differentiating varied elements of and approaches to art, and diverse ways of amalgamation; and on the other, exposing the cross-generational reversion and subversion, no less importantly, probing the future of art, or, the art of future. Mediality and modality within a comparative framework let us behold in which ways the whole topology has been deviated, metamorphosed, and reconfigured, and "foresee alterations and improvements in the working materials, and even to give these changes a desired direction, meeting given requirements".

Agreeably to Moholy-Nagy's finding, sure enough, the drill and experimentation helped students in the aspect of media manipulation, reflected by that their artworks of later stages showed more appealing complexity than those of earlier stages. There is some correspondence between this pedagogical process and the evolution of mediality from raw to refined but always already consistent. That is to say, in the perspective of evolutionism, painting manipulates light, sculpture manipulates volume, and architecture manipulates space. With the same insight into biology, Moholy-Nagy anticipates the role "biotechnics", the foundation of which is able to abide critically by man's structure and function, plays in the coming days of art.

Pedagogical advice 4: Study the old new media of your time. Bring them to class: music or video player, game machine, infrared sensor, and digital processor of film...

2.2 Art History Insight

One of Moholy-Nagy's most significant extrapolations is the abstraction of arts listed in immediate lower rows:

"in sculpture: from mass to motion;
in painting: from colored pigment to light (play of colored light);
in music: from instrument tones to spheric tones (ether wave music);
in poetry: from individual thoughts to sound relationship;
in architecture: from restricted closed space to free fluctuation of forces."

It is, to our observation, a trajectory of continuous getaway from the restraint of materiality, and in fact, towards a different synthesis of art forms (not hegemony of one single art form). The evolution of film seems distinct as film as "film" and film as signal is by and large replaced by film

as pixel.

For Moholy-Nagy, film and television fall in a category named “indoor light displays”, and “with its unexplored possibilities of projection, with color, plasticity and simultaneous displays, either by means of an increased number of projectors concentrated on a single screen, or in the form of simultaneous image sequences covering all the walls of the room”. Architecture presents a proper metaphor for film as both film and its exhibition assumes dependence upon full development of every involved art’s speciality only available in full development of man with the help of a holistic education.

He also says that “the splendidly equipped motion picture studios should not plan their lighting and their architecture on unintelligent principles of imitation of nature, but should exploit the special possibilities of light”. The set he designed for *Things to Come*(William Cameron Menzies, 1936), which takes his experimentation beyond enigmatic lab baubles and makes into the studio routine, is warmly cool, sparkling, and purely futuristic. Felicitous for the sci-fi genre, that kind of stylistic display of light is sure to surprise the audience in a “realistic” cinema.

Unlike his Soviet contemporaries, Moholy-Nagy focuses on something other than montage, but as he indicates, editing reflects the act of assembly not uncommon to almost all art forms. In this sense film brings us not only new vision of “the frog and the bird”, but also dialogue and even tussle between many layers of reality.

3. Moholy-Nagy still in digital Bauhaus

Bauhaus into the digital age has inherited its earlier inquiry of how art and science can be articulated to life, and only on this premise can we see why media, most related major under Bauhaus pedagogical infrastructure to film, is beside civil engineering, architecture and urbanism, and art and design. Each of the universes as an origin and also beneficiary of art and science concerns our society to-be and affords a constellation of outlooks and problem solving proposals. Film with its exhibition space is a podium where new fashions and lifestyles, i. e. versions of new man, are presented. And scientific image, like X-ray, aerial or underwater photography, and android visual sensation, not only detects, captures, and memorizes “the things”, intellectually and aesthetically, but also fluctuates, or in a cultural studies term, rewrite, given knowledge, for example, by stressing contingency.

A series of social science researches on mediated world carried out in Bauhaus University Weimar covers adult’s new media usage, small investors’ media gaming, mediatization (in family, school, information receiving, business model, opinion market, interactive or institutional situation, immigrant’s parentage), new media political economy, TV drama and culture, etc.. Not necessarily relevant to film, such media researches provide a larger context for the study and making of film. Moholy-Nagy’s effect is however more explicit in some other art projects.

3.1 Abstraction and Democratization of Art

3D PITOTI resorted to digital technologies-specifically speaking, highly active 3D tools, such as MAV in aerial photographing and SFM in closeup photographing-to process (survey/scan/categorize/restore) the rock drawing (early “abstractionism”) hardly discernable and its surroundings in terms of topic, maker, and structure. The outcome as a public resource was open to research staff, tourists, students, and internet surfers.

3.2 Life as Art

Through interventional new media technology, Theresa Schubert’s doctoral and later projects look closely at the contingency and inner transformation of vital process (growth of mushroom, bacteria, melanin, and sea-light-sky), and the relationship between human and its interfaced environment.

3.3 Transparent Architecture/Architecture in the Sky/Human as Light Phenomena

Marked for its elimination of facade and decor, Bauhaus architecture views the projected image as

its facade/decor. In an experimental architecture project, the artists projected light and image onto the body of wall to create spatial extension and fantasy effect. Another VR project, an cabin equipped with 3D glasses and 3D screens on backrest, window, and the whole fuselage interior of the aircraft, where the instructions would be more passenger-friendly and entertaining, and the safety announcement and teleconference would be conducted by simulacra, tried to transform the way we look, experience, and explore space, and to transform the way of our interaction.

3.4 Cultural Difference of Perception

Moholy-Nagy finds in class that Japanese students are more sensitive than students from Europe. In a research on corporal experience and cultural identity, the participants who wore a set of special hamlet and clothes saw their avatars in a screen, and were asked to play a drum along with a researcher's avatar. The research hypothesized that a black avatar wearing leisure would show stronger physical movement than a white avatar wearing formal.

4. Conclusion

Historigraphical investigation into art and media will hit the answers for questions of present and tomorrow. Today, quite a lot of our problems come largely from the gap between what is new and what is right, when the innovation in technology undeniably reduces monetary and time cost, increases fun, and provokes imagination, nevertheless the real cost will be ethical if we do not know where our perceptive comfort should end. The inchoate telecommunication system was to be used later both in ballistic missile and television-that is, two kinds of "bombing". We still need workshop-based experimentation to ask what film really means, and what film will become in next epoch. In the end, let us go back to the question: what is education. One of the word's etymological starts is Gothic "taiku-sign"(token), which I believe in pedagogical practise means that the teacher and the students need to dig out and interpret "what goes unnoticed by the multitude", for Bauhaus, the obscured "fundamental optical and structural order". The phrases are extracts from the introduction to the "sketchbook" by a Bauhaus mentor Paul Klee whose thinking seems more abstruse than Moholy-Nagy's. Klee's study on the basic characteristics of being(proportion, structure, dimension, balance, gravity, dynamics, color) respects his understanding of man and his world. For Klee, "for the artist communication with nature remains the most essential condition. The artist is human; himself nature; part of nature within natural space." The "nature" here, referring to the man-dwelling world born at the very beginning from a moving point is fairly Taoism. In the introduction, Sibyl Moholy-Nagy also expresses that induction of microcosm's rule, in Klee's words, "devotion to small things" embodies man's effort to near the macrocosm. The iterative pattern between microcosm and macrocosm is "a reverberation of the finite in the infinite, of outer perception and inner vista". By suspending the borderlines between art and science, between theory and practice, Klee hopes that he and his students could with "exactitude winged by intuition...give sense to the vulgar, give mysteriousness to the common, give the dignity of the unknown to the obvious, and a trace of infinity to the temporal". This is also our hope.

References

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[3] Moholy-Nagy, L. *Painting, Photography, and Film*. Boston: The MIT Press, 1969, pp. 43.
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[5] Moholy-Nagy's list of early intermedia pioneers includes Newton, Father Castel, Scriabin, Thomas Wilfred, Walter Ruttman, Viking Eggleling, Hans Richter, Man Ray, Schwerdtfeger, Hartwig, Hirschfeld-Mack, Alexander Laszlo, Raoul Hausmann.
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