Colour Communications: László Moholy-Nagy, Walter Paepcke, and the Humanities Program of *Design Workshops*

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Abstract

This essay discusses the production, funding, and circulation of *Design Workshops* (1940–44), a group of 16mm Kodachrome films produced at László Moholy-Nagy's Chicago-based School of Design (formerly the New Bauhaus), to explore the role of colour theory and practice in the communicative agendas of Moholy and his corporate sponsor Walter Paepcke, chairman of the Container Corporation of America. As a symptomatic foray into the mid-century category of 'communication', the films collected as *Design Workshops* — at once documents of pedagogical theory and quasi-corporate promotional messages — involved moving images both in zones of pedagogical experimentation and in the more instrumental domains of public relations, packaging and brand management. In the case of Moholy-Nagy's School of Design, colour experimentation and creative making in the synthetic materials of the post-war — Saran or plywood — were wedded to the inculcation of forms of democratic subjectivity (perceptual skills, epistemologies, creative capacities) that the artist saw as essential to post-war citizenship at mid-century. The essay demonstrates Moholy-Nagy and Paepcke's overlapping investments in colour's functional, communicative dimensions at the School, and argues that colour film production in *Design Workshops* fuelled a vanguard humanities vision at mid-century. The essay reads *Design Workshops* as an allegory of that vision and its limits, performing the work and pedagogical theory of the School for potential donors and funding agencies like the Rockefeller Foundation.

In his mid-century treatise *Vision in Motion*, Bauhaus master, multimedia artist, and theorist of colour and light László Moholy-Nagy set forth a sweeping argument for what he called 'the new education', demanding interdisciplinary sensory training. Written largely in 1944 and published in 1947, the year following his early death from leukaemia, the treatise revised and expanded his previous works of media theory — chiefly *Painting, Photography, Film* (1925, revised in 1927) and *The New Vision: From Material to Architecture* (1932) — while framing them within an account of his research 'laboratory for a new education', the School of Design in Chicago. Founded as the New Bauhaus in

1937, the School sought to wed the practical needs of business and industry to the vanguard pedagogical ideals of the Bauhaus, which Moholy updated in *Vision in Motion* with an anxious eye to the post-war world.[1] 'The biological evolutionary progress of man', Moholy argued there, 'was possible only through the development and constructive use of all his senses, hands, and brain, through his creative ability and intuition to master his surroundings; through his perceptive power, conceptual thought, and articulated emotional life'.[2] Because Moholy understood humanity's inherent multisensory facility with media as the motor of its evolutionary progress, the new education would minister to primary human needs for media literacy, and intervene through 'the development of man's capacities', especially his 'ability to express himself in different media'.[3]

Vision in Motion's high-minded humanities ambitions at mid-century clarify the philosophical stakes of one contemporaneous product of Moholy's media pedagogy at the School: the group of 16mm Kodachrome films known today as *Design Workshops* (1942–44), which documented the School's far-flung activities during the war. The *Design Workshops* mark the realization, as well as stakes, of Moholy's longstanding desire for colour film production at the School and document a range of students' experimental work across media: from textiles, drawing, painting, and furniture design, to photography, photograms, camouflage, kinetic assemblages, and light modulators. Moholy shot and edited the films and travelled with them as he promoted the School across the US, from the corporate boardroom to the artist's branch of Chicago's local CIO union. 'Since we can't afford to advertise', he told his wife Sibyl, 'I have to be the advertisement'.[4] At an institution like the School of Design, then, colour film was a utopian medium, a way of training students for Chicago's flourishing non-theatrical film industry, and a pragmatic, rhetorically sophisticated PR tool.

Just as Moholy took advantage of the convenience and portability of Kodachrome slides for his lectures, so too the *Design Workshops* films function as a kind of mobile exhibition of the diverse products of the students' training at the School in media as well as various materials, from plywood chairs, to wooden springs, plastic jewellery, and novel synthetic materials of the post-war period. One of these — Saran — is introduced at the end of a series of shots of brightly-hued textiles from the weaving workshop. In this sequence, the textiles' haptic quality merges with their visual appeal, perhaps a gesture to a Bauhaus synesthetic ideal, and one impossible to communicate as fully without the rich chromatic saturation of Kodachrome. These entwined senses are addressed by the blocking of students like Juliet Kepes, daughter of School instructor György Kepes, shown handling variously coloured samples, turning them towards the

[1] László Moholy-Nagy, *Vision in Motion* (Chicago: Paul Theobald & Co., 1947), p. 63.
[2] Ivi, p. 20.
[3] Ivi, pp. 14, 20.
[4] Sibyl Moholy-Nagy, *Moholy-Nagy: Experiment in Totality* (Cambridge, MA: MIT Press, 1969), p. 213.

camera as an exhibitionary device; and we see a hand caress another bright red textile mounted for display on the wall. We then cut to a close-up of yet another student-made textile — this one a dense weave of purples, blues, yellows, and reds — superimposed with a title that reads: 'Plastic materials such as Saran from the Dow Chemical Company are tested either alone or in combination with other materials.' Display of student craftsmanship in weaving merges seamlessly with product placement, a deft bit of packaging not only for Dow's plastic, but also for a School keen to promote a humanities vision that insisted on the usefulness — for industry — of the students' capacities in various media with their integrated 'senses, hands, and brain'.

In sequences like this, where Kodachrome abets the synergistic cross-promotion of corporate sponsor and educational institution alike, Moholy's chromatic functionalism seems to have learned a lesson from the School's most reliable champion and benefactor, Walter Paepcke, the visionary chief executive of the Container Corporate of America (CCA), a Chicago-based paperboard firm. Like his corporate patron Paepcke, Moholy increasingly understood colour as having what I'll call a functional, *communicative* value within a larger administrative art of packaging that was practiced in a highly competitive media environment, which demanded all the chromatic resources of good design.[5] In this essay, I turn to the production, funding, and circulation of *Design Workshops* to explore more carefully the role of colour theory and practice in the intersecting communicative agendas of Moholy and Paepcke at the School of Design, which became the Institute of Design in 1944 amidst a significant curricular and administrative restructuring, with Paepcke as the chairman of its Board of Directors.[6] As a symptomatic foray into the expansive mid-century category of 'communication', the films collected as *Design Workshops* involved moving images both in zones of pedagogical experimentation and in the more instrumental domains of publicity, packaging, and brand management. In the case of Moholy-Nagy's School of Design, colour experimentation and creative making in the synthetic materials of the post-war — Saran and plywood — was wedded to the inculcation of forms of democratic subjectivity (perceptual skills, epistemologies, creative capacities) that the artist saw as essential to post-war citizenship at mid-century.

The opening of *Design Workshops* announces this emphatically, as we fade from the title 'Design Workshops', stencilled on a sheet of glossy plywood, to a bright-orange piece of paper, aflame, bearing a quotation from Moholy himself: 'The Bauhaus education is a new and powerful correlation of all creative processes.' This bold colour scheme (white typography on orange) shifts, in a cut

[5] As Neil Harris has demonstrated, packaging emerges as a 'whole culture' in the US in the 1920s and 1930s, an interdisciplinary juncture in a new professional culture of consumption. Neil Harris, *Art, Design, and the Modern Corporation* (New York: Smithsonian Institution, 1984), p. 17.

[6] Alain Findeli, 'Design Education and Industry: The Laborious Beginnings of the Institute of Design in Chicago in 1944', *Journal of Design History*, 4.2 (1991), 971–1113.

to a closer framing on the same sentence, to light blue on black, before a pulsing bar of orange light emerges to focus our attention by spotlighting the phrase 'creative processes'. These eye-catching shifts in colour are echoed as we cut to a shot of a Chicago city street at night, where a superimposed stoplight changes from red, to orange, to green, followed by a close-up of a green light reading 'GO'. Having quickly summarized his pedagogical philosophy, immersed us in a dynamic urban scene, and summoned a range of materials and media (plywood, typography, paper, coloured light, celluloid) essential to the School's ethos, Moholy cuts to an exhibition where the students' work at the School will now double the film's own chromatic exhibitionary labours. Colour, these films will show us, was an essential element of an ambitious program of post-war *Bildung* predicated equally on the design of forms and the design of subjects.

In doing so, Moholy joined bleeding-edge colour theory at the School of Design to the instrumental communicative paradigms around colour proper to the spheres of advertising, public relations, wartime mobilization, and post-war planning. As we'll see, this chromatic domain of what began to be called 'functional colour' in the 1930s was also essential to Walter Paepcke's contemporaneous managerial efforts to remake the corporate identity of the CCA as a modern packaging firm, one that marshalled the talents of a host of modern designers in Moholy's ambit. Without collapsing important philosophical differences between Moholy, the visionary Bauhaus master, and Paepcke, the canny paperboard executive, this essay demonstrates their overlapping investments in colour's functional, communicative dimensions at the School of Design, and argues that colour film production in *Design Workshops* fuelled a vanguard humanities vision at mid-century that depended on the humane art of packaging. *Design Workshops* functioned as a kind of allegory of that vision and its limits, performing the work of the School — its pedagogical philosophy and its very utility as an educational institution — for potential donors and funding agencies.

Tracking the circulation of *Design Workshops*, the essay builds upon recent scholarship on the role of filmmaking at both the Bauhaus and its American incarnation at the School of Design, which intersected with the broader terrain of Chicago's booming non-theatrical film industry.[7] By bringing Paepcke and Moholy together through their shared attention to colour's functional,

[7] See Findeli's overview of the vast literature on the New Bauhaus. On the relationship between the New Bauhaus and Paepcke's CCA, see James Sloan Allen, *The Romance of Commerce and Culture: Capitalism, Modernism, and the Chicago-Aspen Crusade for Cultural Reform* (Chicago: University of Chicago Press, 1983); and Lara N. Allison, *Perception and Pedagogy: Design, Advertising, and Education in Chicago, c. 1935–55* (PhD dissertation: Columbia University, 2009). On film and moving-image media at the New Bauhaus, see Elizabeth Siegel, 'Vision in Motion: Film and Photography at the Institute of Design', in *Taken by Design: Photographs from the Institute of Design, 1937–1971*, ed. by David Travis and Siegel (Chicago: Art Institute of Chicago in association with the University of Chicago Press, 2002), pp. 214–23; and Amy Beste, *"All Roads Lead to Chicago": Encyclopedia Britannica Films, the Institute of Design, and Nontheatrical Film* (PhD Dissertation: Northwestern University, 2012).

communicative value, I extend the work of recent film historians who have turned to industrial and so-called 'useful' cinema to trouble easy distinctions between avant-garde aesthetics and the domain of advertising.[8] In Moholy's case, colour filmmaking and colour practices at the School allowed him to continue in the US a range of aesthetic experiments in new colour technologies and processes begun in the course of his earlier work as an artist and commercial designer in Europe. Even as his theoretical writing on colour circa 1937 sought to divorce colour from its 'naturalistic-illusionist meaning', colour of a decidedly functional variety became part of what Elizabeth Siegel has dubbed the 'new tools of the modern artist' used during Moholy's Chicago period, skills that 'came to encompass all the components of administration'.[9] Just as Moholy's expanded administrative media practice now included course catalogues and syllabi, so too did it depend upon the communicative value of 16mm Kodachrome as a promotional device, fundraising strategy, and a craft-based articulation of a vanguard humanities agenda.[10]

As a work of PR, deftly packaging the School's animating interdisciplinary and intermedial ethos, Moholy's *Design Workshops* echoed Paepcke's own commitment to colour as a tool of corporate communication — a way of branding an organization's public identity through 'institutional advertising' in a competitive media environment.[11] This functional value of colour design applied equally to the organizational forms of corporations and of schools, as was also the case with the original Bauhaus. The School's persistent financial troubles and political pressures yielded an urgency about communicating the School's message to the world, and the use of bold colour in the new typography — what Moholy described 'communication in its most intense form' — played a key role in the range of marketing materials developed for 'the construction of the Bauhaus brand'.[12] As colour communications, *Design Workshops* were also caught up in broader arguments at mid-century about the very nature of the humanities and

[8] *Useful Cinema*, ed. by Charles R. Acland and Haidee Wasson (Durham: Duke University Press, 2011); Michael Cowan, 'Absolute Advertising: Walter Ruttmann and the Weimar Advertising Film', *Cinema Journal*, 52.4 (Summer 2013), 49–73.

[9] See Moholy-Nagy, 'Paths to the Unleashed Color Camera' (1937), reprinted in *Lázsló Moholy-Nagy: Color in Transparency: Photography Experiments in Color*, ed. by Jeannine Fiedler and Hattula Moholy-Nagy (Steidel: Bauhaus-Archiv, 2009), p. 38; Siegel, 'The Modern Artist's New Tools', in *Moholy-Nagy: Future Present*, ed. by Matthew S. Witkovsky and others (New Haven and London: Yale University Press, 2017), p. 232.

[10] On Kodachrome's (and before it, Kodacolor's) connections with moving image 'craft' practices and energetic amateur practices, see Kaveh Askari, '16mm Colour by a Career Amateur', *Film History*, 21.2 (2009), 150–63.

[11] Rather than directly selling a product or service, 'institutional advertising' seeks to imbue a product with a more intangible aura or a corporate personality. On the CCA's institutional advertising, see Allison.

[12] Catherine Ince, 'Spread the Word: Bauhaus Instruments of Communication', in *Bauhaus: Art as Life* (London: Koenig Books, in association with Barbican Art Gallery, 2012), p. 112. Ince includes Moholy's quotation from his essay 'The New Typography', reproduced in *Moholy-Nagy: An Anthology*, ed. by Richard Kostelanetz (New York: Da Capo, 1970), p. 75.

their role in so-called General Education initiatives, and the films circulated in a media environment in which the arts and humanities, to survive, were forced to justify themselves to private philanthropies, which meant competing for the attention of audiences and donors alike. In this sense, *Design Workshops* offer an important episode in what Mark Garrett Cooper and John Marx have recently analysed as the work of schools as 'media institutions' — the ways educational institutions have historically deployed media to address audiences and argue for their usefulness in a competitive marketplace that, in the early and mid-twentieth-century, co-evolved with the new managerial arts of 'packaging'.[13] As the intersecting labours of Paepcke and Moholy at the School of Design make clear, 'packaging' meant more than the point-of-sale design of any given commodity's container; it encompassed the new profession of public relations, practices of propaganda, and the broader conceptual matrix of 'communication' through which these arts were understood.

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Moholy's most sustained analysis of that matrix was *Vision in Motion*, but his earlier works of interwar media theory devoted considerable attention to the psychophysical aspects of colour, and thus informed the artist's desire to wed colour values and various forms of colour composition across media to his broader utopian agenda of sensory training and uplift. In this way, the multimedia theory and practice of colour at the Institute of Design, as promoted in *Vision in Motion* and enacted in *Design Workshops*, extended aspects of the chromatic commitments of the pedagogical program of the German Bauhaus. There, various theories of colour — ranging from the spiritual or Theosophical to the scientific and technical — were taught, as students conducted synaesthetic experiments in colour music, studied the theories of colour harmony of Wilhelm Ostwald, and were tasked with a range of colour exercises as tools of introspection.[14] At the core of this curriculum, was a turn to a 'nondiscursive, nonconceptual' form of knowing, a kinaesthetic epistemology that assumed, in the way of psychophysics, 'a relationship of correspondence between physical stimulus and psychological sensation'.[15] 'Forms and colors', Walter Gropius stated in 1923, 'gain their meaning in the world only through the relationship with our inner being'.[16] Similarly, Moholy's pedagogical aim to start with elementary forms and colours, and find their precise sensorial equivalents, underscored the foundationalism and elementarism at the heart of the Bauhaus's approach to colour. Elementary

[13] Mark Garrett Cooper and John Marx, *Media U: How the Need to Win Audiences Has Shaped Higher Education* (New York: Columbia University Press, 2018), p. 5.
[14] Sarah Street and Joshua Yumibe, *Chromatic Modernity: Color, Cinema, and Media in the 1920s* (New York: Columbia University Press, 2019), pp. 151–69.
[15] Zeynep Çelik Alexander, *Kinaesthetic Knowing: Aesthetics, Epistemology, Modern Design* (Chicago: University of Chicago Press, 2017), p. 174.
[16] Gropius, quoted in *Kinaesthetic Knowing*, p. 181.

forms and colours, as a means of returning students to 'ground experiences', were framed as a challenge to modernity's regime of specialization, and an essential part of a holistic education ministering to the 'whole man'.[17]

Similarly, colour experimentation and colour theory played an essential role in Moholy's pedagogical practice at the School of Design. While colour film production didn't begin in earnest at the School until 1942, theories of colour and practices of its technical manipulation — what Moholy called the 'high craft' of colour processes — were incorporated into various aspects of the curriculum from the start, and followed from Moholy's experiences with colour photography through his work as a commercial designer in Berlin in the late 1920s.[18] Moholy later took courses in new colour processes (including Kodachrome, Agfa, Dufay, and Finlay) in London in the 1930s, and he worked with them as Art Director for the Pallas design studio in Amsterdam, whose commercial printing arm included a range of colour experts. In 1937, the year of the New Bauhaus's founding, Moholy published 'Paths to the Unleashed Color Camera', a short essay evaluating contemporary colour technologies and practices through their capacity for non-naturalism, the sign of liberated chromatic creativity. In that same year, his colour photograph 'The Tinsel and the Glamour' appeared in *Fortune* magazine at the conclusion of an article titled 'Fifteen Paper Companies', the second of three profiling 'the lively paper industry' in the US (fig. 1).[19] Moholy's decidedly objective, functional photo, featuring an array of brightly hued paper products — confetti, tinsel, masks, table coverings, wrapping paper — works to illustrate paper's sheer communicative ability 'to mean a thousand things' today.[20] The artist, described as 'the Director of the New Bauhaus set up by the Chicago Associate of Arts and Industries in a mansion donated by Marshall Fields', is credited with 'looking at things as dispassionately as an astronomer looks at a universe'.[21] But the photograph has also subtly embedded a corporate advertisement — for Chicago-based United Airlines — into its festive scene in a way that acknowledges the new synergies between art and industry in the production of colour communications. And while Paepcke's CCA escapes mention in this article, one of the firm's own early exercises in corporate branding — French poster artist A. M. Cassandre's striking advertisement of the CCA's corporate 'integration' — appears following the conclusion of the paper article.

Paepcke's own tastes and significant financial investments in modern design mark a commitment to the role of colour within a broader strategy of corporate communications in the CCA's corporate identity program. Beginning in the

[17] *Kinaesthetic Knowing*, p. 183.
[18] Moholy's 1933 letter to Sibylle Pietzsch, quoted in Fiedler, 'Moholy-Nagy's Color Camera Works: A Pioneer of Color Photography', in *Color in Transparency*, p. 20.
[19] 'Fifteen Paper Companies', *Fortune*, November 1937, p. 132.
[20] Ivi, p. 138.
[21] Ibid.

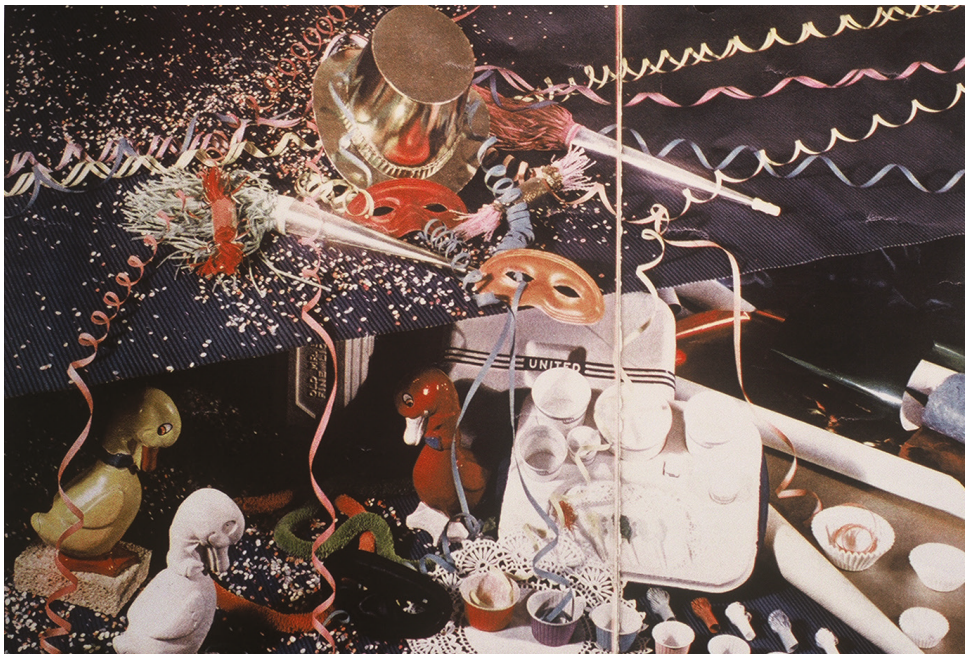

Fig 1. Moholy Nagy, *The Tinsel and the Glamour*, in 'Five Paper Companies', *Fortune*, © 1937 Estate of László Moholy-Nagy / Artists Rights Society (ARS), New York.

mid-1930s, Paepcke's CCA championed modern 'good design' as an important 'function of management', and a means of providing firms with a distinctive graphic identity. In 1936, Paepcke hired Egbert Jacobson, a leader in colour theory and typography, as Director of the Department of Design, where he oversaw a sweeping refashioning of the CCA's corporate image, from logos, invoices, and annual reports, to office interiors, factories, and trucks. 'The painting of work rooms', Jacobson explained in an overview of his work at the CCA, 'has brought the best experience of lighting engineers and colour consultants into the everyday life of workers', while reducing 'tension for executives' and adding to 'the efficiency of secretarial staffs'.[22] Essential to this public relations project was Jacobson's *Color Harmony Manual* (1942), based on the Ostwald system and published and sold by the CCA's Color Standards Department to 'assist in communication' between art directors, advertisers, managers, and designers by developing a standard descriptive language for colour.[23]

[22] Egbert Jacobson, 'Good Design: An Important Function of Management', *Graphis*, 6.30 (February 1950), 136–47, 199–204, 140, 201.
[23] For more on the CCA's horizontally model of integrated corporate knowledge production, see Allison; and Phillip B. Meggs, 'The Rise and Fall of Design at a Great Corporation', in *Graphic*

Spearheaded by Jacobson, Paepcke's design efforts at CCA were shaped by the rising prestige of so-called 'functional color' and the increasingly sophisticated theories of colour engineers and consultants to bring colour at mid-century into the soft behaviourist domains of scientific management and mood conditioning. Faber Birren, who coined the phrase 'functional color' in a book published in the same year as the New Bauhaus's founding, rose to prominence in Chicago in the mid-1930s through the colour program of a wholesale meat manufacturer.[24] For Birren, the term was meant to 'do some straight thinking' about an often unscientific and irrational topic by describing colour's pervasive utility: identifying and classifying objects (and hazards), increasing domestic efficiency, improving the safety of factories and plants, increasing legibility of communications, reducing eye-strain in the experience of architecture and home décor, protecting against heat, and cooperating 'with illumination to add efficiency to labor'.[25] And as Paepcke's CCA was increasingly aware, for 'the manufacturer of packaged goods' functional colour role in producing legibility and visibility in advertising 'builds up permanent identity for the thing he sells'.[26]

If Birren's work, according to fellow corporate colourist Egmont Arens, 'carried on where Ostwald stopped', a similar claim might be made of Moholy and Paepcke's Chicago-based Bauhaus reboot.[27] Like Birren and other functional colourists, Moholy and Paepcke understood colour theory and practice as a form of what their contemporaries dubbed 'Visual Public Relations', colour in the service of morale-building, mood-conditioning, and identity-building, from the colourization of factories or war plants to the boardroom and the classroom.[28] Colour's role in practices of holistic 'integration' was the hallmark of Moholy's design pedagogy at the School of Design. Moholy's reworking of Walter Gropius's famous bulls-eye diagram for the Bauhaus curriculum in Chicago, which rebooted its famous preliminary course (*Vorkurs*) as the transdisciplinary core required of all first-year students, located the study of the medium of film and photography in a 'Light Workshop', one of six specialized workshops to follow the propaedeutic *Vorkurs*.[29] Colour was placed in another specialized workshop, alongside 'painting' and 'decorating'. For the fall semester of 1938, Moholy had planned to appoint French painter Jean Hélion as head of the Color Workshop, and designer Herbert Bayer head of the Light Workshop, before the

Design History, ed. by Steven Heller and Georgette Ballance (New York: Allworth Press, 2001), pp. 283–92. With Paepcke's support, Jacobson also published a further elaboration of Wilhelm Ostwald, *Basic Color: An Interpretation of the Ostwald System* (Chicago: Paul Theobald, 1948), which was designed by two of Moholy's students at the ID, Morton and Millie Goldsholl.

[24] Birren's blue-green showroom walls and complementary lighting made the manufacturer's steaks look redder, and improved sales.

[25] Faber Birren, *Functional Color* (New York: The Crimson Press, 1937), pp. 11, 12.

[26] Ivi, p. 12.

[27] Regina Lee Blaszczyk, *The Color Revolution* (Cambridge, MA: MIT Press, 2012), p. 220.

[28] Ivi, pp. 232–37.

[29] 'School of Design catalogue, 1938–39', Box 3, Folder 54, Institute of Design Collection, University of Illinois at Chicago Library, Special Collections. Hereafter UICIDC.

New Bauhaus was abruptly closed when it lost the support of its sponsor, the Chicago Association of Arts and Industries.[30]

But this practice-based separation of colour (in painting, murals, or decorating) and light (in photography, film, or typography) was never hard and fast, given the Bauhäuslers attentiveness to the intertwined physical and physiological properties of each, and the School's pedagogical aim of synthesis and intellectual integration. A description of the various exercises from the Light Workshop of 1937 included a 'Color Filter Study' working with both 'ordinary "color-blind" emulsions' and 'with some of the colour-sensitive materials such as orthochromatic and panchromatic films'.[31] In the first-year curriculum, exercises in photography, the building of light modulators, and drawing and colour, exposed students to materials and their properties, while what the catalogue calls the 're-examination of color' would provide still further colour training. Here, students would isolate colour's physical and psychological properties, and learn its 'receding and advancing values'.[32] This early exposure to colour was cast as a 'reliable background' for the students' 'later specialized work in any type of visual expression: rendering and packaging, poster and advertising, mural and easel painting, wallpaper and decorating'.[33] When the New Bauhaus reopened as the School of Design in 1939, with Hungarian designer György Kepes appointed as the head of Light Workshop, colour and light would again be taught together, and across media practices. A course description of Kepes's Light Workshop begins by explaining the centrality of colour processes and technologies for all photography students: 'Just as traditional painting involved colour techniques from frescoes to oil, so the pioneers in photography are giving us the photogram, photomontage, the photomural, microscopic, macroscopic, high-speed and colour photography, and new motion picture techniques.'[34] Thus does 'the expert in photography becomes the expert in light and extends the scope of his talents to include stage, exposition, advertising, and other lighting problems'.[35] In *Design Workshops*, Kepes himself appears in the thick of one such problem. He's seen wrapping a fashion model in thin silver wire. Coloured gels bathe her in hues of blue and red, and thrown light gleams on the coiled wire as she stands in front of another of the School's vanguard models — a plywood chair. The chair's bright red, removable upholstery is another novel object, its textile woven, in part, of Saran (fig. 2). The curricular saturation of colour experimentation into the work of Kepes's Light Workshop was consistent with Bauhaus aesthetic principles, and Moholy's own philosophies. But it is also telling that, in Chicago, circa 1937, the Light Workshop also included the sphere of 'publicity', a use for

[30] 'Exhibition on the New Bauhaus, 1937–38', Box 3, Folder 56, UICIDC.
[31] Ivi.
[32] 'School of Design Catalogue, 1942', Box 3, Folder 63, UICIDC.
[33] Ivi.
[34] 'School of Design, Light Workshop, Photography, Day and Evening Classes', School of Design: Course and Program Descriptions, 1938–44, Box 3, Folder 64, UICIDC.
[35] Ivi.

Fig. 2. György Kepes wrapping a model in wire coil for the Light Workshop. © 1942-43 Estate of László Moholy-Nagy / Artists Rights Society (ARS), New York.

colour perhaps best exemplified by the *Design Workshops* films themselves as communications — that is, as publicly facing media extensions of the School's urgent humanities mission, now framed to meet the demands of a nation at war at a moment of communicative urgency. Travelling widely, the films represented the social utility of colour experimentation across media at the School; they expressed the creative activities, democratic capacities, and social orientation of certain kinds of 'useful' pedagogical subjects, as trained at the School in cutting-edge colour technologies during the war, and their very rhetorical success at securing funding for the School depended on the extent to which the films might be considered as an expression of a vision of the humanities themselves.

In other words, the films were designed to communicate not just to the School's potential corporate sponsors, showing the utility of new industrial products like Saran, but to officers at the Rockefeller Foundation, the private philanthropy that had supported their production in the first place, with a small grant ($7,500) for film production in 1942, and with the support of Paepcke.[36] Buoyed by these

[36] Walter P. Paepcke Papers, Box 61, Folder 1, Special Collections Research Center, University of Chicago Library. Hereafter WPP.

funds, Moholy announced the School's capacity 'to continue the avant-garde work which has been so essential in making the film a prominent part in the search for contemporary expression, the more so as commercial production is still governed by conceptions derived from the traditional pictorial art, and has not yet the control of its potentialities'.[37] The most essential public product of the grant was not the avant-garde Kodachrome work *Do Not Disturb* (1945), an abstract meditation on desire, jealousy, and betrayal, produced by Moholy and various ID students, but *Design Workshops*. In these films, 'contemporary expression' didn't mean abstract form, but rather a set of humane expressive capacities cultivated at the School across various media forms and processes, and cast in *Vision in Motion* as essential to democratic subjectivity. The colour films' communicative work becomes clear only within the interpretive horizon through which their content was understood — for RF officers — as a vanguard expression of the mid-century humanities, and a particularly 'functional' humanities at that.

Here, we should recall the central role of the Rockefeller Foundation in the emergence of the mid-century 'communications complex'.[38] In the prelude to the war, the Humanities Division of the foundation, led by its Assistant Director John Marshall, sponsored the so-called 'Communications Group'. An important collaboration among the academy, the state, and private foundations, the Communications Group explored the problems of 'mass influence', the dynamics of fascist propaganda, and the possibility of 'genuinely democratic propaganda'.[39] Intersecting with these efforts, beginning in 1935, the Humanities Division of the Foundation, along with its Foundation-funded General Education Board, devoted considerable funds to various initiatives that explored the possibilities of film and radio for general education initiatives.[40] The Foundation hoped that programs of quality 'visual education' would elevate the public taste and serve in the production of democratic subjects, consistent with the Foundation's liberalism.

Moholy's curricular aims for colour film production at the School thus became entwined with a broader interest in funding educational film as part of a humanities mission at a moment of intense interest in the power of film and other mass media to build morale, to propagandize, and to shape public opinion, a topic Moholy took up directly in the 'propaganda machine' section of *Vision in Motion*.[41] There, he indicted 'unofficial education' — advertising, the press, and radio — for fomenting an atmosphere of ideological mystification. For Moholy,

[37] 'School of Design, Light Workshop, Photography, Day and Evening Classes', School of Design: Course and Program Descriptions, 1938–44, Box 3, Folder 64, UICIDC.
[38] See Cooper and Marx, *Media U*.
[39] Brett Gary, *The Nervous Liberals: Propaganda Anxieties from World War I to the Cold War* (New York: Columbia University Press, 1999), pp. 85–130.
[40] William J. Buxton, 'Rockefeller Support for Projects on the Use of Motion Pictures for Educational and Public Purposes, 1935–1954', *Rockefeller Archive Center Research Report* (2001), 1–8.
[41] *Vision in Motion*, pp. 19–20.

unofficial education produces a media environment 'of a thousand details, but missing all fundamental relationships'. *Vision in Motion* sought to defend the role of the techno-savvy humanities themselves in redressing the ideological and biological impairments inflicted by corporate mass media and the seeming saturation of market values over democratic values. The Light Workshop that housed the film and media program at the Institute of Design was framed within this broader regime of sensory and medial therapy, providing students with the 'tools of integration'.

Democratic rehabilitation and integration were also an urgent response to the conditions of a nation at war, which demanded the same kind of flexible, interdisciplinary, and intermedial creative capacities the School had always taught, and total mobilization thus spawned a number of pragmatic design projects for students. As they navigated wartime metal shortages, students prototyped plywood springs; they designed parachute clothes and new kinds of barbed wire, and experimented with shock-proof helmets and portable runways for temporary airfields. During the war, the School's curriculum was also tweaked, and new courses were developed: an art-historical survey was reframed as 'The Social Usefulness of Art and its Relationship to a Nation of War'; and the School offered a 'Visual Propaganda in Wartime' course in collaboration with the Army, where graphic design abetted public education about air-raid procedures and wartime information campaigns like the CCA's *Paperboard Goes to War* endeavor.[42]

Much of this utilitarian, wartime work — including the plywood springs — is featured in *Design Workshops*. Especially notable is the film's interest in documenting the School's new 'Principles of Camouflage' courses, applying the School's formalist investments in the laws of vision and the manipulation of colour and light.[43] The courses were taught by Kepes under the auspices of the Office of Civilian Defense.[44] In his introductory lecture, Kepes described camouflage as an ideal site of interdisciplinary activity and collaboration, requiring 'the combined knowledge of people with a great variety of training — architects, engineers, painters, sculptors, graphic artists'.[45] As Robin Schuldenfrei has argued, camouflage entailed 'an almost seamless merging of important, originary Bauhaus ideals — the joining of the arts in work on a common goal'.[46] Like Moholy's media pedagogy more broadly, the camouflage courses were integrative

[42] Robin Schuldenfrei, 'Assimilating Unease: Moholy-Nagy and the Wartime/Post-war Bauhaus in Chicago', in *Atomic Dwelling: Anxiety, Domesticity, and Postwar Architecture*, ed. by Schuldenfrei (London: Routledge, 2012), pp. 87–126.
[43] Course catalogue, 'Principles of Camouflage Course', Box 3, Folder 76, UICIDC.
[44] John R. Blakinger, 'Camouflage 1942: Artists, Architects, and Designers at Ft. Belvoir, Virginia', in *Conflict, Identity, and Protest in American Art*, ed. by Miguel de Baca and Makeda Best (Newcastle upon Tyne: Cambridge Scholars Publishing, 2015), pp. 35–56.
[45] Kepes, quoted in Schuldenfrei, p.106.
[46] Schuldenfrei, p. 109.

in both method and aim — a performative poetics of the group that now includes *Design Workshops*.

In *Design Workshops*, the camouflage course sequence follows the display of a series of multi-coloured kinetic assemblages designed to produce mobile compositions of light, shadow, and colour, and *Papmac* (1943), one of Moholy's own kinetic Plexiglas paintings, which took advantage of a manufacturing defect in the bubbled material to fuse light and colour in a continuously changing composition. The editing demonstrates the compatibility between the School's aesthetic investigations into colour and light manipulation and the kind of functional illusion we see in our first glimpse of the camouflage courses, as a hand holding a red crayon traces a pattern in translucent paper above a reconnaissance photo to mask it from bombardment. Moholy's editing, which returns us to images of colour printmaking after observing the precise study of surface texture in the context of the wartime courses, insists that the camouflage skills and techniques featured in *Design Workshops* were part of a flexible colour practice and study at the School, and thus readily convertible to peacetime design applications in the domain of functional colour (whose experts, Blaszczyk reminds us, had often served as camoufleurs) and its purportedly scientific targeting of consumer tastes and moods.

As the urgency of war gave way to the anticipation of the post-war needs of consumers and industry, film production at the School didn't always square with the Foundation's evolving funding criteria for 'humanities' training. Writing to Paepcke in 1944, Stevens describes having 'put off' writing about Paepcke's request for a grant extension until having the chance to see Moholy's 'showing of his colour films here in New York City' (likely *Design Workshops* and *Do Not Disturb*).[47] While he compliments 'the intelligence of Moholy-Nagy's program as a means to general education', he explains that 'it is not easy from this material […] to get an idea of what Moholy-Nagy accomplished with those particular students'. With the colour films as evidence, Stevens 'does not now see cause to propose a larger or renewed grant' for developing film production at the School, even as Moholy was writing *Vision in Motion*, an elaborate justification of his humanities agenda and film's role producing a 'new kind of specialist' equipped with a socially integrated propensity for 'seeing, feeling and thinking in relationship and not as a series of isolated phenomena'.[48]

At the dawn of the post-war, Rockefeller bureaucrats monitored Moholy's School less in defence of a humanities mission oriented toward wartime 'communications', but rather with an eye towards funding links between art education and the needs of science, industry, and the post-war corporation. In denying Paepcke's request in May of 1945 for expanded photography operations following the war, Stevens framed it within 'a new field, for us, of art and

[47] 'School of Design, Institute of Design, 1939–1944', Box 61, Folder 1, WPP.
[48] *Vision in Motion*, pp. 21, 12.

industry'.[49] He noted that programs for teacher training, or occupational therapy courses in photography for vets, would not be funded 'under Humanities'. In doing so, he grouped these with other proposals submitted to the Foundation on 'varied forms of hand craft'.[50] And he hung the possibility of future funding on the conclusions of a report then being drafted by his colleague, Robert N. S. Whitelaw. The report, which aimed to evaluate present methods of teaching handicrafts in the US as well as the position of the craftsman vis-à-vis the post-war capitalist economy, offered a version of the humanities linked to a craft ethos that preserves skills 'that are economic factors or contributes to [national] growth', and dismisses as 'therapeutic' or 'sentimental' craft approaches (as in veteran rehabilitation) as ways of 'getting men out of step with our social structure'.[51] In this narrowly functional humanities vision, there is nothing of *Vision in Motion*'s insistence on a dynamic sense of history, or the capacity of a humane intermedial education to counter and critique a pervasive 'social ethics based on economic superiority rather than on the principles of justice'.[52]

Whitelaw's report acknowledged Moholy's desire to use the Institute as laboratory for the 'humanities to be handled in it in a new way, so the intellectual quality of one subject matter and can be felt and applied to another, and vice versa'.[53] But to Whitelaw's eyes, Moholy is 'too preoccupied with freedom of expression and release from convention', and the Institute's pedagogy 'too theoretical', and weakly tied to industry or engineering. After spending twenty hours with Moholy and Paepcke at the Institute, he concludes 'the major problem is one of communication with the public, other schools, and with other discoveries in science'. The solution to poor communication was more communication, despite Moholy's best efforts in the new colour-assisted administrative art of media messaging and packaging. Whitelaw suggested that Paepcke convene a Chicago-based forum on the subject of the 'relation of art to industry' in order to clarify 'what the Institute stands for' and answer the pressing question: 'Is it training teachers, designers, or people concerned with, as Moholy would put it, "the new education"?'[54] By Whitelaw's sights, the Institute's pedagogy could be understood as a skills-based, instrumental 'training' in various materials and media, or a vanguard, humanistic education, but not both at once. In framing the issue this way, Whitelaw missed the basic lesson of a handcrafted set of colour films like *Design Workshops*, which sought — like many of Moholy's photographs and photograms of the 1920s — to surpass the distinction between art and industry, or between specialization and holistic education, or between the expressive brushwork of a painter's hand and the mechanical, technical work of

[49] 'School of Design, Institute of Design, 1945', Box 61, Folder 2, WPP.
[50] Ivi.
[51] Robert N. S. Whitelaw, 'Handicrafts: Teacher Training in Handicrafts for the Humanities', Rockefeller Foundation Archives, Box 232, Folder 2765.
[52] *Vision in Motion*, p. 14.
[53] Whitelaw.
[54] 'School of Design, Institute of Design, 1945', Box 61, Folder 2, WPP.

modern photomechanical media. A new humanities education, of the sort *Design Workshops* allegorizes and promotes through various vanguard colour processes, would be both attentive to specific materials and material processes and broadly intermedial, indeed, interdisciplinary. *Design Workshops*' basic communicative task is to perform an increasingly imperilled theory of the humanities whose brand of 'integrated' training refused the very distinctions the Foundation drew as it anticipated the future of mid-century design education. In it, industrial craftsmanship would operate firmly in lockstep with a booming post-war economy that merged democracy, consumerism, and the 'humane' corporation in ways that Moholy, perhaps thankfully, would never see.