Drawing, Withdrawing: Degrees of Abstraction

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> Using the term 'abstract' in its loosest sense for a moment, we can say that abstractness in art signals a withdrawal from the objective world at a time when nothing remains of that world save its *caput mortuum*. Modern art is as abstract as the real relations among men. – T. W. Adorno[1]

The word 'abstract' derives from the Latin *abs* (off, away or from) and *trahere* (to drag, or to draw).[2] 'Abstract drawing' thus invokes a perpetual play of opposites, oscillating between drawing and withdrawing, receptivity and resistance. Highlighting this structural ambivalence at the etymological root of abstraction, Catherine de Zegher has equated abstract art with the dual processes of *drawing from* and *drawing form*, locating it in the space between *form* and *no form*.[3] Yet this formalist understanding of abstraction is only one definition of a term that has also been used to describe the transformation of economic and social relations in late-capitalist society. As Peter Halley has written, 'abstraction in art is simply one manifestation of a universal impetus toward the concept of abstraction that has dominated twentieth-century thought'.[4] Extending the work of earlier writers such as Meyer Schapiro and Theodor Adorno, recent commentators on abstraction have emphasised its pervasiveness, while highlighting the relationships between its formal, conceptual, economic and social manifestations.[5]

The exhibition *Abstract Drawing* brings together divergent approaches to abstraction, juxtaposing materialist and spiritualist sensibilities, geometric and lyrical aesthetics. For the purposes of this essay, however, I am interested in those artists who make visible the links between formal abstraction and processes of resistance, disengagement and retraction operative in the world at large. In the work of Anni Albers, Frederick Hammersley, Dom Sylvester Houédard, Sol LeWitt and Darrell Viner, a retreat from representation occurs in conjunction with a strategic withdrawal of the authorial hand, which is often mediated by some kind of mechanical or electronic device. It would be easy to interpret these works as the inevitable products of a society in which subjective expression and human relationships have been irrevocably eroded – that is to say, *abstracted* – by techno-scientific advancement.[6] Yet just as the phrase 'abstract drawing' implies an oscillatory rather than a unilateral dynamic, I propose that these works might be more productively located in an in-between space of radical ambivalence.

Machine Poetics

On the topic of abstraction, the Benedictine monk and poet Dom Sylvester Houédard wrote: 'All art is abstract, but the more it abstracts from its models the less it becomes mimetic descriptive or deceptive & the more it becomes concrete truthful & human.'[7] A leading theorist and exponent of concrete poetry, Houédard described the 'concrete' as that which is totally abstract, advocating a thickening of the linguistic signifier

towards opacity. Since language is already an abstract system of signs with only an arbitrary connection to the concepts they describe, this deployment of words as 'concrete objects' involved a further degree of abstraction, withdrawing the signifier from its signified.

Along with this abstraction of language from its representational function, Houédard utilised the typewriter to abstract and deconstruct the act of writing. The typewriter is a device that physically withdraws the hand from the page, substituting the autographic idiosyncrasies of handwriting for a repository of predetermined letters, numbers, symbols and spaces. Concrete poets made use of the grid within which these symbols were deposited by the machine as a means of contesting and reconfiguring the linearity of the written text. In his 'typestracts' of the late 1960s and 1970s, Houédard broke with the typewriter's grid by feeding paper into the roller at an angle, repeatedly repositioning it in order to produce overlaid marks on different axes. Working on an Olivetti Lettera 22, he would insert several ribbons in the production of a single typestract to create different colours, or vary the pressure setting to achieve shifts in tone.[8]

For works such as *Untitled (Cube and Circle)*, and *Untitled (Oval with Two Supporting Lines) (III)* (both 1969), Houédard used stencils and masks to attain the 'precise placing of the typestract units', creating evanescent, geometric forms that hover in an indeterminate space.[9] These works jettison words and letters in favour of slashes, hyphens and full stops, which, when removed from the semantic structure of a sentence, function more like a kind of drawing. Pointedly, the poet Bob Cobbing questioned whether the typestracts were poetry or even concrete poetry, describing them instead as 'abstract art made on a typewriter'.[10] These poems cannot be 'read' in any conventional sense, although we might imagine them as percussive, shimmering, abstract soundscapes (Houédard likened them to electronic music and its contemporaneous experiments with sinusoidal tone).[11]

Visually, Houédard related the structure of the typestracts to cloud tracks, tide ripples, bracken patterns and gull flights – abstract traces inadvertently generated by natural phenomena.[12] As these analogies imply, he hoped to eliminate the authorial hand and voice from his work, describing concrete poetry as '"I"-less ego-less self-effacing, not mimetic of the poet, not subjective (at least explicitly).' The retreat from signification evident in the typestracts was thus accompanied by a relinquishment of the authorial signature facilitated by Houédard's typewriter or 'poetry machine'. Rather than mimicking the abstraction of labour in late-capitalist society, Houédard saw this rejection of subjective expression in Mallarméan terms – as a means of liberating poetry from the tyranny of the author.

Although working within a very different context, the designer Anni Albers also sought to avoid that which was 'too subjective',[13] writing that 'the less we, as designers, exhibit in our work our personal traits, our likes and dislikes, our peculiarities and idiosyncrasies, in short our individuality, the more balanced the form we arrive at will be'.[14] Asserting that the good designer was the anonymous designer, Albers suggested that

the weaver should cooperate with her materials, tools and machines rather than imposing her will upon them.[15] In her drawing practice, she experimented with a variety of inscriptive devices, including a pin in *Teaching Study Made with Pinpricks* (undated), and a typewriter in a series of studies made on that device. In the former, a sheet of paper was worked on both sides using the tip of a pin, creating deep, concave punctures where the pin was pushed from front to back and smaller perforations encircled by protruding fibres where it travelled from back to front. Here paper is treated as a sheet of material to be worked on both sides, rather than a surface to be inscribed.

The typewriter offered a means of representing texture on a flat surface, creating what Albers eloquently described as 'tactile-textile illusions' – dense, variegated fields analogous to woven textiles.[16] In *Typewriter Study*, the bracket and hyphen keys are used to generate a rippling grid that bears a striking resemblance to the warp and weft of a piece of fabric. This tightly woven mesh lends the study a tangible flatness that is diametrically opposed to the infinite spatiality of Houédard's typestracts, indicating the rich creative possibilities offered by their shared mechanical device. Moreover, while Houédard painstakingly composed his works by manoeuvring the paper through the typewriter, using stencils and applying masks to arrange his geometric figures, Albers' typewriter studies were structured according to predetermined systems – an algorithmic approach that she also deployed in her weaving.

Programming Drawing

As a tutor at the Bauhaus, Albers experimented with automated Jacquard looms, the first machines to use a punch-card system to generate a series of operations. The design would take the form of a chain of cards punched with rows of holes, with each card corresponding to one row of the design. Changing cards would alter the pattern of the loom's weave, prefiguring much later developments in computer programming. Albers' punch-card designs for the Jacquard loom have prompted comparisons with software art and ASCII art, which constructs images using the 128 letters, numbers and punctuation symbols that make up the American Standard Code for Information Interchange.[17] Her typewriter studies might therefore be productively considered not only in relation to Houédard's typestracts, but alongside Frederick Hammersley's computer drawings.

Hammersley is best known for his geometric paintings, which during the late 1950s were labelled 'hard-edge' in opposition to the gestural brushstrokes of Abstract Expressionism. Yet for a brief moment in the late 1960s he experimented with computers while teaching at the University of New Mexico. Hammersley was invited to attend Charles Mattox's computer drawing class, in which students were shown how to prepare a computer programme and transfer it to an IBM punch card, which could be fed into the computer's card reader.[18] Using the alphabet, the ten numerals and eleven symbols, students could produce a drawing

made up of a grid consisting of 105 characters horizontally by 50 characters vertically. By using one or more punch cards, straight lines, curves and shapes could be generated.

Perhaps surprisingly, Hammersley likened computer drawing to painting, insisting that 'the elements are different but the end result, as in all visual art is the same – an image.'[19] It was not enough for that image to be aesthetically pleasing, Hammersley stressed; it should 'be one of substance and some significance'. Unlike painting, however, the image could not be sketched out beforehand, since the punch card contained a coded programme for generating the drawing, rather than the drawing itself. Hammersley's attempts to master the technique of computer drawing resulted in unprintable errors and unexpected outcomes, with ideas that he thought were strong often yielding disappointing results and seemingly weak ideas sometimes turning out well. He described this unpredictability as 'part of the fascination and the challenge of the computer', embracing the machine's limitations as well as its possibilities.[20]

DASHING MYOPIC LI-YUN (1969) is a dense field of dots and dashes that, when overlaid, create broken straight and undulating lines not dissimilar to Albers' *Typewriter Study*. Its limited means contrast with *BY THE NUMBERS* (1969), where Hammersley uses every letter, number and symbol at his disposal to generate a complex geometric structure that varies in depth and tone. His enigmatic titles are often variations on a theme, reflecting his adaptation of a single programme to generate several distinct yet related drawings. *UP DOWN STICK* (1970) derives from *UP DOWN WITH A STICK* (1969), while *DASHING MYOPIC LI-YUN* (1969) relates visually and linguistically to two computer drawings made earlier that year, *DASH EVERY THIRD* and *MYOPIC*.[21] While some of the titles adopt 'found' words and phrases of the kind Hammersley used to title his paintings, others refer obliquely to the computer's alphanumeric code and the dazzling visual effects it generated.

Although fascinated by the rich possibilities offered by the computer, Hammersley was ambivalent about the abstraction of labour this process entailed. 'My involvement and participation is very different from my feeling when painting, which may be a shortcoming', he wrote. 'It might, on the other hand, be an asset to me; it may furnish me upon return to either drawing or painting with new insights and added understanding.'[22] By withdrawing from the act of inscription the artist became disengaged from his own production, yet this detachment had the potential to facilitate critical distance. This was certainly true for Hammersley, who turned to the computer drawings when he had reached an impasse in his painterly practice, and returned to painting with renewed vigour following this period of experimentation.

Mechanisms of Control

When Darrell Viner began working with the computer several years later, the technology had already developed significantly. Viner first used computers while studying at Middlesex Polytechnic in the early

1970s, and did so in collaboration with John Vince, a lecturer in data processing who invented PICASO, one of the first computer programmes for artists. Viner's challenging requests prompted Vince to stretch the programme's capabilities, particularly the *ROUGH* and *SKETCH* features, which transformed computer-generated lines into believably hand-drawn marks.[23] For one series of works, Viner asked Vince to design a programme that would create a collection of random lines, each corresponding to a number. These lines were overlaid to create cross-hatching, which was then subject to further cross-hatching. As Vince relates, 'the resulting image was extremely complex, comprising thousands of lines of different length, spacing, and angles.' At times the computer's cross-hatching features would become confused by these myriad operations, but Viner welcomed these errors as part of the process.[24]

Viner subsequently studied sculpture and mixed media at the Slade School of Fine Art from 1974–76, where he became involved with the Experimental and Electronic Art Department, a hub for computer art in the late 1970s. While at the Slade he made extensive use of UCL's computer department and built a pen-plotter in collaboration with other artists. Viner's contemporary Stephen Bell has evocatively described the process of drawing with a pen-plotter, highlighting its sensuous appeal: 'the controlled power and the tension of the mechanism of the plotter; the touch of the pen or brush on paper and its unpredictable movements; the slow revelation of the final composition over several hours'.[25] Any number of pens and brushes could be fitted into the plotter to produce drawings confounding the preconception that computer-generated art is cold and clinical in appearance.

Viner described his works with the pen-plotter as a 'journey in mark-making', and drawings such as *51 (date?)* are indicative of this process of discovery.[26] Here, the pen-plotter generates multifarious permutations of a simple cross – its four arms stretched and skewed into arrows, 'K' and 'V' shapes that converge and occasionally intersect despite their regular distribution across a grid. Although they have something in common with repetitive marks drawn by hand, such as Eva Hesse's drawings using crosses on gridded paper, there is also something unfamiliar and unsettling about these works. While the regularity of Hesse's crosses is undone by the wayward movements of her pencil, in Viner's drawings an appearance of randomness is called into question by the recurrence of marks that appear unrepeatable, indicating that these marks have not, in fact, been generated by hand.

Describing the kinetic sculptures for which Viner was best known, Guy Brett has written: 'I see Viner's machines as philosophical toys which instead of (or perhaps as well as) describing figures of cosmic movement – as old orreries and armillary spheres do – reflect upon "the burden of history" and people's submission to the controls and orders of society.'[27] These processes of acquiescence and regulation are also evident in Viner's drawings, which could be seen to indicate the increasingly mediated nature of inscription and other forms of communication in the contemporary world. Writing in the 1930s, Meyer Schapiro argued that abstract art responded less to the mechanisation of modern production than to the transformation of

human relationships that it entailed, 'a submission to some external purpose indifferent to the individual'.[28] Formally abstract, Viner's computer drawings also make visible the social and economic abstraction described by Schapiro, made literal in their use of machines to generate believably hand-drawn marks.

The curator Jasia Reichardt has drawn parallels between concrete poetry and computer art, both of which she introduced to a British audience via her exhibitions *Between Poetry and Painting* (1965) and *Cybernetic Serendipity* (1968). Like concrete poetry, computer art is interdisciplinary and has historically existed on the margins of the art world, causing practices like Viner's to be overlooked.[29] Yet Viner's mechanisation of the drawing process has something in common with the better-known practice of Sol LeWitt, which utilises an algorithmic approach similar to a basic computer programme, in which a numerical code generates various types of line. In works like *4 Colour Drawing* (1971), LeWitt relinquished control of a fundamental component of formal abstraction – composition – by allowing a numerical sequence to determine the direction of lines and their colours. He famously suggested that in conceptual art, 'the idea becomes a machine that makes the art', disengaging the artist from the labour of production in favour of a more administrative task analogous to that of 'a clerk cataloguing the results of a premise'.[30]

This abstraction of labour was furthered in the wall drawings, where – unlike his works on paper – LeWitt delegated the production of the drawing to assistants following his instructions. Here the artist withdraws not just from the process of structuring the drawing but from the act of inscription itself. But while early critics such as Enno Develing viewed this surrender of authorial power as a fundamentally democratic act, other writers have emphasised the autocratic or bureaucratic connotations of this process.[31] Writing more recently, Sven Lütticken has likened LeWitt's method to the outsourcing of production by multinational corporations, remarking that 'abstract thought thus reveals its complicity with that other fundamental form of abstraction: exchange'.[32] Perhaps the strength of LeWitt's practice is its ability to support both possible readings – to evince a radical decentring of power that could simultaneously be indicative of newer, more insidious forms of control.

'Abstract drawing' is an expansive category, as demonstrated by the diverse practitioners included in this exhibition. It could be argued that all drawing involves a degree of abstraction, given its often schematic and monochromatic characteristics. In this essay, however, I have chosen to highlight one strand of abstract drawing that makes links between formal abstraction and processes of disengagement and alienation operative in the world at large. Drawing and withdrawing, these practices carve out an ambivalent space between freedom and constraint, optimism and pessimism, acquiescence and resistance – enriching our understanding of abstraction today.

[1] Theodor Adorno, *Aesthetic Theory*, Routledge & Kegan Paul, London, 1984, p.45.

[2] *Oxford English Dictionary*, www.oed.com, accessed November 2013.

[3] Catherine de Zegher, 'Abstract', in de Zegher (ed), *3 X Abstraction: New Methods of Drawing by Hilma af Klint, Emma Kunz and Agnes Martin*, Yale University Press, New Haven and London 2005, p.23.

[4] Peter Halley, 'Abstraction and Culture', 1991, reprinted in Maria Lind (ed), *Abstraction*, MIT Press, Cambridge, Massachusetts and London, 2013, p.138.

[5] See for instance Sven Lütticken, 'Living with Abstraction', 2008 and Liam Gillick, 'Abstract', 2011, both reprinted in *ibid.*, pp.142–52, 211–14.

[6] Benjamin Buchloh made this argument regarding what he describes as 'drawing as matrix' in 'Raymond Pettibon: Return to Disorder and Disfiguration', *October*, no.92, spring 2000, pp.37–51 and 'Hesse's Endgame: Facing the Diagram', in Catherine de Zegher (ed.), *Eva Hesse Drawing*, Yale University Press, New Haven and London, 2006, pp.116–50.

[7] Dom Sylvester Houédard, 'Introductionancenstryandchronology', 1965, in Nicola Simpson (ed), *Notes from the Cosmic Typewriter: The Life and Work of Dom Sylvester Houédard*, Occasional Papers, London, 2012, pp.165–69 (spacing and punctuation Houédard's).

[8] Dom Sylvester Houédard, statement in Jasia Reichardt (ed), *Between Poetry and Painting*, Institute of Contemporary Arts, London, 1965, p.53.

[9] *Ibid*.

[10] Bob Cobbing, Letter to Dom Sylvester Houédard, cited in Rick Poynor, 'DSH'S Typestracts: Horizons and Spirit Levels', in Simpson, *op. cit.*, p.39.

[11] Houédard, 'Introductionancenstryandchronology', *op. cit.*, p.165.

[12] Houédard cited in Poynor, *op. cit.*, p.39.

[13] Oral history interview with Anni Albers, Archives of American Art, Smithsonian Institution, Washington, July 1968.

[14] Nicholas Fox Weber, *Josef and Anni Albers, Designs for Living*, Merrell Publishers, London, 2004, p.154.

[15] *Ibid.*, pp.154–55.

[16] Anni Albers, *Selected Writings on Design*, Wesleyan University Press, Connecticut, 2001, p.72.

[17] Simon Yuill, 'Anni Albers and Digital Art', public lecture, Mead Art Gallery, Warwick University, May 2013.

[18] Frederick Hammersley, 'My First Experience with Computer Drawings', *Leonardo*, vol.2, no.4, October 1969, p.407.

[19] *Ibid*., p.408.

[20] *Ibid*.

[21] Fifty-five of seventy-two computer drawings from 1969 are listed in *Frederick Hammersley: Computer Drawings 1969*, LA Louver, Venice, 2013.

[22] Hammersley, *op. cit.*, p.408.

[23] John Vince, 'PICASO at Middlesex Polytechnic', in Paul Brown, Charlie Gere, Nicholas Lambert and Catherine Mason (eds), *White Heat Cold Logic: British Computer Art 1960–1980*, MIT Press, Cambridge, Mass. and London, p.372.

[24] For his degree show he presented a set of animated wooden sculptures that, when later exhibited at the Royal Academy, scratched the wooden floor with their repetitive movements. These involuntary drawings amused and fascinated Viner, who compared them to the technique of cross-hatching. Paul Brown, 'From Systems to Artificial Life: Early Generative Art at the Slade School of Fine Art', in Brown et al., *op. cit.*, p.283.

[25] Stephen Bell, 'My First Brush with Computer Graphics', in *ibid.*, p.310.

[26] Sophie Raikes, 'Darrell Viner: Early Work', Henry Moore Institute, Leeds, 2011, http://www.henry-moore.org/hmi/exhibitions/past-exhibitions/2011/darrell-viner-early-work.

[27] Guy Brett, 'Steel and Air' in *Darrell Viner: Air Moves*, Royal Festival Hall, London, 1998, n.p.

[28] Meyer Schapiro, 'Nature of Abstract Art', 1937, in *Modern Art: Nineteenth and Twentieth Centuries*, vol.2, George Braziller, New York, 1978. Meyer's account of abstraction contested the seamless, autonomous narrative of modern art constructed by his contemporary Alfred Barr.

[29] Jasia Reichardt, 'In the Beginning…' in Brown et al, *op. cit.*, p.71.

[30] Sol LeWitt, 'Paragraphs on Conceptual Art', *Artforum*, summer 1967, pp.79–83.

[31] Enno Develing, *Sol LeWitt*, Gemeentemuseum, The Hague, 1970, n.p.

[32] Sven Lütticken, 'Living with Abstraction', 2008, reprinted in Lind, *op. cit.*, p.145.