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Kinetic Art

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ABSTRACT

From 1962 to 1966 the author was an undergraduate at the University of Cambridge. During this period awareness of Kinetic Art grew nationally and internationally. Two student-run magazines – *Granta* and *Image* – became important platforms for dissemination of information and critical discourse about Kinetic Art in the context of other avant-garde developments. Having met several pioneers in the field in Paris before University, the author soon made contact with Professor Richard Gregory in the Experimental Psychology Department of the Cambridge Psychology Laboratory with whom he then collaborated. He worked closely also with Mike Weaver, an academic in the English Literature faculty, who initiated the *First International Exhibition of Concrete, Kinetic and Phonetic Poetry* at St Catharine's College in November 1964. They infused the Cambridge context with influences in Concrete Poetry and Kinetic Art from elsewhere. This article describes this period of early experimentation and reflects briefly on its legacy.

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On coming up to the University of Cambridge in October 1962 to read English literature, the author found the University's attitude to contemporary art one of extreme indifference. The sparsely attended Fitzwilliam Museum was so poorly lit and heated it closed at 3 pm. There were some small commercial galleries offering local landscapes and floral paintings. A private patron, H. S. Ede, built Kettle's Yard out of four cottages where he offered warmth, tea and biscuits to undergraduates who could admire his collection of what philistines called 'Modern Art' by Brancusi, Ben and Winifred Nicholson, Henri Gaudier-Brzeska, Barbara Hepworth, David Jones, Miro and Henry Moore and a careful placing of pebbles and stones.[1]

Sixty years ago the idea of formal undergraduate interdisciplinary research in the visual arts and sciences was unimaginable. Nevertheless in October 1963, with R.L. Gregory[2] and his technician Stephen Salter, the author worked on an experimental projection constructed in the Experimental Psychology Department of the Cambridge Psychology Laboratory. Using polarized light, the projection gave the impression of gravity free propulsion. There was no perceived distance of depth and the author found it 'mildly hallucinatory.'[3]

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[1]Ede, Harold Stanley (1895–1990) also known as 'Jim' Ede. Ede gave the house and collection to the University in 1966. In 1970, the house was extended to include an exhibition gall.

[2]Gregory, Professor R. L. CBE FRS FRSE British psychologist.

[3]Gadney, Reg. October 1963, Author's Diary.

Before going to Cambridge, soon after leaving school, the author had spent time in Paris where he met several pioneers in Kinetic Art. His father knew Frank J. Malina, a former rocket scientist who left the U.S. after the Second World War to work for UNESCO, then became a full-time artist. Marjorie, Frank's wife, was from Yorkshire where the author's father ran a boarding school during the post-war years, attended by Malina's sons Alan and Roger. On visiting Paris during his final year at school, the author became fascinated by seeing Malina at work on his luminodyne paintings, involving light, movement and time, introduced through the use of electricity within the works. From that point 'I determined to find what was the most consequential and progressive new departure made by artists in the late 1950s' (Gadney 1964a). Whenever he had leave from army service over the next two years, he returned to Paris. He began helping Malina in the studio, meeting other pioneering figures including Frank Popper, as well as the talented artists Nino Calos and Reginald Weston (who were sometimes Malina's assistants) and Nicolas Schöffer.

Soon after coming up to Cambridge in October 1962 to read English Literature, the author founded the Cambridge University Artists Group with a group of student friends, Annette Kobak,[4] Jonathan Bowden,[5] Howard Brenton,[6] and Jeremy Rosen.[7] Their first exhibition was organized in the Rushmore Rooms, St Catharine's College in 1963 with light mobiles, paintings and their contributions to journals (Gadney 1964b). On 7 February 1963 the Shirley Society at St Catharine's College hosted a talk by the author on Kinetic Art (Figures 1–3).

Later in the year another exhibition was organized by CUAG, with sculptures as well as paintings and light mobiles. A paragraph about the group's work in *Granta*, a long established student magazine, stated that its work countered the tendencies of the University's arts faculties to be 'geared to the analysis of the dead, not the living'. In the same edition the author wrote an article about Kinetic Art. The main image on the front cover was based on Malina's *Galaxy* work and the article looked closely at his work as well as that of Schöffer:

> modern visual discoveries and invention have opened new technical and aesthetic fields to the artist. Frank Malina and Nicolas Schöffer have both found the aesthetic boundaries of traditional media too narrow. Both have introduced elements of light, movement and time into their work. Although both artists' work stems from different ideas it rests in the context of modern artistic and scientific discovery. Professor Barzun's analysis of Art and Science as The Fighting Brothers is gradually being pulled apart (Barzan 1964)[8] … Visual reality in Kinetic Art is the movement, and subsequently the time sequence that movement offers … the very phenomenological presence of movement on the screen attracts the viewer towards it … . (Gadney 1963a)

[4]Kobak, Annette. Author of *Isabelle. The Life of Isabelle Eberhardt.* (1991) Penguin Books. *Joe's War* (2004) Virago Press. *See*: Afterword. Amy Gadney: below.

[5]Bowden, Jonathan. New Zealand painter.

[6]Brenton, Howard. British playwright and screenwriter.

[7]Rabbi Jeremy Rosen received his rabbinic ordination from Mir Yeshiva in Jerusalem. He has worked in the rabbinate, Jewish education, and academia for more than 40 years, in Europe and the US. He currently lives in the USA, where he writes, teaches, lectures, and serves as rabbi of a small community in New York.

[8]A lecture on art and science given by Jacques Barzan in Cambridge on 7th May 1963 was attended by the author and noted in his diary.

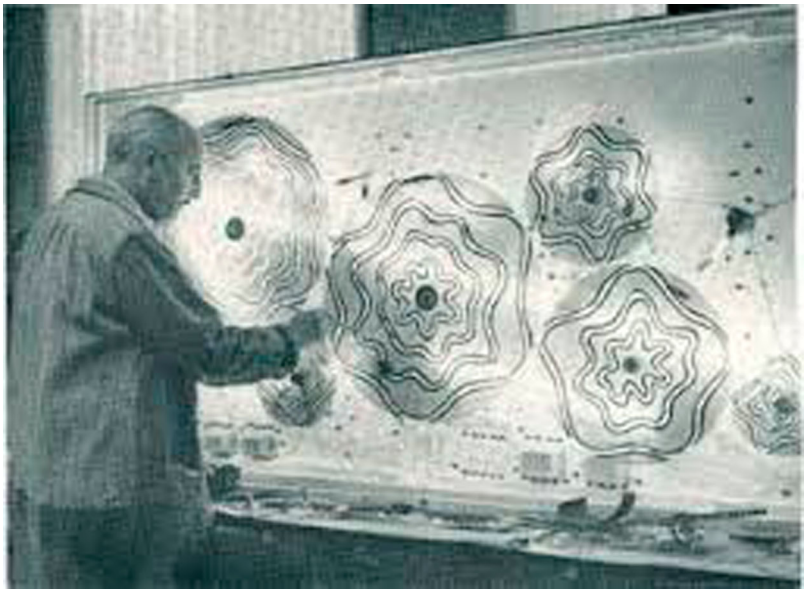

Figure 1. Frank J. Malina at work on a Kinetic Painting, made with Luminodyne system.

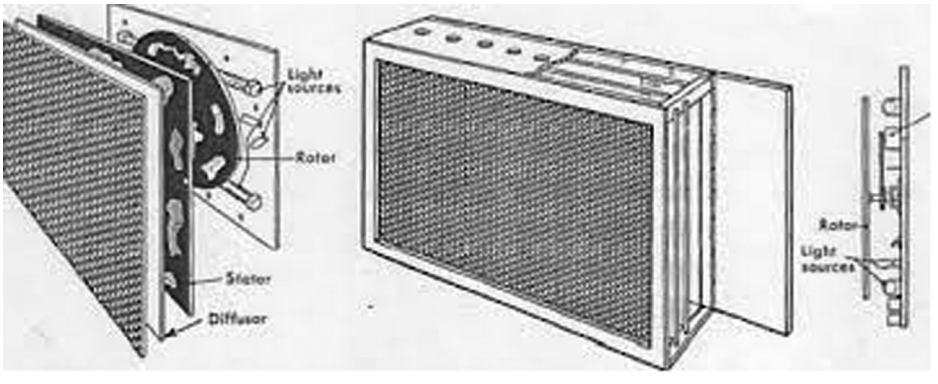

Figure 2. Diagram of Luminodyne system.

The author was persuaded in his second year to become co-editor of *Granta*. The magazine was attracting national attention due to the quality of its contributions and contributors who often went on to work professionally in the media or, like Ted Hughes, to become well-known as poets, etc. It offered an important launchpad for student writers and those visually inclined to disseminate ideas, information and images relating to trends within contemporary art and literature. It was a platform for (eventually) infiltrating the establishment with *avant-garde* ideas. But it was also perpetually in debt to its printers. The author believes he was invited as a kind of buttress between two other editors – one a Marxist and the other a poet.

Having assumed the co-editorship, the author helped to organize a fund-raising variety event featuring David Frost (a former editor) and also Frankie Howerd who tried out for the first time his persona of mocking intellectuals which became one of his most successful

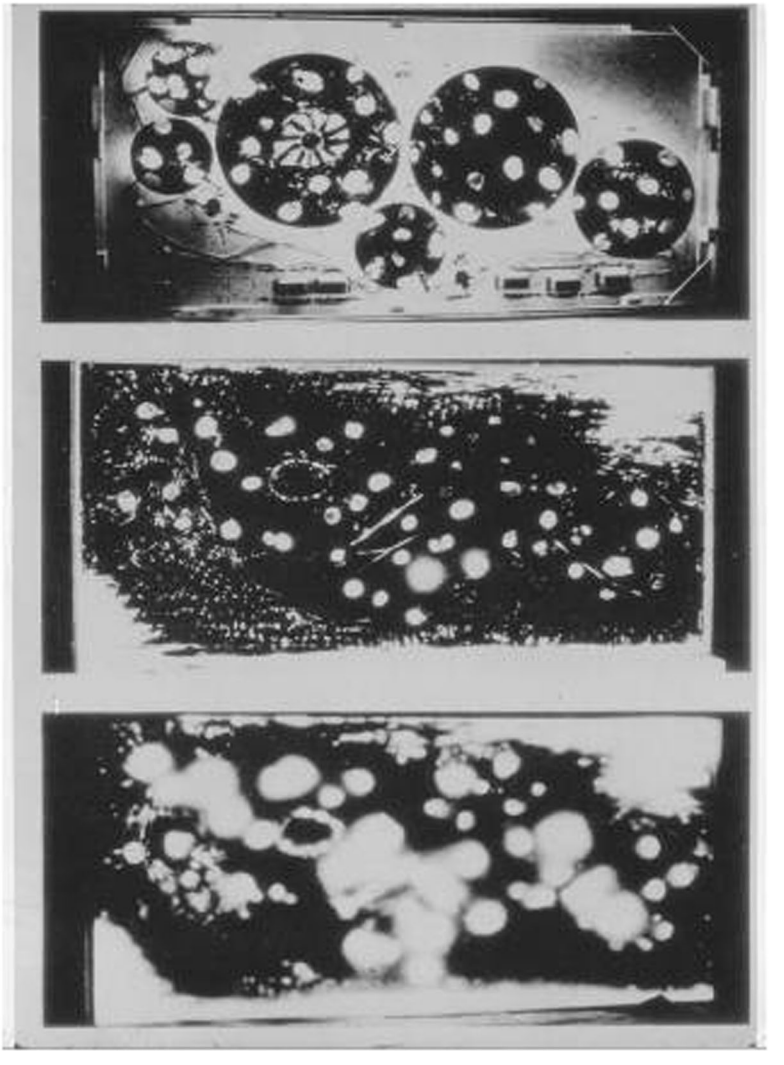

Figure 3. Kinetic Painting, made with Luminodyne system.

and enduring 'turns'. The success of this event helped to boost circulation for the journal as well as clearing its accumulated debts to the printer. The magazine was seen as encouraging a literary flowering: along with Hughes, contributors included Robert Creeley, Alastair Cooke, Thomas Clark, Terry Eagleton, Charles Harrison, Thom Gunn, Clive James and Brett Whiteley. Mark Boxer, who went on to edit the *Sunday Times's* first colour supplement, was another.

In 1964 the author and his co-editor Jim Philip, (the Marxist having already resigned) survived a protest by University dons about a nude image of lovers by Brett Whiteley accompanying a poem by Clive James (who had invited Whiteley's contribution). James fled Cambridge. The University Proctor, a Milton scholar at Kings' called John Broadbent, summoned the co-editors for a meeting, but then announced sagely: 'I am rusticating you both but consider your sentence served'. Behind the scenes, J.H. Prynne, poet and long-standing English academic at Cambridge, who had some responsibility for *Granta*,

played a role in influencing such leniency. The author still regards Prynne as 'a golden angel … guardian angel, a great man, liberal, kind, terrific influence. I am eternally in his debt'.[9]

An influential article about Kinetic Art was published in the UNESCO *Courier* magazine (Popper 1963). In early 1964, Popper accepted an invitation to write for *Granta*. His article *Kinetic Art and our environment* was then printed alongside numerous advertisements offering, among other things, day return train tickets from Cambridge to Oxford for seventeen shillings and six pence. There were also photographs of Susannah York, who was the author's girlfriend for a time; and as it was the 'Election issue', articles on *The Conservative Case, The Labour Case* and *The Communist Case*.

Popper's article proposed that Kinetic Art could help to repair a split between art and science that had existed since the Renaissance. Kinetic Art:

> by introducing a definite time element into the spatial compositions has set out, both to reflect the ever-changing physiognomy of life and to create permanent artistic change. It follows that kinetic art is primarily an attempt to reconcile Art with Science … . Two methods have begun to bridge the gap: the use of scientifically inspired subject-matter or formal patterns, and secondly the reduction of artistic statements to a formula (a "scientific nucleus") which can be multiplied as desired. Both these methods are now being used in kinetic art and their sociological consequences, especially in the latter case, are of the utmost importance. Nicolas Schöffer (with the aid of psychologists and physiologists) has created an apparatus of changing colours and luminosities with strong hypnotic effects … . Kinetic art is particularly suited to public performances … . (Popper 1964)

He referenced the author's article in the earlier journal concluding (in bold):

Kinetic Art is an excellent illustration of the basic dynamism underlying all human phenomena. Art changes the image of Society, and Society in its turn changes the image of Art.

In August 1964, the *London Magazine*, edited by Alan Ross, published an article called 'Kinetic Art' by the author (Gadney 1964a). The *London Magazine* was an important context for new writing, reviews of books and exhibitions and cultural opinion. The article was based upon *Towards Kinetic Art, an Original Composition* submitted for part One of the Cambridge English Tripos, 1963/64 (1963b). Dr T.R. Henn, the author's Tutor, approved the study as an embodiment of an original work of 'interdisciplinary study.' Its subject was of course art, not literature (Gadney 1964b). The author took the decision to read art history at Cambridge from 1964/66.

Variously, other articles soon appeared in journals and magazines in the United Kingdom and abroad. Cambridge was becoming associated internationally with developments in Kinetic Art. In the second of two influential special issues of the *Times Literary Supplement*, Décio Pignatari, a poet and designer in Brazil, wrote that he 'had just received a letter from Mike Weaver inviting him to an exhibition of avant-garde poetry in Cambridge.' (1964). In the same issue dom Sylvester Houédard wrote about June 1964 as 'foundation of international kinetic poetry fund at cambridge by mike weaver hookup/w popper, schoeffer, malina &c – & planned? autumn expo etc' (1964). This reference was to the International Kinetic Poetry Fund that Weaver, a Research Fellow at

[9]J.H. (Jeremy Halvard) Prynne is a British poet and Life Fellow of Gonville & Caius College Cambridge where he lectured on English Literature and was University Reader in English Poetry. He retired from teaching in 2005.

Magdalene, had established to help 'those poets making poems with real movement as a basic part of their composition' (Gadney 1964).

Weaver was a very important figure with respect to drawing international attention to what was happening in Cambridge.[10] He initiated *The First International Exhibition of Concrete, Kinetic and Phonetic Poetry*, held at the Rushmore Rooms, in St Catharine's (the author's college) at the end of November 1964. Permission was granted by the Master of the college to open it to the public. Works for the exhibition were posted to Weaver's rooms at Magdalene College from fourteen countries. He brought these to 'Catz' along King's Parade in a wheelbarrow. A lumidyne work from 1959 called *Oui et Non* by Frank J. Malina was included as well as a work by Nino Calos.

Most of the works shown were concrete poetry related. As Ian Hamilton Finlay's *Poor. Old. Tired. Horse*. magazine had shown in the concrete issue (Finlay 1963) a close connection existed between the concrete and the kinetic through optical designs that conveyed visual movement. A considerable correspondence about the exhibition took place between Weaver and Ian Hamilton Finlay.[11] A four-page pull out catalogue listed artists and artworks by country of origin (Granta 1964). Its visual editor was Philip Steadman who was also involved in making the exhibition happen. A work of Kinetic Art by the author was included in the exhibition.

On 8 November an issue of the magazine *Image* was published, with the subtitle *Kinetic Art: Concrete Poetry*. This included a text by Weaver called *Concrete and Kinetic: The Poem as Functional Object* and also *Kinetic art – a note* by Frank Popper. The author's contribution *Introduction to Kinetic Art* led into a series of texts appraising the kinetic artists Nicolas Schöffer, Frank Malina, Gregorio Vardanega, Martha Boto, J-M Cruxent, Andree Dantu, Knud Hvidberg. William Soya and Nino Calos. His introduction explored the relationship between art and science, referencing Jacques Barzun[12] again and 'what may be called ill-timed attacks on the attention paid to science by some contemporary artists and critics' (Gadney 1964). He also referenced an article about Kinetic Art by art critic Guy Brett called 'The New Synthesis between Art and Science', in The Times in May 1964.

The author's conclusion was that:

> we cannot pretend that a complete synthesis has yet been arrived at; because scientific aspirations are in essence different from artistic ones. Moreoever, there is at present little evidence of a welding of scientific and artistic method and theory … As I have already pointed out, the relationship of science to kinetic art is a technological one. Kinetic art has nothing in common with 'priestly' art, with superstition, or with absolute scientific theory. It is more than a rider of Rosenberg's 'tradition of the new' simply because it leans heavily on existing phenomena, on aesthetic elements which are not in essence derivative of art history. (Gadney 1964b)

[10]Weaver, Mike. Professorial Fellow, Linacre College, Oxford taught American Studies including American Cinema at Exeter and Oxford Universities for 30 years, with ten years as a Visiting Tutor in Film at the Royal College of Art. He is the foremost scholar of the works of William Carlos Williams. See: *William Carlos Williams; The American Background* (Cambridge, 1971) Weaver, Mike, "Paul Strand: Native Land", *The Archive* 27 (Tucson, Arizona: Center for Creative Photography, University of Arizona.

[11]Ian Hamilton Finlay Collection, Department of Special Collections, MS 48, Kenneth Spencer Research Library, University of Kansas Libraries. Acquisition Information. Purchase, Mike Weaver, 1965. Purchase, Stephen Bann 1966, 1967, 1969. Dr Weaver subsequently gifted the purchase price of $100 to Finlay.

[12]A lecture on art and science given by Jacques Barzan in Cambridge on 7th May 1963 was attended by the author and noted in his diary.

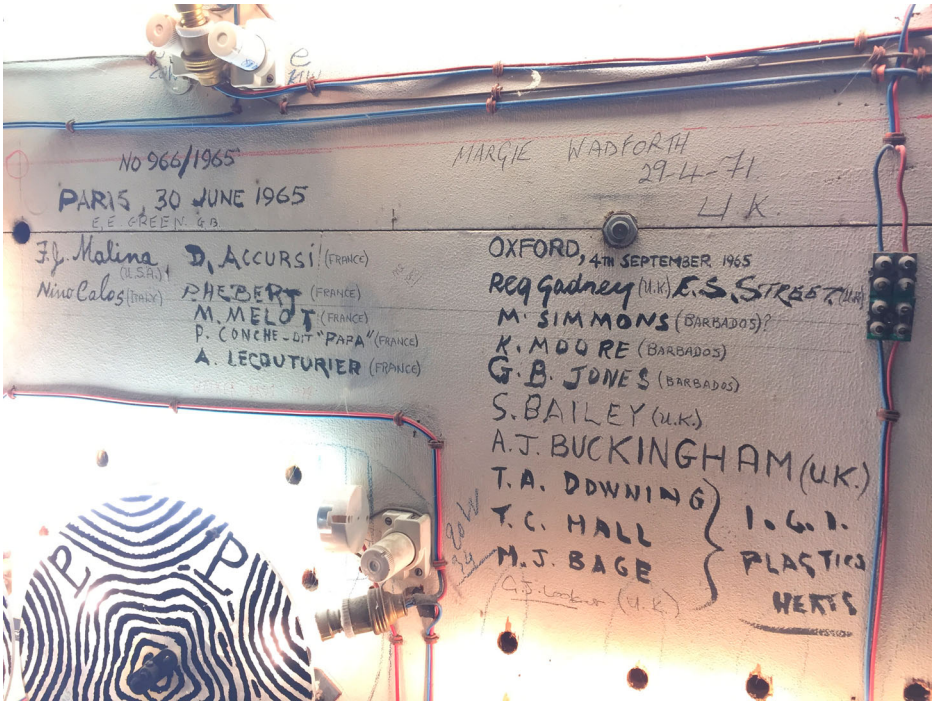

Figure 4. Back of 'Cosmos' Kinetic Art mural with signatures of assistants including Nino Calos and Reg Gadney. Photo: Matthew Collier.

In February 1965 Mike Weaver and the author gave an evening presentation at the ICA in London on *The Relations between Aesthetics of Kinetic Art and Concrete Poetry*. In September 1965, he helped Frank Malina install a large Kinetic Art mural called *Cosmos* in the entrance lobby of Headington Hall in Oxford, then owned by Robert Maxwell (whose Pergamon Press published the first editions of Leonardo Journal). The building is now owned by Oxford Brookes University which hopes to display it publicly from 2018/9. *Cosmos*, though mostly switched off, is still working perfectly (Figures 4 and 5).

The author also contributed to *Four Essays on Kinetic Art* (Motion Books,[13] 1966). With Nicholas Humphrey,[14] and other friends, he constructed a 12 by 10 feet screen projection for a concert party at Finella, the home of Phillip[15] and Margot Bowden.

Back in Cambridge, the artist Anthony Stern[16] introduced Syd Barrett, then a student at the Cambridge School of Art, to the author. Stern recalls:

[13]Motion Books was a name invented for this publication, edited by the author, Bann, Popper and Steadman.

[14]Nicholas Humphrey co-edited the *Granta* November 1963 issue. He is a well-known writer and researcher in areas of consciousness. One of his publications is *Soul-Dust: The Magic of Consciousness;* information at http://press.princeton.edu/titles/9398.html.

[15]Frank Philip Bowden (1903–1968), physicist and physical chemist. In his *Strangers and Brothers* series of novels, C. P. (Baron) Snow, a close friend from student days at Cambridge, 'drew on Bowden as the prototype of [Francis] Getliffe, the gifted, wise and sensitive scientist'.

[16]Anthony Stern (b.1944) first started making films at Cambridge, working as assistant to the avant-garde documentary filmmaker Peter Whitehead. He developed the concept of the impressionistic documentary with the making of 'San Francisco' cut to a version of 'Interstellar Overdrive' performed by Pink Floyd. He won awards for cinematography at the Oberhausen, Melbourne and Sydney film festivals.

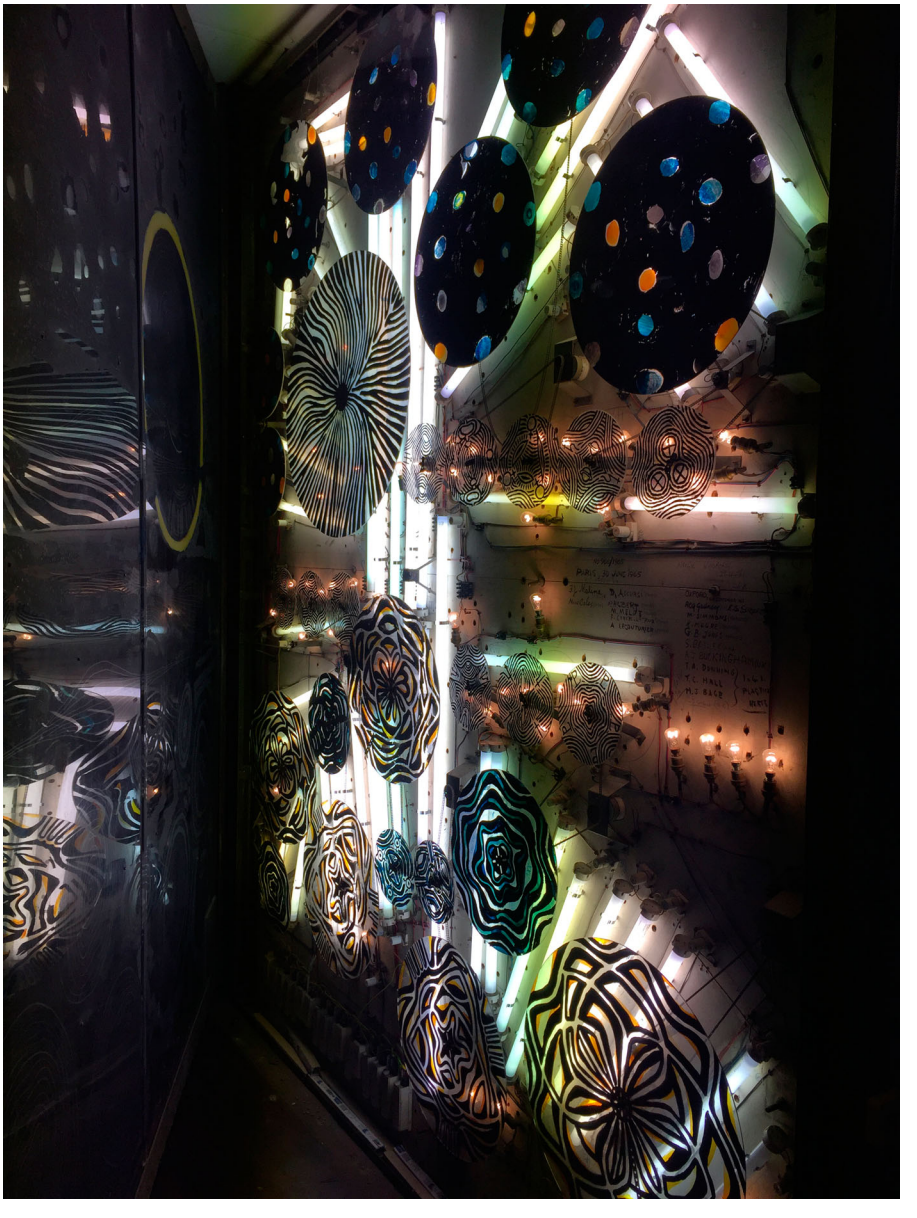

Figure 5. Frank J. Malina: 'Cosmos' (1965) Photo: Matthew Collier.

There was a man at St Catharine's College called Reg Gadney, who made light boxes in his room. He showed us these things — they were like huge television screens behind which there were a series of mechanical gadgets and light projections. These were the sort of ideas that later became a part of psychedelia, and which the Floyd used in their light shows. Syd and I were fascinated.[17]

[17]Blake, Mark. 2007. *Pink Floyd, Pigs Might Fly.* Aurum Press, 32.

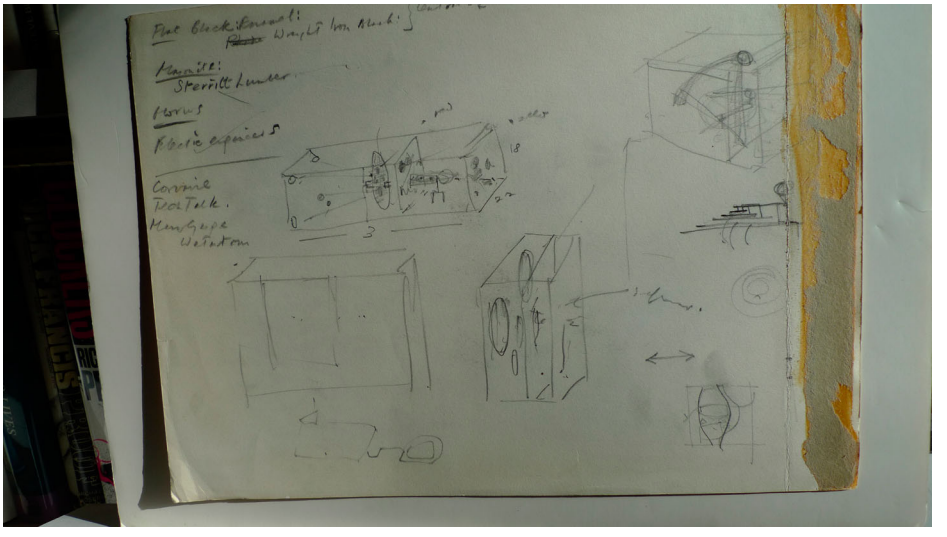

Figure 6. Reg Gadney: Working Drawing for Light Projections (1964).

The work Syd Barrett admired, which no more exists, was based on this working drawing: (Figure 6).

In November 1964, at the author's suggestion, John Kirwan of the Cambridge University Society of Arts, invited Frank J. Malina to give a talk as 'the subject of Kinetic Art is causing considerable excitement in Cambridge at present, especially since the *Image* devoted to it, came out' concluding his letter by telling him, 'our general theme is to be concerned with four dimensional art, which includes movement and weathering'.[18] Malina finally gave the talk in Cambridge on 11 February 1966 and received a warm welcome.

For a short time, an increasing number of articles were devoted to Kinetic art as well as exhibitions were organized in London and elsewhere (Gadney 1965a, 1965b, 1966). The dedicated art space called Signals, preceded by the Centre for Advanced Creative Study, was developed by Paul Keeler, described in *Image* as doing 'pioneer work' (Gadney 1964b). However, this proved temporary. The author began to sense that, as an interdisciplinary subject, Kinetic Art was, as in the Chuck Berry lyrics of the time, 'runnin' wild' with no particular place to go.'

After 1966, the sundry Cambridge critics and theorists went their own ways in academia. In 1966, the author was the recipient of a Josephine De Karman Fellowship Trust scholarship to study at MIT. The trust was established in 1954 by Dr Theodore Von Karman, first director of the Guggenheim Aeronautical Laboratory at the California Institute of Technology. Appointed a Research Fellow at MIT's School of Architecture and Planning, the author worked with Professor György Kepes on the planning for the Center for Advanced Visual Studies (CAVS). Below is an extract taken from his course notes for a lecture on Light Mobile Techniques and Applied Theories for MIT architectural students as well as a drawing for a light work made by the author while in Boston: (Figures 7 and 8)

[18]Letter now in Malina's archive in Paris; original copied to the author.

beneficial to talk about kinetic art in general. As the name
kinetic art implies itself, ~~kinetic~~ it is concerned with
motion. Motion, in my view, should not be added as a quality or an
appendage, but should be the substance of the work itself. The
history of the development of kinetic art is really the history of
how motion changed its role in visual art from being simply a
quality added to subject matter, then later to abstract compositions
which were static, to assuming the role of the substance of the
work itself. In simpler terms when we look at a mxx mobile it is
the motion which concerns us first, then the other elements it
affects such as composition, colour and form. SLIDES 1 → 6

Figure 7. Screenshot of Lecture Notes by Gadney (1966).

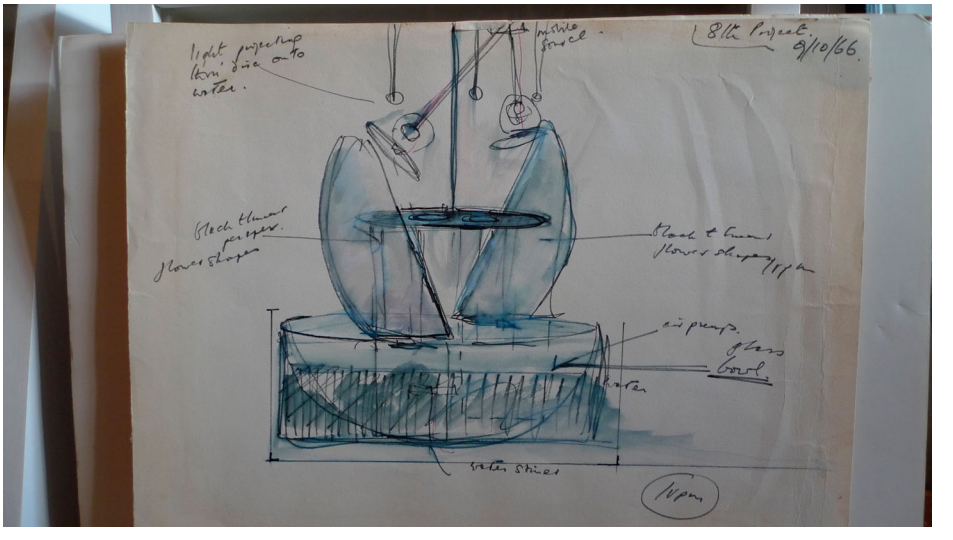

Figure 8. Reg Gadney: Working Drawing for Kinetic Art Work (1966).

The CAVS, now the ACT Fellows programme, was finally founded in 1968 with Professor Kepes as its director. The CAVS sought to encourage collaboration among artists, scientists and engineers, and served as a precursor to the MIT Media Lab.

Kepes, like Malina, constructed light projections whilst pursuing his work as a painter. In the 1930s, Kepes worked closely in Chicago with Laszlo Moholy-Nagy, teaching design at the New Bauhaus (later the School of Design, then Institute of Design, then Illinois Institute of Design or IIT). In 1944, his *Language of Vision* was published (Kepes 1944 [1995]). Used the world over as a college textbook, it reveals Kepes's indebtedness to the Berlin-based Gestalt psychologists. He declared that 'Visual communication is universal and international; it knows no limits of tongue, vocabulary or grammar, and it can be perceived by the illiterate as well as by the literate.'

The book predates other influential texts on the same subject such as Paul Rand's: *Thoughts on Design* (1946), László Moholy-Nagy's *Vision in Motion* (1947) and Rudolf Arnheim's *Art and Visual Perception* (1954).

In *The New Landscape in Art and Science* (1956) Kepes drew connections between 20th century artwork and scientific images made with 'high tech' devices: x-rays, stroboscopic photography, x-ray machines, electron microscopes, sonar radar, high powered telescopes and infrared sensors. His books and teaching exerted a wide influence on the practice of MIT architecture, planning and visual art students.

György Kepes and Malina believed in interdisciplinary practice. The creative use of light, the employment of technology to produce translucence and transparency are the main working elements their work has in common. Kepes put his views forward in his books and Malina through the journal he founded in 1968, *Leonardo* Journal of Art and Science, now looked after by an international network of people led by Roger Malina.[19]

It may well be that Kinetic art, the art of light and movement, is now or was then not really a 'movement' at all. Even the expression the *avant-garde* to which its practitioners believed they belonged has lost currency. If anything it belonged and still belongs to a wider vibrant territory, which continues to capture the imaginations of the new generation of artists and researchers who have studied the articles that appeared in the 1960s magazines in Cambridge (Figure 9).

Amy Gadney's work marks an important interdisciplinary watershed. She employs the practice of engaging with unlikely objects, amplifying their obscurity drawing out new, unexpected perceptions of life and meaning. These were issues discussed in the Cambridge magazines of the 1960s and a consideration of her work shows the extent of the influence the articles exerted.

For example, in works such 'Ghost Load', Gadney combines her abstract painting practice with appropriated techniques used by Kinetic artists of the 1960s and 1970s who used sealed boxes, cogs and gears to trick the eye. In Gadney's case, light, movement and optical illusion are enhanced by the latest electro-luminescent technology. She constructs generalized replicas of discarded objects, explained only by their titles and presents them as newly ready-made pieces that fit the exact dimensions of the original. Matt, frosted acrylic shells prevent all reflection, and all corners are smoothed down to blur lines; the original materiality becomes nothing more than the air taken up by the items and operates like a memory, a phantom of their original form:

> Once we've found words for things, our understanding becomes over-shadowed by the language we use. This work is about suspending the moment before definition and category, when things are subtle, strange and obscure, when we're not sure of what we're looking at and when our experience feels alive with potential.

'Ghost load' is a term taken from theatre jargon, used in relation to the superstition of ensuring a theatre space never goes dark. By leaving on a light of the lowest possible wattage the visiting souls would be kept from injury. Through the transformation of venustas ('beauty') by altering utilitas ('usefulness'), Gadney creates uncanny versions, or 'ghosts', of something that only exists in our imagination.

The artist encourages us to rely on our intuition, our pre-language understanding of things – or that which is beyond translation into words – to interact with the object through sensing it, discovering both the empirical and the abstract.

[19]Roger Malina, son of Frank J. Malina, is an astronomer, Executive Editor of Leonardo Publications at MIT Press and Distinguished Professor of Art and Technology at University of Texas in Dallas, U.S.

Figure 9. Amy Gadney: Kinetic Artwork (2014).

In his article for the London Magazine over 50 years ago the author stated:

> The spectator's perception has been freed from the confines of the traditional stasis; and if the elements of Kinetic art that have so far appeared do become consequential, it will necessitate a radical alteration of the established universal philosophies of art. (Gadney 1964b)

He now sees in the everyday screensavers on our computers a direct legacy and lineage of the Kinetic Art pioneers.

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributor

Reg Gadney is a writer and painter. His work is represented in public and private collections in the UK, USA, Canada, Norway, Japan, Australia and New Zealand, He has written 14 novels of which

the latest, *Albert Einstein Speaking* will be published by Canongate in October. He was educated at the Dragon School, Stowe and St Catharine's. He was a Research Fellow at M.I.T. and later Deputy Controller of the National Film Theatre. He then became a part-time Tutor at the Royal College of Art and was subsequently Senior Tutor, Fellow and Pro-Rector of the College. He has lectured at Oxford and Cambridge, Harvard, MIT, the Hermitage Museum in St. Petersburg and at the Academy of Arts and Sciences in Moscow.

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