Working with Plants

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1995 - 2006

interACTIVE

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PHOTO-synthesis
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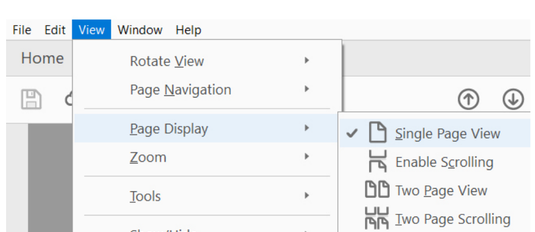

Working with Plants

Contents

Photo-synthesis

biotic imprinting on the leaves of Bromeliad plants & other experimental works

Since 1989 and the initial use of photograms in the Codes of Survival series, my work shifted away from simply taking photographs with a camera. There was an deep undercurrent pulling me, tagging at my core to explore photosensitivity in a broader sense, to work much more closely with photograms and somehow explore this through natural processes.

I had moved from the large colour photograms in the Evidence from the Religion of Technology, through the Aporian Emulsion series of antiquarian photosensitive emulsions that were discovered from 1820s. Research into these historical processes found even older roots of photography revealing Archimedes had noted how plant tissue alters colour with sunlight. Here seemed a connection to a natural process of creating images through photosensitivity.

As a keen and passionate organic gardener I was fascinated by the way plants use light to grow. I had a small garden in Kauai, Hawaii in 1974 and then established a much larger coastal garden my house in Dunedin from 1976 to 2004, where I grew a wide range of vegetables (at one point 32 varieties in a year). By contrast to the warm humid tropics in Hawaii, the garden was open to the wild cold salt winds that drove in from the southern ocean, but over time I established a dense coprosma hedge as a wind break that allowed delicious fruit trees to thrive: lemons, apples, pears, plums, figs, grapes.

When I moved St Andrews, Victoria, in 2005 I was confronted with different problems, poor soil, in fact no soil, and a much hotter and dryer climate. However through extensive compost production, here I established another productive vegetable garden, and an orchard with more than 160 varieties of fruit. Composting continues.

....the largest photosensitive emulsion we know of is the planet earth. As vegetation grows, dies back, changes colour with the seasons, the "photographic image" that is our planet alters. Increasingly human intervention plays a larger role in transforming the image of the globe we

Views of the garden in Dunedin

In 1995-6 through this continued interest in plants and gardening, I made a nexus that would greatly impact on my work and open a long and enchanting pathway that I could not have imagined. At this time I made a profound but simple realization. That living plants are actually a form of photography, they use light in the same way film does. Light flies past the planet at dazzling speed and plants capture this energy. In reflection in 2006 it lead to this perception *....the largest photosensitive emulsion we know of is the planet earth. As vegetation grows, dies back, changes colour with the seasons, the "photographic image" that is our planet alters. Increasingly human intervention plays a larger role in transforming the image of the globe we inhabit.*

I became excited by this insight and decided to experiment with plants as a form of image making - to experiment with the potential of growing images into the tissue of living plants.
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For more than a decade I had been intrigued by the technologically simple and environmentally sensitive practice of artists like Andy Goldsworthy, Hamish Fulton and Richard Long, and although they do not use light as part of the process to make images, some works, like Goldsworthy's colour spectrum forest leaf arrangements, provide a poignant response to nature's photo reactions. During this time I had also become aware of artists incorporating living plants in their art activity. Actions like Joseph Beuys 7,000 oaks project in Germany, Ian Hunter's willow to charcoal to willow project in England, Agnes Denes Wheat Field in Manhattan Dump and Gustav Mahler's Earth, Poplars, Grass, demonstrated the direct relationship plants can play in contemporary art practice while contributing positive benefits to the very environment the works make comment on.

Some of Goldsworthy's works, where he lies on the dry ground during a passing rain or snow shower and later photographs the marks his body has left on the dry area of earth also provided the impetus for the hypothesis for the experiments with photosynthesis and growing images into the leaves of plants. I was fortunate to meet Goldsworthy in New Zealand and attend a talk he gave and hear him talk about this work.

Suspended Bromeliads grow on the wall of the entrance to my house in Brighton, Dunedin early 1990s

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I later learned of Barry Thomas's 'Vacant lot of cabbages' 1978.

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Engaged by the idea that a simple natural phenomenon could leave such telling yet ephemeral marks on nature, I began experimenting. From here I began focusing more deeply on another natural phenomenon that has been central to my earlier photogram work; light. I began considering the essentiality of light to all life forms on the planet, considering how light reacts in the natural environment through photosynthesis, considering the intermediary part plants play in transferring this energy to usable substances other life forms can access and rely upon, and considering how this process could be explored in my art practice.

From the early 1980s I had an expanding interest in collecting Bromeliads, (a family of epiphytic plants from South America). I began researching the different genera, species and hybrids, the amazing biotic strategies of these plants, particularly the leaf and inflorescence colour change at flowering, the efficient epiphytic system of water and nutrient gathering and retention, and the relationship of these plants to their ecosystem system. While I had been growing these plants in pots with soil, about 1990 I experimented with suspended wall gardens using Bromeliads at the entrance of my house. I was intrigued how the plants used for this wall garden needed no soil and through regular misting continued to grow.

So it was not surprising that I selected wide leaved Bromeliads like Neoregelias to experiment with growing images into the living tissue. Genera like Neoregelia, Nidularium, have a rosette form of tightly wrapped leaves that create a vase and hold a reservoir of water.

So it was not surprising that I selected wide leaved Bromeliads like Neoregelias to experiment with growing images into the living tissue. Genera like Neoregelia, Nidularium, have a rosette form of tightly wrapped leaves that create a vase and hold a reservoir of water. When they begin to flower the leaf area near the centre produces strong anthocyanin pigments, spectacular reds, purples, almost blues. These may take months to form, but the plant retains the colour for up to 6-9 months. As strong light accentuates these colours they were perfect specimens to grow biotic images into, but timing is crucial.

As I continued work on the photo-synthesis project, it became apparent that the process of forming images on the leaves through photosynthesis is incredibly slow, time-consuming and uncertain. (It can take up to 4 -5 months to form an image while on some plants images of any kind are difficult to attain). Also there was the added complication that the collection of plants required attention and care. While staying in touch with contemporary theory and practice, it became obvious that I could easily be consumed by disproportionate research time to biology, botany and horticulture if the project was to succeed. Bromeliad collectors talk of the habit as an addiction, and Tillandsia are the crack cocaine of this addiction.

Over months, I continued to cut simple templates from plastic insulation tape and place onto the leaves of Bromeliads.

Effect of Tape mask on plant with trichome banding 1996

Bromeliad with Yellow insulation tape in place 1996 - The same plant with the tape removed after 3 months

By placing the plant in dimmer light, like a Dunedin winter, for some months, sticking the tape template on the leaf as it began to flower and colour began to grow around the centre leaves, then moving the plant to a higher level of light I was able to stimulate the plant to produce the biotic images I desired. However the insulation tape was not fully opaque and I experimented with an opaque aluminum tape. While this worked very well in blocking the light, it was frustratingly too sticky and difficult to remove. The answer lay in the use of both tapes.

By sticking the aluminum tape on top of the insulation tape then cutting the template I created a tape that was both opaque and easy to remove.

During this exploration, I became aware of the work by English artists Heather Ackoryd and Dan Harvey, where they project UV light onto sprouting grass seed to produce images. While they briefly visited the art school where I worked, the organizer overseeing their visit played politics in never allowing me to meet them. However, I later corresponded with them about the similarity of our work and in reply, they mentioned that while they had considered the photogram technique, they had never found time to implement it, and wished me well with the project.
Electromagnetic radiation (Light) is essential to sustaining life on the planet Earth, and the ability of plants to photosynthesize is a crucial factor in the transference of this energy.

Detail showing hand cut foil masks on the leaves of a Bromeliad plant 1996

By sticking the aluminum tape on top of the insulation tape then cutting the template I created a tape that was both opaque and easy to remove.

This can happen in nature where a leaf might get stuck onto another leaf and create a colour change

Archimedes 287?B.C. 212 first noted aspects of the pigmentation change in plant tissue due to exposure to sunlight and since then photosynthesis has been central to much speculative and scientific investigation. The process of growing an image in living plant tissue happens perchance in nature. For example if a leaf or other material falls directly on growing plant tissue and remains there for sometime an image of the leaf shape can be formed in the pigments of the plant. Where the light falls the plant photosynthesizes

Leaf mark on the top of a ripe apple created by light

chlorophyll is produced and the leaf is green, where the light is blocked there is no green pigment. One might find a ripe, red apple where the mark of a leaf that had been stuck for some time to the fruit has left as a lighter mark on the skin. But light is also central to sight, and as such is as essential to the visual arts as it is to the life process.

As far back as prehistoric times, the power of light from the sun was recognized and became an integral part of ritual and image culture, became a central icon that crossed generations and race, became the centre of myth and religion and became the centre of life. The Greeks, Empedocles, Leucippus and Democritus were among the first to contribute documented theories on light, and the fascination to explain the phenomenon and its meaning have continued for centuries.

Until the 1920s, many artists produced representations of light, but from the 1920s there was a distinct difference: Man Ray, Moholy Nagy, El Lissitzky, Len Lye and others initiated contemporary investigations into light itself as a valid medium for art making, an investigation which has continued in various forms through the century to the present day by artists like Ralph Hotere, Christian Boltanski.

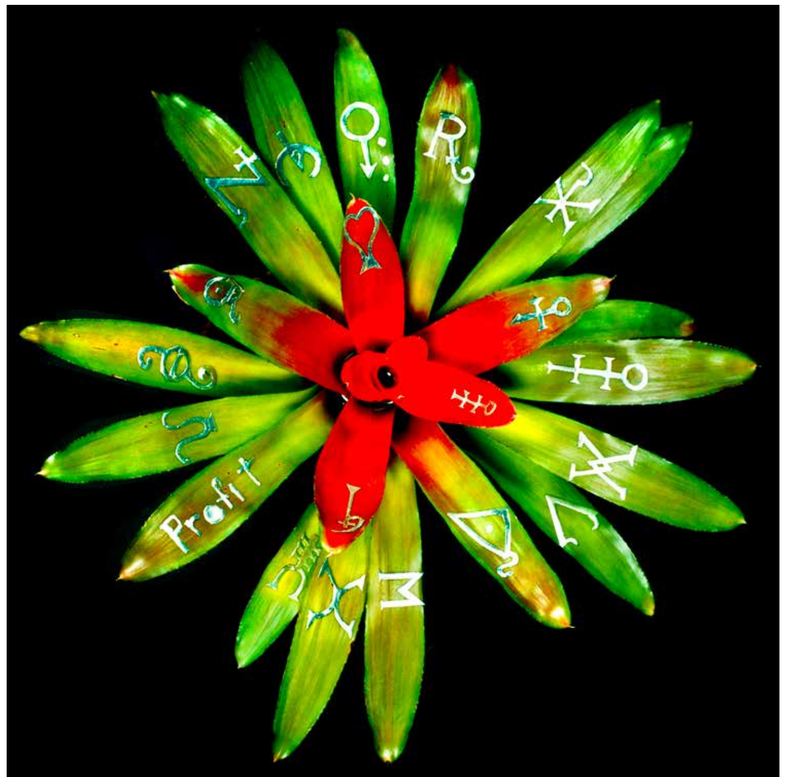
As mentioned, my interest in the theme for this project came from the conceptual amalgamation of two long held personal activities that employ light:

*the process of growing plants (which I had engaged in since 1973, but previously only as a botanical endeavor)
*and that of photography. (which has been central to my work since 1974)

Bromeliad have a silver scale on their leaves called trichomes, and on some species like this Billbergia the tichomes produces a thick silver layer on the surface of the leaf. The trichome cells open up when they are wet and allow water to pass into the leaf structure. As it dries out, they close down again and lock the water in. On some plants the trichome is almost invisible, on others it is sprinkled across the leaf surface, and on others it forms as a visible silver banding on the leaf. During the taping experiments this layer would often pull off with the tape. From this I also experimented with scrapping off the tricomes to create marks on the plant.

Effect of removing silver trichomes on Billbergia 1996

Electromagnetic radiation (Light) is essential to sustaining life on the planet Earth, and the ability of plants to photo-synthesize is a crucial factor in the transference of this energy



Cause and effect - Various Alchemic symbols - masked state - Dec 1996
botanical photo-imprint on Neoregelia carolinae

Cause and effect - Various Alchemic symbols - unmasked state - Feb 1997
botanical photo-imprint on Neoregelia carolinae

Alchemic symbol - Torrefacation of Gold - 1996
botanical photo-imprint on Vriesea Platynema Varregat

Alchemic symbol - Burned Hartshorn - 1996
botanical photo-imprint on Nidularium Fulgens

Alchemic symbol - Lime - 1996
botanical photo-imprint on Nidularium Fulgens

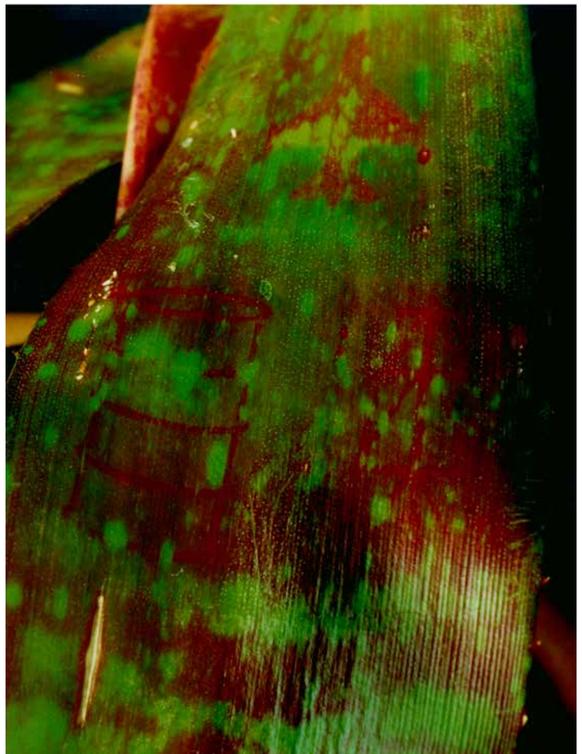
Alchemic symbol - Manure - 1996
botanical imprint on Nidularium Fulgens

The Four Seasons & To Distill Alchemic symbols - 1996
botanical photo-imprint on Nidularium Fulgens

Alchemical symbol Essence - 1998
botanical photo-imprint on Neoregelia

Alchemic symbol - to Filter - 1996
botanical photo-imprint on Neoregelia carolinae tricolor

Hikers and jet fighter - 1998
botanical photo-imprint on the leaf of Neoregelia



Jet fighter- 1996
botanical photo-imprint on Neoregelia

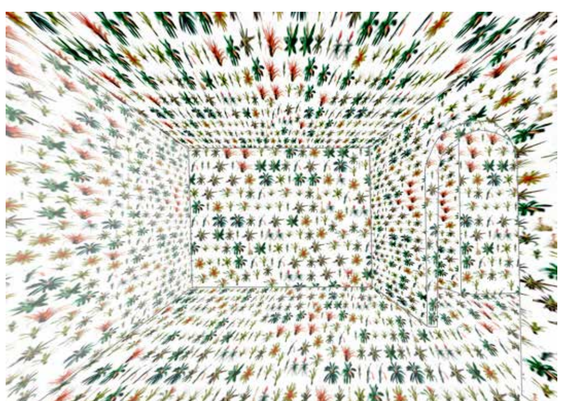
Alchemic symbol Glass Dropper - 1996
botanical photo-imprint on the leaf of Aechmea fulgeus var discolour

Alchemic symbol - Yellow Arsenic & Lime - 1996
botanical photo-imprint on Neoregelia plant

Alchemic symbol - Burned Hartshorn - 1996
botanical photo-imprint on Neoregelia plant

Plant Room

an installation of epiphytic Bromeliad plants in a coal burning boiler house



the parasite meets the epiphyte

As an artist it is rewarding when a work like PLANT ROOM, created decades ago offers a relevant dialogue today. In 1997, while completing an MFA at RMIT I worked with Bromeliad plants using them for a series of installations. Bromeliads are a family of epiphytic plants from South America. An epiphyte is a plant that uses another plant for support but takes no nourishment from it – they are the antithesis of a parasite.

I was embarking on this work as part of my MFA through RMIT, and with the frustratingly extended periods needed to grow images into the living tissue of the leaf, I decided to also explore other applications for the collection of Bromeliad plants. As epiphytes they were a perfect metaphor for sustainability, a life form that lives on its host but takes nothing away. So, during the initial phase of the project, I also investigated two other potentials using the expanding plant collection. The first was the use of the collection of Bromeliads to explore the visual incongruity between the in/organic when they were installed in various unfamiliar locations like industrial site, lifts and museum cases etc.

The second was the idea of connecting the plants to sensitive electronic devices to record their response to the a changing environment around them and in turn use this response to drive other electrical devices within a gallery context. While his aspect of the work is still a potential, it has not progressed enough at the present time.

In Dec 1998 I installed a large collection of Bromeliad plants in the boiler house or plant room of a local institution. The Plant Room had three coal burning furnaces and produced enough heat to maintain many buildings within the campus. While the buildings of modern cites may use electricity to for heating and do not have their own Plant Room, often the source of the heating comes from a coal fired generator many miles away. I was able gain permission to install the plants on one of the furnaces out of operation.

The concept behind the work was to play off incongruity and contrast - the epiphytic plants and the parasitic coal burning boiler, thumping away while burring up

a non-renewable fossil fuel. At the time the work was prompted by the adoption of the Kyoto Protocol in 1997, however with the continuation of growing issues surrounding climate change, CO2 levels continuing to balloon, and the climate beginning to impose dramatically on our lives with extreme weather events, the intensity of context and meaning in the work has grown in the intervening years.

> But in the arcane chamber is a roar of fire as oxygen is consumed with fossil fuel to produce heat from stored non-renewable energy. Coal or oil is consumed to provide the comfort level we have come to expect. Plant Rooms are the unseen engines that drive the climatic conditions of our built environment.

Behind the occupation of space and time in any large city complex, lies a constant we take for granted. As if an unseen force holds each of these urban universes precisely in place, environmental conditions remain magically stable. Pointing towards the heavens, shiny steel and glass towers seduce us; below the in the darkness of concrete catacombs or in another distant location lies a mysterious machine.

Directly or indirectly the services or climate within our concrete jungles are maintained by a space ironically named - Plant Room. These are the spaces that maintain a consistent indoor temperature and humidity. In the presence of a comfortable and stable climate – we become unaware of existence of the Plant Room, and so they become conveniently absent. Not only are Plant rooms hidden from view but access to them by the occupants is denied.

Ironically the synthesized stable climate in foyers, vestibules, atriums and offices provide environments for décor plantings of luxurious exotic plant species like orchids, lilies, palms, and epiphytic bromeliads - perfect environments. But in contrast to these stable synthesize climates the planet's climate is in a state of growing entropy.

Without question, our life style is decedent and parasitic and unsustainable. It consumes fossil fuel reserves that took millions of years for plants to create. It is an existence that infuses the atmosphere with excessive amounts of carbon.

But in the arcane chamber is a roar of fire as oxygen is consumed with fossil fuel to produce heat from stored non-renewable energy. Coal or oil is consumed to provide the comfort level we have come to expect. Plant Rooms are the unseen engines that drive the climatic conditions of our built environment. As we go comfortably about our business in the synthetic atmosphere, Plant Rooms provide a range of climatic conditions we take for granted - heating- hot water, air conditioning, ventilation, power, light etc.

Clean, pure water magically pours from cisterns while the waste is carried away out of sight in a gurgle. Behind the veneer is a series of pipes, ducts, wires, vents and drains. Factories that produce our consumer goods demand even larger Plant Rooms and services and consume ever more energy than office space.

Ironically, the fuels that drive these Plant Rooms can be traced back to real plants with roots, trunks, branches and leaves, great forests that once graced the surface of a much younger earth. For instance the Carboniferous period (350- 290 million years ago) is famed for having the highest atmospheric oxygen levels the Earth has ever experienced and for the evolution of the first reptiles. Plants grew and died at such a great rate that they eventually became coal. Though the Carboniferous started off warm - hence the lush forests that produced the coal - the temperature began to drop and the polar regions were plunged into an ice age that lasted millions of years. Oil and gas on the other hand are derived almost entirely from decayed plants and bacteria, with large deposits formed from the same period.

The elegant process of photosynthesis (where energy from the sun is transformed by plants) created the vast resource we now rely on for our energy needs. Coal and oil are simply stores of energy from the sun. Fossil fuels created by plants over eons of time would not exist without vast tracts of forest. Without question, our life style is decedent and parasitic and unsustainable. It consumes fossil fuel reserves that took millions of years for plants to create. It is an existence that infuses the atmosphere with excessive amounts of carbon.

Research from air bubbles in ice cores indicates that the present levels of CO_2 in the atmosphere are higher now than they have been for 800,000 years. Not just marginally higher, but ten times higher than the highest levels recorded.

The sudden awareness to reduce CO_2 emissions, the Kyoto Protocol and the carbon credits initiative are designed to reduce the effects of CO_2 and ultimately climate change. But to blame the present climate-change crisis solely on rising CO_2 levels is miss-guided . To believe it can be rectified with a scheme where certain nations with rapidly growing carbon emissions are exempt, and the buying of carbon credits is a convenient excuse for some members of humanity to continue with environmental parasitic activities. The idea that if we reduce CO_2 levels the climate will self-correct and we can continue as normal, does not take into account:

- the increasing devastation to the earth's plant room - the large tracts of forest we remove
- the demand for a higher standard of living for a large percentage of the population
- the necessity for continued consumer growth that underpins economic success and relies on a growing population.

In the larger environment we inhabit, plants are crucial to the stability of the climate. We are just beginning to realize how the great forests that clothe areas of the earth in green are the plant rooms of the planet. How they evolved to create a stable atmosphere and how they temper what would be an otherwise fierce and impossible climate.

For it is not only the distance from the sun that gives earth its unique climate but the combination of effects that plants both on land and sea have on the environment. Without a sufficient area dedicated to plants, the planet would simply become both too hot and too cold for us to exist. During the day the heat of the sun would become searing while during the darkness of night any heat would escape and the land would quickly cool and freeze. It cannot be understated how important plants are to the welfare of the planet – they should be treasured, nurtured and protected.

Plants use CO_2 to grow – Air containing carbon dioxide and oxygen enters the plant through openings called stoma, where it gets used in photosynthesis and respiration.

there has been too much deforestation and too many emissions - the engine that drives the planet is too small for the job we are expecting it to do.

Waste oxygen produced by photosynthesis in the chlorenchyma cells (parenchyma cells with chloroplasts) of the leaf interior use the same openings to exit, thereby enriching the atmosphere with oxygen and locking up carbon in the plants' cellular structure. Also, water vapor is released into the atmosphere through these pores in a process called transpiration. With the present abundance of CO_2 in the atmosphere, plants have responded by growing faster - there is evidence to suggest the stoma in some plants has recently evolved to become smaller. (in these cases, the stoma does not need to be as large to gather the CO_2 gas).

This might appear to be an ideal situation where the more CO2 we produce the faster plants will work to soak it up, and the quicker we can exploit them for further development. The reality is that in our increasing demands on our green planet, we are asking a shrinking Plant Room or engine to do an ever larger job. It's like asking a small family car to pull a huge road train - every year the car gets smaller the train longer and heavier. Interestingly as a means of conserving water Bromeliads are different to many other plants, they reverse the day night photosynthetic cycle taking in CO 2 at night and releasing oxygen.

The fact remains that there has been too much deforestation and too many emissions - the engine that drives the planet is too small for the job we are expecting it to do. There simply are not enough trees to credit for the carbon we emit into the environment as a species.

Without question, our life style is decedent and parasitic and unsustainable. It consumes fossil fuel reserves that took millions of years for plants to create. It is an existence that infuses the atmosphere with excessive amounts of carbon.

Climate change affects plants, and while some benefit from the change allowing an extended geographical range, others suffer. Climate changes are likely to subject all plants to a more extreme range of conditions – heat, cold, drought, flood, winds and salt. while it is admiral to plant as many trees as possible, there is a huge difference between a single plant isolated in a barren landscape and a plant embedded in the rich ecosystem of a gigantic forest. The forest creates its own climate – the single tree struggles in an alien one.

To solve the environmental problems we have created, we need to evolve more like Bromeliads; we need to develop epiphytic habits. Not only do we need to protect the remain parts of the planets Plant room the machine that services our atmosphere, but we need to extend the extent of our forests and give the machine a larger engine.
While I was waiting for the photosynthetic images to materialize on the leaves of the Bromeliad plants I became impatient - I kept looking at the growing collection of epiphytic Bromeliad plants and imagining them installed in various locations. Living works of art. For the MFA I had a forth coming critique with the supervisors and other candidates and decided to use the opportunity to test an installation of the plants at an industrial site.

Through various jobs I had worked in when I was a young man completing an electrical apprentice, I understood the workings of plant rooms or boiler houses. Usually hidden from view they act as the unseen engine rooms that drive the climatic conditions of buildings - they provide heating and even power for hot water, air conditioning etc. Usually, they either burnt coal or diesel fuel - either way - non renewable resources.

The Boiler house at the Otago Polytechnic had three large coal burning boilers and I engaged in gaining permission for the installation, arranging dates etc. with the building services manager. At the time of installation, I had to position the installation site around the boiler which was not operating. The day after the installation was sited, the group of candidates and the supervisor assembled the critique.

For a limited time the space was also open to the public.

Several weeks later, I also gained the exact specifications for the boiler and many of these facts appeared in the fragmented text for the Planet work, where words like - LPHW flows - (low pressure hot water).

While Plant Rooms are extremely noisy and dusty environments they are also urbane and sterile environments with no reference to the living organic world. I found the potential of the incongruity of the bromeliads in the Plant Room fascinating - on one hand the boiler was an operating parasite using up the earth's resources to stabilise the building's climate - and on the other was a collection of epiphytic plants which represented the earth's boiler house that stabilizes the climate. With the discovery of climate change carbon producing activities like this point towards entropy which measures disorder within a system.

I used the title and concepts of entropy to explore the aftermath of the horrific 2009 bush fires in Melbourne.

Boiler house or *Plant Room* at the Otago polytechnic, Dunedin, New Zeland - Location of the Plant Room installation




Plant Room - Installation of epiphytic Bromeliad plants in the Plant Room (boiler house) at the Otago Polytechnic which contains 3 coal burning furnaces for heating the building complex. Dunedin New Zealand - December

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Class i fication

an installation of epiphytic Tillandsias

I had another critique with fellow MFA candidates and the supervisors from RMIT. and as a response to the deadline Classification materialized.

This installation of a collection of Tillandsias (air plants), in a museum case came from my interest in the collecting and classification of plants, particularly Bromeliads. I had been studying plant evolution, diversity and abundance.

'Wallace later recalled the "fever-heat of expectation he felt". "On my first walk into the forest I looked about, expecting to see monkeys as plentiful as zoological gardens, with humming –birds and parrots in profusion." But after several days of seeing no monkeys and hardly any birds, he "began to think that these and other productions of the South American forests are much scarcer than they are represented to be by travellers". Anyone who has stepped into a rainforest, head-full of images from glossy nature photography, has had roughly the same disappointment, which derives from confusing diversity with abundance. '

A concern was also the loss of species. Already various factors including market forces have conspired, forcing farmers to grow high-performance monocultures. Jeremy Rufkin states "The Rural Advancement Foundation International (RAFI) reports that of seventy-five kinds of vegetable grown in the United States, 97 percent of all the varieties have become extinct in less than eighty years. According to the RAFI study, of the 7,098 apple varieties grown in the United States between 1804 and 1905, 6,121 or 86.2 percent have since become extinct. Of the 2,683 pear varieties in use in the last century, 2,354 or 87.77 percent are now extinct. The grim statistics are repeated for every food crop". "Garrison Wilkes, professor of botany at the University of Massachusetts, says that the spread of modern agricultural practices is quickly destroying the genetic resources upon which it is built and likens the situation to "taking stones from the foundation to repair the roof ". In the present environment, even this technology cannot create useful new genes in the laboratory, biotechnological science needs as large a genetic pool as it can find and preserving diversity guarantees a rich resource to draw from.

The simple but elegant antique wooden museum case had lent against the wall under the stairs gathering dust at the art school where I worked of months. Each time I stepped above it to the next landing it called out for a purpose.

The museum case had lent against the wall under the stairs at the art school where I worked of months. Reading the literature on bromeliads it was clear that a huge emphasis was placed on naming and classification, arguments developed about who discovered what, how some plants had been placed in the wrong genus, and even how other plants needed their own new genus - and yet nature seemed oblivious to any of this, and as it had for millions of years continued on its way. Even now new genus are created, plants moved from one to another.

Linden Cowell, who lectured at the school and had worked as a curator at the Otago Museum had managed to locate some period museum labels from me to print the Latin names of the plants onto.

On the left the plants were perfectly labeled and carefully arranged - while towards the right the plants become more randomly arranged - the labeling begins to slide from the support and the classifications begin to deconstruct - the spelling is wrong. Outside the open door of the case "chaos" reins the plants escaped up a plain wall - back to nature. During the installation, the work evolved further when spraying the plants as the water based ink used for the label printing ran, the stiffness of the paper was lost, offering a weathered effect.

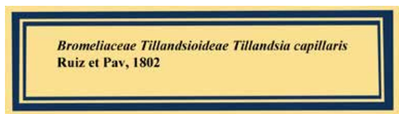
At one point he told me " don't you realize that if it was not for people plants would not exist,as they need people to plant them".

Interesting but flawed concept.

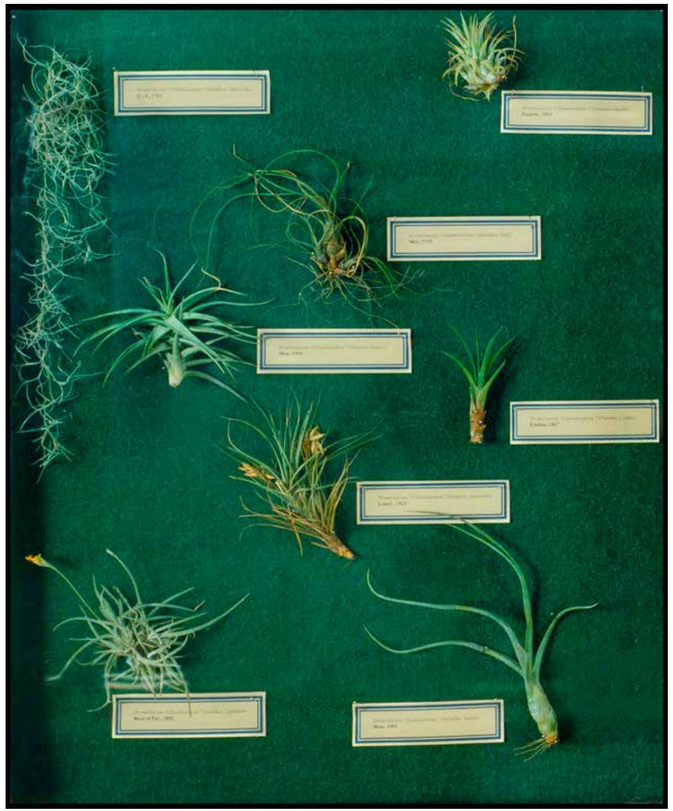
He made several suggestions that made it obvious his strategy was to move me into an area that he was familiar with rather than encourage my interest in the plant works. I was not surprised, after all this was someone who felt I was too fixated on plants and biology. At one point he told me " don't you realize that if it was not for people plants would not exist". Interesting but flawed concept.

He believed all plants at some point had been planted by people! I thought he was joking but it turned out he was serious.

1. David Quamen 1996 The Song of the Dodo , Page 62



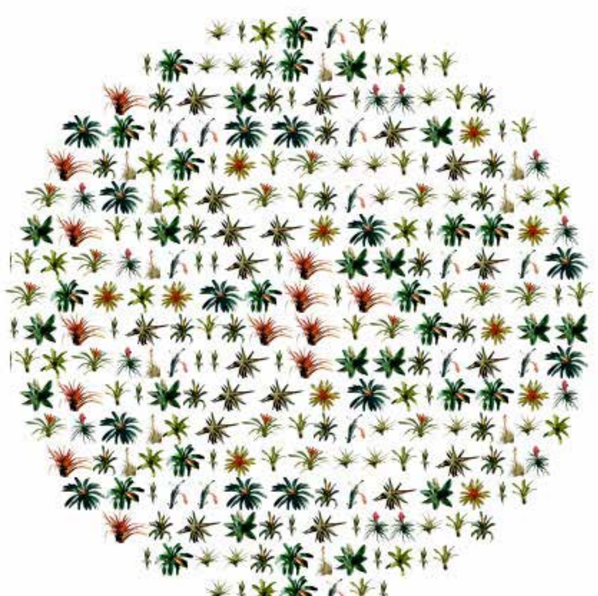
Class i fication - Museum case, Tillandsia plants, museum labels, pins, Installation of various species of the genus Tillandsia (airplants) in museum case. Leith building, Otago Polytechnic School of Art, Dunedin, New Zealand - June 1998



detail - *Class i fication* - Museum case, Tillandsia plants, museum labels, pins, Installation of various species of the genus Tillandsia (airplants) in museum case. Leith building, Otago Polytechnic School of Art, Dunedin, New Zealand - June 1998

Planet

installation of prints of plants and text



This installation of a large (8mx4m) globe - map of the world - on the floor of 101 Collins St Gallery Annex, Melbourne, July 1998 was a part of the interim MFA exhibition of New Zealand candidates work.

The work consisted of 1730, 4" squares arranged in a grid pattern to form an elliptical map of the earth - a Mollweide Projection. The land area was represented by fragmented C Type photographs from various other projects, (*Photosynthesis, Plant Room,*) while the ocean was represented by fragmented blue text printed on paper associated to relevant sources read over the period of the project.

Three weeks earlier my supervisors from RMIT had been over to visit and as a part of the visit we were required to show some new work. I had been busy with Class I fication, and the response I had received from the work to that point from other had been encouraging. However the supervisors response was completely the opposite, it was as one of them put it- " the worst piece of art he had ever seen" and he suggested that I had a show in Melbourne in 3 weeks so I had better come up with some more a more resolved new work. It was obvious from his own work that he was interested in grids and I was interested to map how he would respond to a context he was familiar with. I had been cutting up sections of the discarded photosynthesis prints I had been making and decided to create a large map based on the grid.

In looking at the globe I had often been intrigued with the longitudinal and latitudinal lines from various globe projections which create a series of perfect squares when the earth is divided into a series of grids under certain projections. I also questioned how many maps of the earth cut 15 degrees off the Antarctic presenting a distorted perception of the planet and where the equator lies.

I did some smaller sketches and then decided to increase the scale of the work - using discarded prints of the Photosynthetic images and the Plant room projects to cut the individual squares from to represent the land mass. Debra Parlor, one of my students generously helped me set the work out. Each square had a code number on the back 1A, 2A etc.

All the texts I had been reading from so many sources were swimming round in my head like an ocean - so I decided to fragment this literally - to print a series of texts from a range of relevant sources with blue ink and cut them up to fill the void of the ocean.

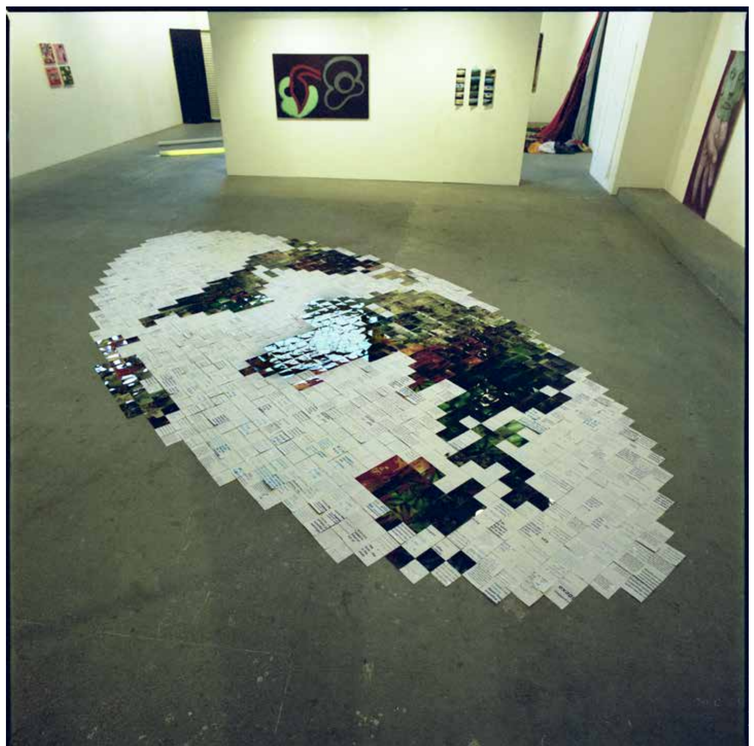
The work took many hours to install was with some satisfaction that the work was dispatched to Melbourne for the supervisors to install before my visit in time for the opening. While they responded well to the work and it had potential, I was still much more intrigued with light - plants and the process of photosynthesis.

In an ocean of words and terms.

The MFA Supervisor responded to the work positively and suggested I " drop this plant thing and make work similar ton this". My response was that I knew he would like this work I had made it to prove a point and I would be continuing on with the plant works.

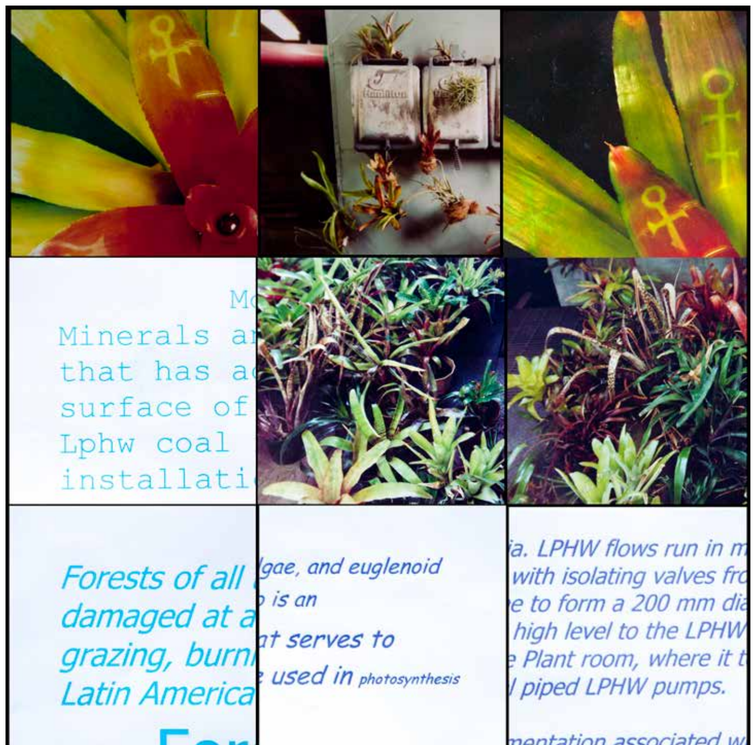
In a ocean of words and terms.

However the globe remain dormant for many years and resurfaced in a work titled *Planet II*, in 2006



Planet - Installation of a large (8m x 4m) globe map of the world on the floor of 101 Collins St Gallery Annex, Melbourne, Australia - July 1998

details - *Planet* - Installation of a large (8m x 4m) globe map of the world on the floor of 101 Collins St Gallery Annex, Melbourne, Australia - July 1998



details - *Planet* - Installation of a large (8m x 4m) globe map of the world on the floor of 101 Collins St Gallery Annex, Melbourne, Australia - July 1998

Light

Light for Aristotle was " the actualization of the potentially transparent".

From the earlier work I had explored with plants, *Photo-synthesis* and my fascination with light, the idea arose to suspend a series of epiphytic Bromeliads from the ceiling and use a slide projector to project a focused beam of light through them to throw shadow patterns on a wall. For me it related to the word photography - drawing with light - and by implication shadow. In a sense a 3D photogram somewhat akin to Mann Ray"s La femme, 1920.

As it was near Christmas, the art school had well finished for the year. Apart from sculptor Peter Nicholls and a few other keen artists the place was deserted. Silence filled the vacuum that had earlier been full of student echoes. I had access to a vacant 3-4th year photography room, a clear space to experiment with this. While it was not the ideal environment to play with this it was adequate to gain a sense of the effect.

Over a few days of suspending the plants from the ceiling, the *LIGHT* work developed where the plants were specifically arranged to throw a series of shadows that linked to form cryptic organic letters that spelt the word *LIGHT*. The contradiction of the word light spelt from a lack of light - a shadow was appealing. The word was only revealed by the combination of shadows. When the projection light was off, one could through around and under the suspended plants and the word light never materialized. It was embedded as a code in the configuration that was only revealed when the light projected through the plants.

The arrangement of suspended colourful Bromeliad plants echoed a constellation of planets in space and the further from the light source they were positioned the less light that illuminated them.

While photographing the work I noticed some plants rotated with the slightest air movement and recorded as a blur through longer exposure. This lead to further rotating plant works over a decade later.

the plants were specifically arranged to throw a series of shadows that linked to form cryptic organic letters that spelt the word LIGHT.

Light - Experimental projection installation - Bromeliad plants, School of Art, Otago Polytechnic, Dunedin, New Zealand - 1999

Light - Experimental projection installation - Bromeliad plants, School of Art, Otago Polytechnic, Dunedin, New Zealand -

Light - Experimental projection installation - Bromeliad plants, School of Art, Otago Polytechnic, Dunedin, New Zealand -

Lift

an Installation of Bromeliads in a lift at the Leith Building Otago Polytechnic,

Dunedin New Zealand, February 1999

For some time I had grown Bromeliad plants. They occupied the entrance to my house, rooms inside, the staff room at the art school and on the second level of the building I worked in. In growing plants on the second level of the Leith Building at the Art School in Dunedin, where I worked, I would often I carry the plants up in the small lift that simply moved from the ground floor to the level above.

While making this short journey from one floor to another, I noticed how strange it was that the introduction of something green, just a few Bromeliad plants, transformed the small sterile enclosed space into something more than a hollow void. As the lift moved upwards, I observed the transference of vibrations to the foliage moving and vibrating them in an intriguing manner. Vibrations that I could hardly sense when the lift was defoliated were amplified in the drooping foliage of the plant;, they appeared to animate in an eerie manner. In all it was even stranger than the usually empty space that lifts often are. As environments lifts are strange. Self contained, trapped, momentarily there is no reference to the outside world. They are spaces without reference to life that have a potential entrapment.

From here I decided to experiment with this work (LIFT). By filling almost the entire space with Bromeliad plants walls, floor and even part of the ceiling a new space was born. The proliferation of vegetation left only enough space for one person to stand and ride in the lift at a time. Initially when the door opened there was a feeling of surprised delight to be confronted with a interior of plants; it warmed another wise sterile space and despite the very limited standing space, invited the rider in . However, once inside, the door closed and the button pushed for the journey to another floor there was a different experience. It felt like a trap, there was no escape from the small, crowded enclosed space. This was surprisingly threatening, the plants appeared to come to life, dancing and quivering, they appeared to grow and fill the space further as the lift traveled up or down. The experience was individualized, with such limited space, the audience was forced to take the journey alone, with the vertical walls of quivering plants speaking a weird language.

Welcome to an Installation of Bromeliads in the Lift at the Leith Building Otago Polytechnic, Dunedin New Zealand, February 1999.

With no escape from the small, crowded enclosed space, this was actually quite threatening, the plants appeared to come to life, quivering, they appeared to grow and fill the space further as the lift traveled up or down.

Lift - Experimental projection installation - Bromeliad plants, School of Art, Otago Polytechnic, Dunedin, New Zealand - February 1999

Lift - Experimental projection installation - Bromeliad plants, School of Art, Otago Polytechnic, Dunedin, New Zealand - February 1999

im plant - sup plant - em plant

The surrogate, the human, the remains

From Adam, Eve, the fig leaf, and the act of covering up aspects of the human form with foliage, the idea occurred to create a greater cloak of the plants I was working with, Tillandsias. Whereas the fig leaf would wilt, die and finally turn brown the Tillandsia could actually live and continue to grow attached to the human form. An ex-student, Susan Badcock offered to model for this and we arranged a time to cover her naked body with the air plants. Some plants were stuck on, others were clipped onto to transparent fishing wire tied to her. Rather than cover Susan with an entire cloak of plants the plants were arranged in groups with whole areas and limbs uncovered. There was a line of plants that ran from the bottom of the right leg to the top of the left shoulder. While it was tricky to get the plants to sit exactly where one wanted them, it was a fun shoot.

In the studio where I photographed this was a life size mannequin and in turn this surrogate form was also covered with the Tillandisa plants. Again I used a similar strategy of a line of Tillandsia that ran from the bottom of the right leg to the top of the left shoulder.

To complete the series, I borrowed the skeleton from the life drawing room and also covered the bare bones with plants in a similar line.

A few years later, I remember reading a passage in the Orchid Thief a 1998 non-fiction book by American journalist and author Susan Orlean, based on her investigation of the 1994 arrest of John Laroche and a group of Seminoles in south Florida for poaching rare orchids in the Fakahatchee Strand State Preserve. Later the story was adapted by Charlie Kaufman for Spike Jonze's film Adaptation (2002).

In the passage, the skull of an orchid hunter was found with a rare orchid attached and happily growing on it. It appears that the plant hunter had perished in pursuit of the very thing that had now possessed his remains and was growing on his bones. Even more ironic was that the sale of the plant back in England created more excitement and fetched a higher price still attached to the unfortunate man's brain cap. Bromeliads are closely associated to orchids and I imagined them - particularly Tilladnsias - attached to humans, bone etc. From the Lift work, I also imagined the plants attaching themselves to people riding in the lift from floor to floor.

I was invited to speak at the International Bromeliad Conference in Chicago in September 2004, and by chance at the conference dinner I was sitting next to an eccentric woman Bromeliad collector who is referenced in the book.

In an age of GM and body implants its possible plants could outlive the body they might be attached to.

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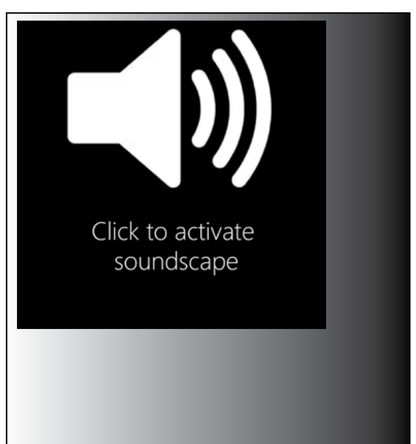
im plant - sup plant - em plant - June 1999 - The surrogate, the human, the remains.

im plant - sup plant - em plant - detail - June 1999 - The surrogate, the human, the remains.

im plant - sup plant - em plant - detail - June 1999 - The surrogate, the human, the remains.

en LIGHT en

an interactive projection installation light Installation



Click to listen to the original composition composed by Peter Adams for the enLIGHTen installation. The music played continuously throughout the duration of the exhibition.

The final MFA exhibition presentation was set for June 1999, when the outside assessor Euan Heng would assess not only the final work but documentation of the entire body of work undertaken during the candidature. For this I had decided to present an up scaled, more intricate and interactive version of the Light projection work. I had the entire gallery space booked at the Temple Gallery in Dunedin and the director Peter Duncan had offered to help with the install.

Of all colours, the gallery walls were painted orange with large yellow columns breaking up the space. It was at complete odds to my needs. For the projections, I needed to cover the walls with a series of white screens and I considered a range of materials. While I liked the texture of crumpled tissue paper and the abstract way light and shadow played across it, but a single sheet was too small and fragile. At the same time a friend was managing a periodic detention scheme for youth that had run astray. She had one young guy who had an interest in art and creativity and asked if I would have a project for him to work on for a designated period of hours. I brought a few reams of tissue paper and had the PD worker glue them together to create giant screens, then lay up 4 -5 sheets one on top of the other, to give thickness and strength. There were three screens the largest two were about 7.5m long x 3.5m. Pasting down all the layers on an area of this size took hours and the two of us worked on it for days. However the result was fantastic, it was also light and could be rolled up for transporting to the gallery. These large screens were taken to the galley and installed on the appropriate walls.

The installation design also demanded 7 slide projectors. Slide projectors are superb for this work, they have a strong beam of light that can be focused to a specific distance and create sharp shadows. I had two slide projectors myself, and within a few weeks of putting out a few requests I gained the 7 that I needed. These were mounted onto base boards that triggered from infrared sensors so each projector could be switched by audience movement independently.

For this I had decided to present an up scaled, more intricate and interactive version of the Light projection work.

Coloured glass filters were positioned in front of 6 of the projectors. Two with red, two with green and two with blue glass. These six projectors were positioned in the dark space near the ceiling, just above the screens to project pure beams of coloured light down diagonally across the space to the opposite tissue screen. The sensors were masked to a thin slit so as they only triggered from a very narrow field, and each one had a different on time setting. At ceiling level, the entire space was set with a grid of strong fishing line that the Bromeliad plants could be suspended from.

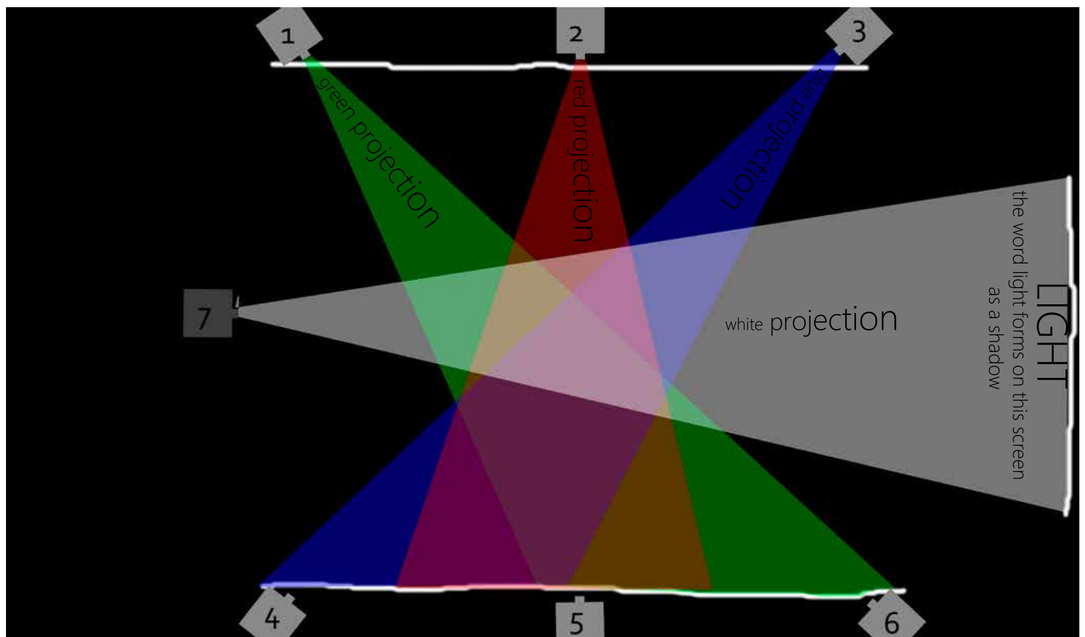
The seventh projector was positioned so as when triggered it would project down the space to the end wall. For setting the location of the plants in the installation, a slide with the word LIGHT was placed in this projector and then the task of installing the suspended plants began so as each newly suspended plant cast a shadow that contributed to fill in the space of the projected word. Once the plants were fully installed the slide with the word was removed and the projector only produced a focused beam of light.

As the audience entered the space they were confronted with a foreboding darkened space. However as they moved forward in this darkened space, they triggered infrared sensors which turned on various projectors which threw shadows of the plants on an opposite wall and brought the space to life. Each light remained on for a set period of time before turning off again. A red one might come on, then a green one, a blue one then the red might turn off. There was no designated sequence, with the projectors turning on and off in relationship to the number of people in the space, and their path through the gallery space. If the audience remained still all the projectors would turn off.

Of course where the shadow projections overlapped a complementary set of shadows was created in cyan, yellow and magenta. The effect was an interactive abstraction of light and plant shadows that critics described the work as an enchanted forest of light. A seventh projector with no filter, which was also infrared-activated, was positioned to project light down the centre of the gallery through the plants and cast shadows on the end wall that created the predetermined word LIGHT.

Composer Peter Adams created a wonderful eerie atmospheric original sound composition that accompanied visual experience of the exhibition.

The effect was an interactive abstraction of light and plant shadows that critics described the work as an "enchanted forest of light"



Projection plan for *en LIGHT en*- 1999

red projection

blue projection

green projection

bule - red projection, intresection produces magenta

green - red projection, intresection produces yellow

green - blue projection, intersection produces cyan

red, green - blue projection

projection with intersecting light experiments with red, green, blue filters - 1999

Panoramic view of *en LIGHT en* projection installation - Temple Gallery, Dunedin, New Zealand - east, north & east walls - 1999
tissue paper, 7 interactive projectors, Bromeliad plants, light, soundscape
enLIGTHen was an interactive installation with seven infrared activated projectors and suspended Bromeliad plants that throw shadows onto the large (7.5m long x 3.5m high) tissue paper screens.

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details of *en LIGHT en* projection installation - four images illustrating projection sequence

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detail *en LIGHT en* projection on tissue paper screen

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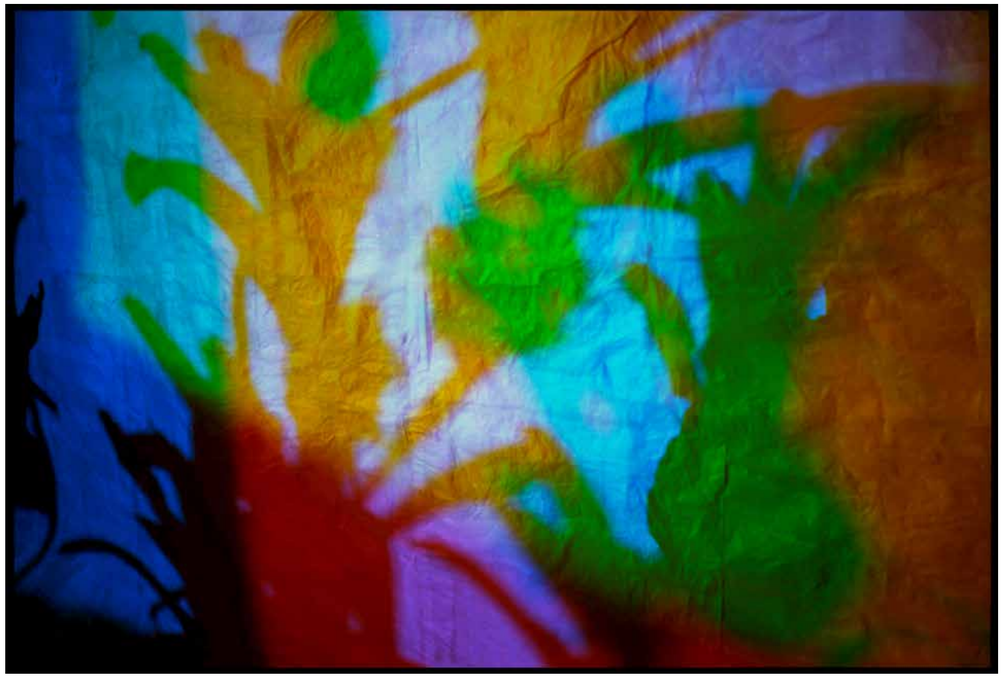

detail *en LIGHT en* projection on tissue paper screen

disturbance in the field

an interactive installation of self developing photographs

Many Bromeliad plants are epiphytic, they use other plants and trees as supports but take nonourishment from them. Because they have evolved in a manner that allows them to absorb moisture through special cells in their leaves, they are able to inhabit a huge range of climates. For instance the Tillandsia or air-plants grow in the extremely dry and hot climates of deserts but can also withstand cold and even frosts. On the other hand; for Viresias it is the more stable warm humid jungles of the Amazon that provide the ideal climate. Bromeliads are members of a great family of plants, the best known to humans being the edible pineapple. Bromeliads usually consist of a rosette of strap shaped leaves that often form a reservoir, which holds water from the centre of which a colourful inflorescence emerges during the flower phase of their existence.

Then, through the use of colour, text fonts and size of these fonts, I visually reconstructed the original text by creating another series of encoded messages within the main body of text. So if a colour and font are followed it carries a shorter message. In all there are 32 encoded messages in the text such as "plant trees for a stable climate".
Like most photographic processes, the image grew onto the sheet of photographic paper as a negative, that is there area where the light fell turned a darker tone while the shadow area of the plant was lighter. However, after a prolonged period of several weeks, an interesting and unexpected phenomenon took place. The image truly solarised and tonally reversed, that is the dark area became lighter and the light shadow area become darker.

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While the title Disturbance in the Field came from this interaction of someone stepping into an active field and causing an action, I was also attracted to the idea of human intervention in the organic field of photosynthesis on the planet.

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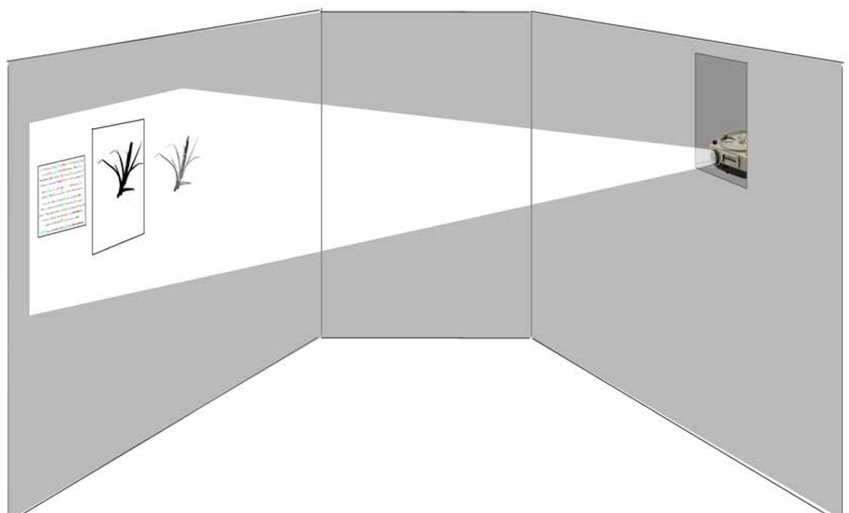

disturbance in the field - an installation at the Foyer Gallery School of Art Otago Polytechnic, as part of exhibition the Reading Room curated by Bridie Lonie and Grant Thompson. At this point, the sheet of photographic paper has just been pinned to the wall, the projector light is on with the shadow of the Tillandsia plant falling upon the sheet. (The exposure for the photograph has been adjusted so the background wall is rendered as dark and the rectangle of the projection lighter)

After a week, the image of the plant is self developing on sheet of photographic paper only through the action of light from the projector. In this state, the projector light is off which allows the developing image to become visible to the audience. (The exposure for the photograph has been adjusted so the background wall now become white)

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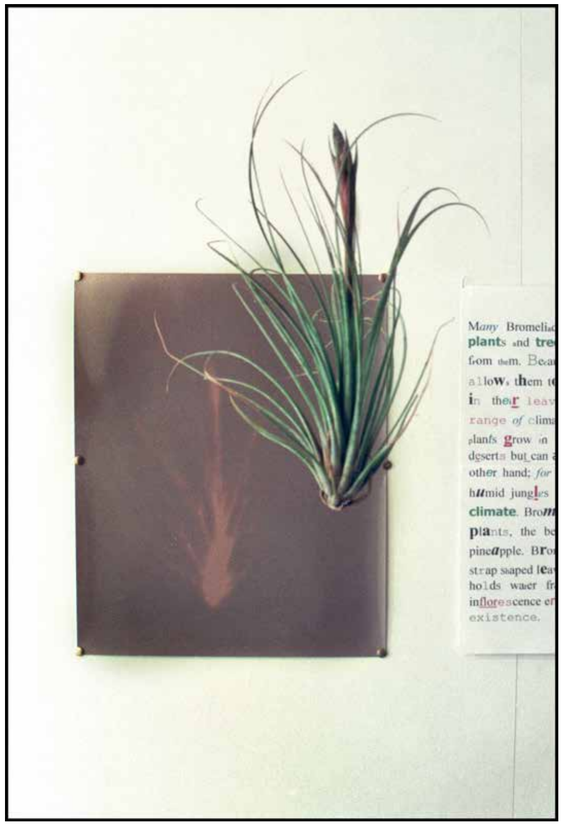


After a week, the image of the plant is self developing on the sheet of photographic paper only through the action of light from the projector. Like any photographic process, the area where the light is greatest becomes darker and the shadow silhouette of the plant is lighter.

At this point, the exhibition is about to finish, the sheet of photographic paper has been exposed for the duration of the exhibition. Note the silhouette image of plant has solarized and tonally reversed and become a positive, where the plant has now become darker and the background lighter.

Many Bromeliad plants are epiphytic, THEy use other PLANTs and TREES as supports but take no nourishment From them. BeCause they have evOlved in a manner that allOWs them tO absorb moisture through special cells In their leaves, they are able to iNHABIT A HUGE RANGE of climaTes. FOR instance the Tillandsia or air plants grow in THE extremely dry and hot climates of desErts But can also withstand cold And even frosts. On the other hAnd; for ViresiAS it is the moRe STABLE warm humid jungles of the Amazon that PRovidE the ideal CLIMATE. BrOmeliads are meMbers of a great family of PlAnts, the best KNOWn to humans bEing the edibLe PIneaPple. BROmelIads uSually consist of a Rosette of sTrAp shapeD lEaves that often form a resErvoir, which holds water frOM The Centre Of which a Colourful Inflorescence emerges during the flowEr phase of their existence.

Texts within text, codes within codes, messages within messages, intricacy within intricacy, meaning within meaning. Each colour and font within the text, creates an embedded message, for instance following the first word, Any we decipher the text as "any plant supports nourishment for humans".

sup/PORT

an installation of Tillandsia plants

sup/PORT came about from an invitation by Georgiana Morrison to take part in the LOAD project. Georgiana initiated this project and arranged for a number of selected artists to work in shop fronts in Port Chalmers, Dunedin where she lived. Fittingly I was allocated Hafslund Upholstery shop that repaired chairs etc.

Because of the connection of Port Chalmers as the shipping port which acts as an exporter and importer of goods, that supports the region, I decided to play with the word sup/PORT. The suggestion of the harbor port as a means of supporting the community, but also a reference to the consumer society, that often acts as an invisible parasite in an unsustainable manner, and how this support is suspended by a tenuous environmental thread.

I decided to explore this through both the text and epiphytic Tillandsia plants. I used the same text that had been used in the earlier Disturbance in the Field Work, and this was fixed to the side window of the shop entrance. A key aspect of the work was the suspended table and chairs covered with epiphytic Tillandsia plants. The table was represented by a disk of wood that acted as a top was set with a table cloth and tea cups. Two wooden chairs were also suspended on each side of the table. Of course originally trees, the wooden chairs play a role in supporting our weight while we dine, but in this case have been subverted as a means of supporting the Tillandsias which often use trees as support to attach to and grow in nature.

Some years later in Melbourne I extended the idea of the suspended table and chairs idea in a work titled Source. Here the legs were replaced with tree roots, and plants grew on the table top.

This later became an interactive work in the en LIGHT en survey exhibition, curated by Ross Farnell in 2008. In this work an interactive video projection was projected down onto the surface of the table.

I decided to play with the word sup/PORT. The suggestion of the port as a means of supporting the community, but also a reference to the consumer society, that often acts as an invisible parasite in an unsustainable manner.

sup/PORT - an installation of Tillandsia Plants in Hafslund Upholstery shop window Port Chalmers, Dunedin as part of the LOAD project organized by Georgiana Morison that ran along side Vision Art - 2001

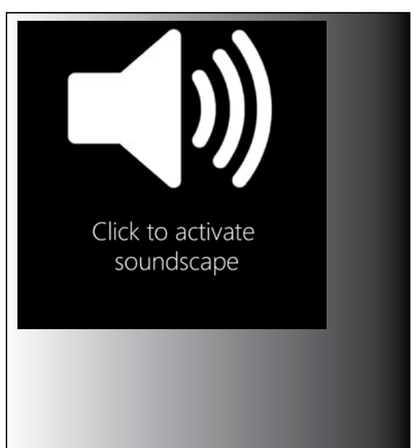
sup/PORT - Nocturne - 2001

The work was a progression of Disturbance in the Field, but in @ the Speed of Light, rather than a single sheet of photographic paper, there were two large grids of photographic paper that reacted to the continual exposure from the projectors and grew shadow images of the suspended plants over the duration of the exhibition.

@ the Speed of Light

an interactive installation of self developing photograms

@ the speed of light, was the last work involving Bromeliads I engaged in New Zealand, before I moved to Melbourne in 2005 and was forced to sell my entire collection of plants. In Melbourne it took many years before I had established a large enough collection to begin work again.



Click to listen to the original composition by Trevor Coleman that accompanied @ the Speed of Light

Slowing down the speed of light

Dr Leoni Schmidt

Late in 2002, Lloyd Godman installed the bromeliads with which he often works by stringing them up vertically along the suspended surface of a net-like partition along the spine of the Blue Oyster Gallery. Their forms cast shadows across the space between them and opposing walls on which light-sensitive photographic sheets of paper arranged in a grid absorbed the shapes of their silhouettes over a period of weeks.

Walking into the installation on closing night, it became clear to visitors that time was the factor which linked this installation to an audience through the duration of a performance. At a careful and leisurely pace, the artist removed modules from the grid of sheets of paper and developed them in pre-arranged trays of photographic fluid. Very slowly the images became fixed and permanent as he replaced the sheets on the wall and a bigger picture reflecting the wall of bromeliads strung along the partition emerged as the artist went about his tasks in "...a littoral zone, a space between a space that defies orthodox understandings of art, life and theatre...a zone where the 'art world' and 'life worlds' overlap." 1 Jennifer Hay discusses the history of such performance work in New Zealand and refers to the work of artists such as Bruce Barber, Phil Dadson, Andrew Drummond, David Mealing and Billy Apple. 2

Godman was dressed in the white uniform and mask associated with the scientific researcher working with volatile chemicals in a laboratorium. He invited his audience to participate, but many of them declined and preferred to watch the performance – probably because the white uniform suggested a dangerous element augmented by the almost totally darkened space. Boundaries between art and science seemed blurred and trumpet jazz by Trevor Coleman complicated the scenario further. The effect extended one's sense of time passing extremely slowly: the artist developing each sheet, walking measuredly as if in a cumbersome space suit; the music moving in and out of the activities; audience members moving stealthily around in the near darkness, some holding sheets of developing paper; the grid of silhouettes slowly coming together; minutes, hours passing.

Godman's At the Speed of Light forced one to reconsider time and how it has been used in Western science as a measure for dating planets, calculating cosmic distances and providing us with an historical framework which seems measurable and comprehensible. But there – in the Blue Oyster Gallery – one could feel the effect of time slowed down and how this affected one: slowing one's movements down to an almost catatonic state; slowing one's thinking down to a torpor; not allowing the fast pace with which we normally negotiate early 21st century life. Unexpectedly, the audience was forced to hear it all and to see it all in slow motion, and again, and again.

Godman was dressed in the white uniform and mask associated with the scientific researcher working with volatile chemicals in a laboratorium. He invited his audience to participate, but many of them declined and preferred to watch the performance – probably because the white uniform suggested a dangerous element augmented by the almost totally darkened space.

130,000 miles per second in 1676 while observing fluctuations in the time of arrival of the eclipses of Io, Jupiter's first satellite. Later, modern measurements give a value of about 186,282 miles per second.

The problem is that these calculations approach light as if in a vacuum. More recently, scientists have realised that the speed of light is dependent on its context as certain gasses can, for example, slow it down considerably and thus its dependability as a measure for calculation has become contentious.

In an analogous way, the work of art in contemporary practice can hardly be considered in a vacuum either. Audiences are now considered an integral part of the production of meaning; and each particular context will alter the processes through which the artist's clues and choreography of an event will result in variable outcomes. As Marvin Carlson writes: "The audience's expected 'role' changes from a passive hermeneutic process of decoding [as in theatre] to become something much more active, entering into a praxis, a context in which meanings are not so much communicated as created, questioned or negotiated. The 'audience' is invited and expected to operate as a co-creator of whatever meanings and experience the event generates." 3

Godman's installation in the Blue Oyster Gallery had to morph into a performance culminating in an exaggeratedly sluggish closing event because this was necessary for him to emphasise that speed slows down depending on where we are; that nothing happens in a vacuum; and that the archaic processes of manual photography are not merely relics from a pre-digital time but can become the very materials with which to unsettle some of our assumptions.
During the closing event, the artist made sure that the installation/performance was carefully documented in full, later to be circulated digitally on the web. Thus, the slow came to be absorbed within the fast again and other questions arose: how can the processes of photosynthesis, photography and digitalisation be read across each other; which aura's do they conjure up for 21st-century audience members; and how does Godman's practice fit within the contemporary extension of earlier, 70's and 80's performative interventions in New Zealand art?

Emma Bugden recently provided one critical perspective on much of current performance art in this country; 4 while Jennifer Hay agreed with Ian Hunter in 2000 that a "future comprehension of performance art, recognising the need for a shift in understanding, will enable the performance repertoire of this country to relocate – in meaning, message and position...

Godman's installation in the Blue Oyster Gallery had to morph into a performance culminating in an exaggeratedly sluggish closing event because this was necessary for him to emphasise that speed slows down depending on where we are

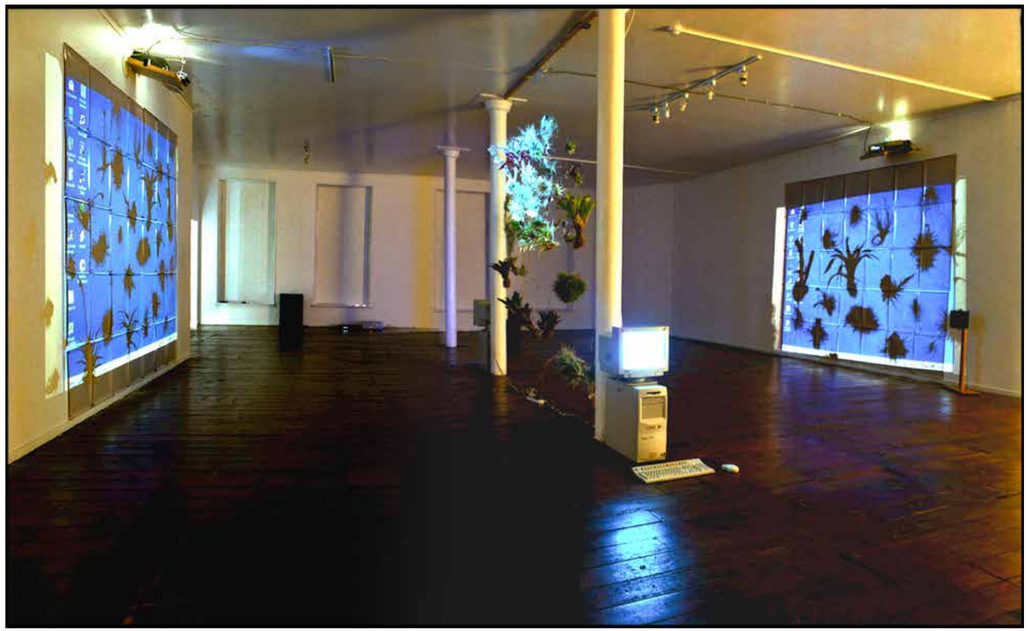
Thus a resulting parallax of perspective can displace and side-step conventional attitudes toward performance practice, opening parameters within, across and beyond the 'margins'. 5 entails an apparent displacement of an object or objects due to the different positions of observers. All audience members present at the closing event of Lloyd Godman's At the Speed of Light were invited to ask themselves where his contribution intersected with their own positions and with current ideas – such as those of Bugden, Hunter and Hay -- about recent performance art in New Zealand.

Endnotes

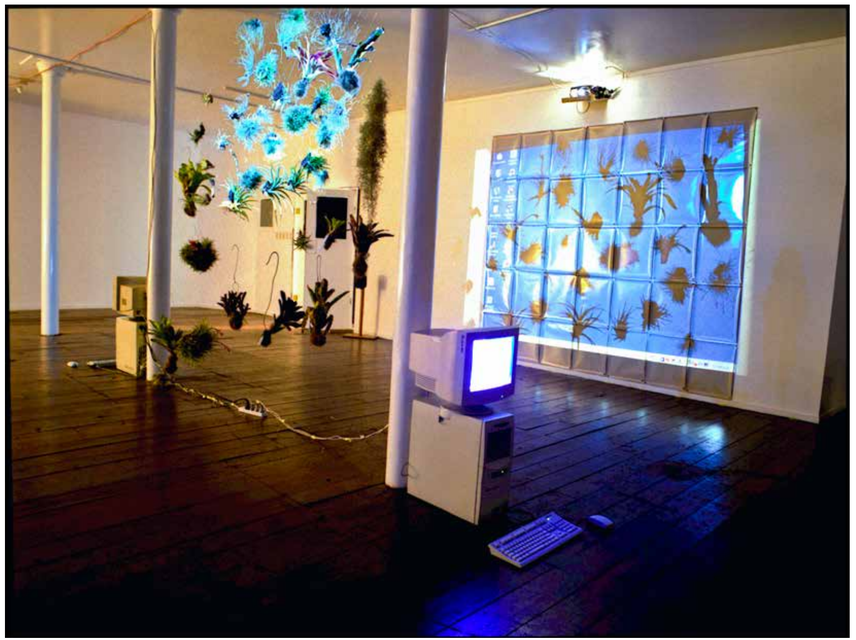
1Jennifer Hay (ed.), 2000. "Trans-Marginal: New Zealand Performance art 1970 - 1985" in Intervention Colloquim. Christchurch: Robert McDougall Art Gallery & Annex, p.6.
2 Ibid., pp.6&7.
3 Marvin Carlson, 1996, "Conclusion: what is performance?, in Performance: A Critical Introduction, London & New York: Routledge, p.197.
4 Emma Bugden, 2001. "I wanna be a performance artist or, a lesson to all of us about losing your youth" on the "Symposium 2000": An international Conference on Post-Object and Performance Art in New Zealand in the 1970s and Beyond" (Christchurch: Robert McDougal Art Gallery, 10-13 November 2000), in Log Illustrated, 13 Winter 2001, pp. 46 &49.
5 See endnote 1, p. 25.

Acknowledgments

Creative New Zealand: Indirect funding through the Blue Oyster Gallery
Melanie Hogg - Blue Oyster Gallery
Andy Godman: Installation
Trevor Coleman: Original soundscape
Susan Badcock: Photographs of performance



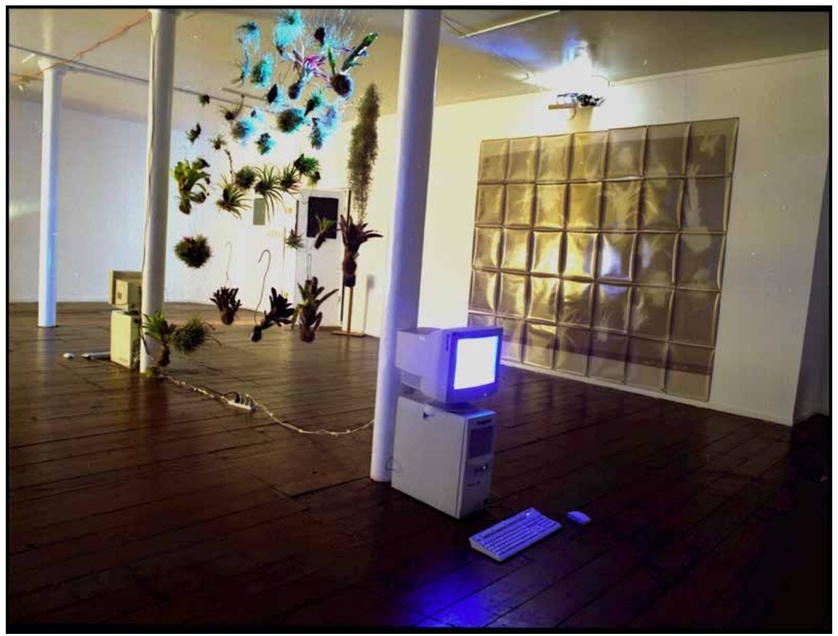
The installation, *@ the Speed of Light*, at the Blue Oyster Gallery, consisted of a fishing net strung between two poles in the center of the gallery with Bromeliad plants suspended from it.



The installation, *@ the Speed of Light*, at the Blue Oyster Gallery, consisted of a fishing net strung between two poles in the center of the gallery with Bromeliad plants suspended from it.

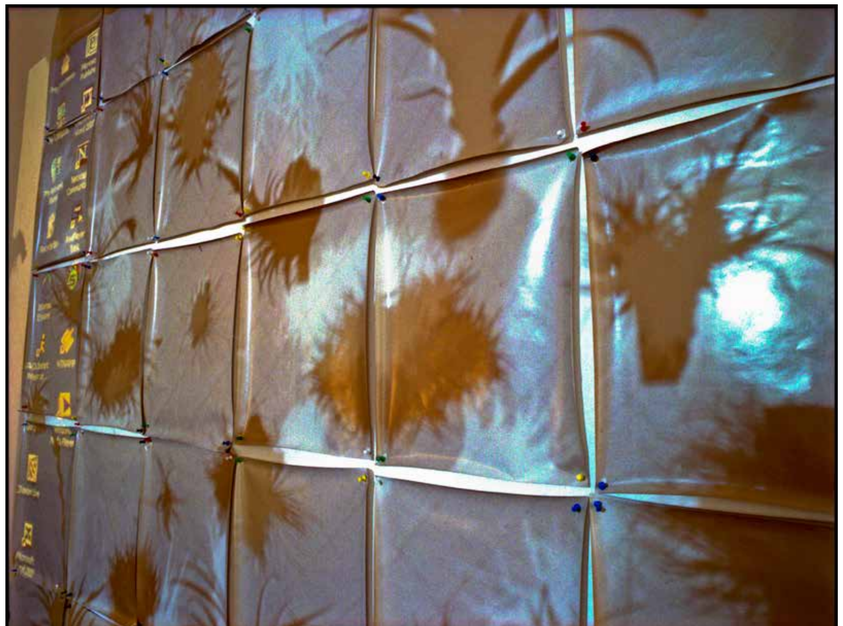
Across the gallery high on each wall was a slide projector projecting a slide taken of a computer screen with a typical Windows desk top. Where the light from each projector fell on the opposite wall, a grid of undeveloped photographic paper was pinned up. The projected light created a series of shadows images of the plants on each light sensitive wall below the opposite

The action from the constant light of the projectors slowly developed a shadow image of the plants on the sheets of photographic paper.

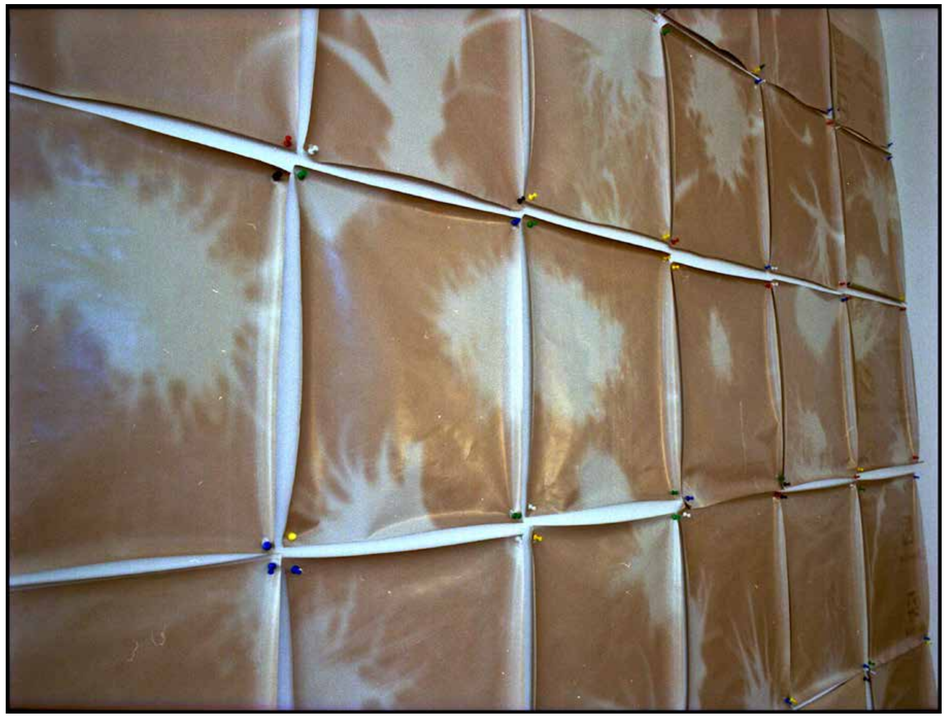


As the audience moved through the space, sensors triggered the slide projectors to turn off independently, which allowed the developing shadow images on the sheets of photographic paper to become visible.

The developing shadow images - photograms became more pronounced as the exhibition continued. An original sound-scape composed especially for the installation by Trevor Coleman continued to play during the exhibition.



Detail: @ the Speed of Light



Detail: @ the Speed of Light

@ the Speed of Light

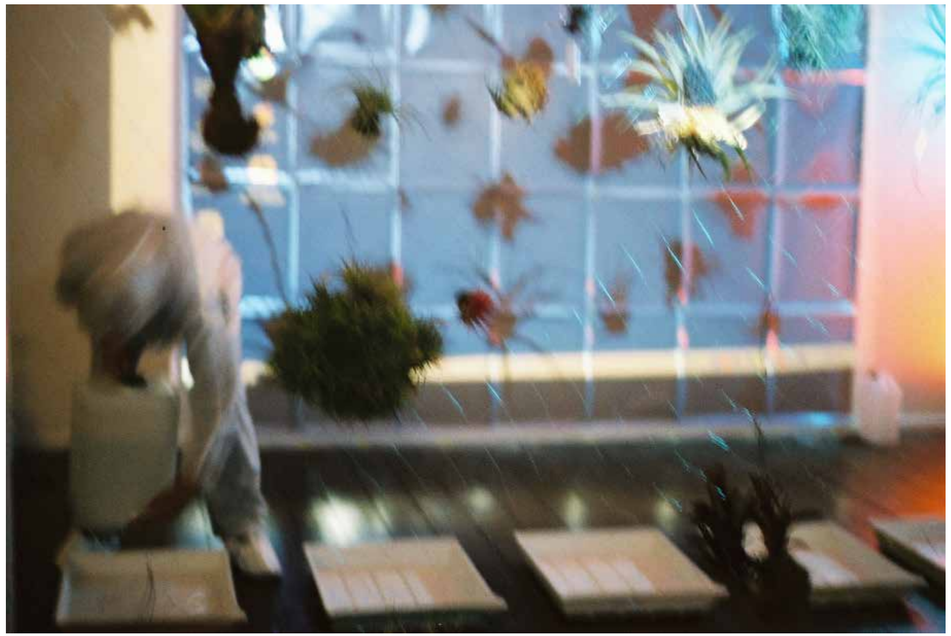
a Performance at the closing of an interactive installation of self developing photograms

As part of @ the Speed of Light, I waited until near the end of the installation, when images had formed on the photo-paper, and instead of the traditional exhibition opening, I invited an audience to a closing. At this with accompanying live sound by Trevor Coleman,I undertook a performance where the photo paper was taken down washed in a series of water baths and fixed. In the ambience of Trevor's music, I used two essential elements of life on the planet: light and water, to complete the process.

While we pursue the expanding frontier of the digital galaxy, we should never forget light, the phenomena that haunted the inventors, that inspired the innovators of the medium, we should never forget the phenomena that drives life on the planet.

Although the lighting in the space was set with a strange mix of projectors, computer monitors, sodium vapour safe lights, ultraviolet and daylight, overall it was quite dim. Initially Trevor Coleman entered the space playing trumpet. A short time later I followed dressed in a white coverall suit, with face mask, and searched for light within the space using a telescope. Once I found a computer monitor I approached it with awe, feeling the light emanating from the screen with my hands. Then my attention shifted to the plants suspended on the net and approached them with my hands outstretched.

I then reached for a container of photographic fixer and poured it into one tray at the beginning of the row



Into the six remaining trays, I poured water

I then reached for a container of photographic fixer and poured it into one tray at the beginning of the row

Into the six remaining trays, I poured water

The reccorded sound and live trumpet of Trevor mixed with the sound of water splashing as it was poured into the trays into the trays.

Once I had finished decanting water into the trays I removed a single piece of paper from the grid on the wall and pulled on some surgical gloves for the processing.

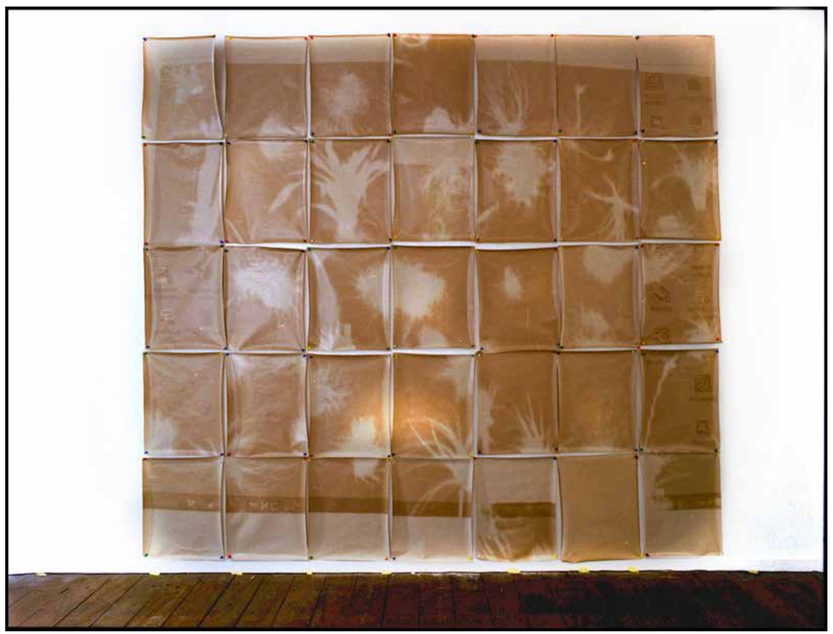
The paper was placed into the first tray of liquid (photographic fixer) which reduces the undeveloped silver and stabilizes the image, after which the paper was washed in six water baths.

At the end of this process, the wet sheet was given to a surprised audience to hold on to so as it could drip dry. This continued sheet after sheet.

Gradually, a few people from the audience were prompted to pin the processed photo images back onto the wall and participate in taking down more sheets and processing them.

Then, further people from the audience began to partake in the processing.

More and more people from the audience began to partake in the processing. until all the sheets were processed and pined back on the wall.



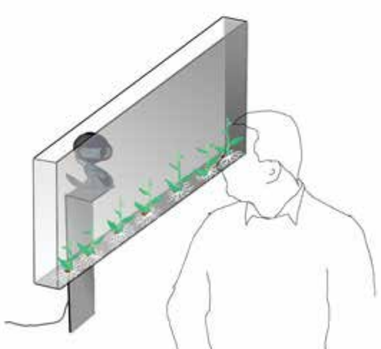
However an unexpected consequence was that the with the audience pinning the sheets back onto the wall, the sheet sequence become mixed up and a new assemblage evolved that did not match the earlier arrangement and projected image.

timed lapse

an interactive installation

Lloyd Godman's "Timed Lapse," elegant and complex, is so oblique in its juxtaposition of growing plants and digital photos gallery visitors take of themselves that it takes the viewer to figure out its relation to time and natural processes.

JERRY CULLUM



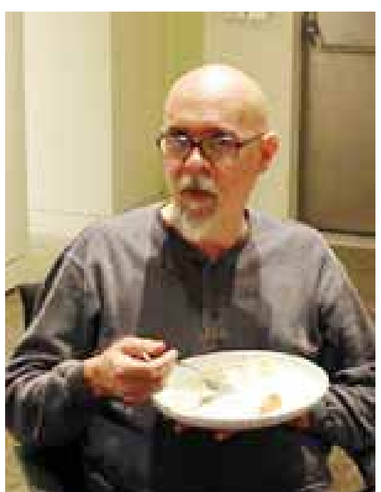
Timed Lapse

In 2004 I was invited to speak at the International Bromeliad Conference in Chicago on the Bromeliad work. This was a fantastic experience where I got to see the world of collectors and tables exhibition plants awaiting judgement and met some very interesting people involved with the cultivation of Bromeliads.

Lloyd with organizers Steve and Martha Goode at the International Bromeliad Conference Chicago - 2004

Also, early in 2004, I was invited to submit a proposal for an exhibition, Accelerating Sequence: Artists respond to time and aging, at the Museum of Contemporary Art Georgia (MOCA Ga), Georgia Atlanta USA. The curator was Dan Talley who was founding editor of Art Papers. While the concept of the show was to be centred on people aging, I immediately connected the idea with plants growing and dying. I submitted the proposal and was accepted for the exhibition. This meant creating the aspects of work in N.Z. and flying overt to install it in Atlanta.

Timed Lapse was a complex interactive work that consisted of a metal trough suspended from the ceiling of the gallery with a range of plants growing in it, a web cam, computer with custom made time lapse soft ware, a trigger device and a computer monitor. It was centered on an audience taking web-cam images of themselves through a screen of plants some dying, some growing and others sprouting. The changing features of the audience viewing the plants, or passing by, become an integral part of the web-cam images.



Dan Tally, curator of Accelerating Sequence: Artists respond to time and aging

These images were loaded into a computer data base which continually regenerated a new sequences of images every 2 minutes and played them via a monitor along with factual data about the images: date, time, image number, and the number of times included in sequence.

So through Sam I was allocated two 3rd year computer research students, Jade Tomlinson Daniel Himburg from the BIT course to use the project for their research and work full time on the project. This aspect of the project would involve creating a program that would allow the audience to photography themselves via the web cam, down load these into data base in the computer and store them in a fixed numerical order. Then continually out put the images as an animated sequence. The application would generate a sequence of 50 images always beginning with the very first image to the last image shot, download and project them on the screen as a loop time-lapse sequence. So every time an new image was shot and added to the data base the sequence would alter and the time lapse of change in the plants would gain momentum.

Jade Tomlinson Daniel Himburg from the BIT course working on the Time Lapse app

Lloyd Godman's "Timed Lapse," elegant and complex, is so oblique in its juxtaposition of growing plants and digital photos gallery visitors take of themselves that it takes the viewer to figure out its relation to time and natural processes. JERRY CULLUM

Jade and Daniel worked on the project for some time, but by the date I was due to fly from Dunedin to Atlanta the application was still not running perfect. Every so often it would reach a point where it would freeze. This turned out that when the numbers were crunched if the sequence came to a fractional number it did not know where to find the image so it would lock up. It was freaky flying to Atlanta knowing that success of the project was in the hands of someone else on the other side of the world.

However there was some confidence in that Sam was working on a patch to fix the problem. This was then emailed to me and when I dropped it in it worked perfectly over the 2 month duration of the exhibition. The staff at MOCA ga were fantastic to work with. They were very welcoming and despite an ice storm that hit the city were a great help in setting up the installation. Lisa Dewberry ran me down to the hardware Depot and picked up the supplies we needed for the install. I also bought a new laptop computer and screen to run the projection on. I also had help setting up from Leslie. After several days setting up the installation worked exactly as planned. Director Annette Cone-Skelton had a keen eye and alerted me to a few minor details to tidy up and the installation was complete and running.

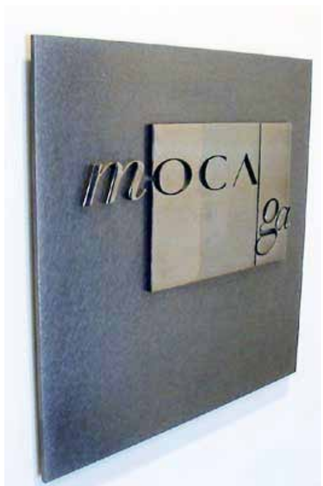
However for this exhibition I could not use Bromeliads; I planted quick growing beans, wheat grass and flowering cyclamen.

Lloyd installing *Timed Lapse*

Aerial view of the installation.

The effect of this was that as the exhibition progressed the plants would grow quicker and quicker. Initially the plants grew and then as water was withheld - they wilted, collapsed and died. The reaction of the audience was intriguing to witness, this changed from smiles and delight when the plants were alive to concern and frown when they were dying. The technology worked fine for the entire exhibition, with the only exception a woman who ducked the transparent barrier and got up very close to the web cam and photographed her breast.

The actual rate of change will be measured by the accumulation of photo . images of the viewers morphing together over the life cycle of the plants and subject to the vagaries of erasure and chance in time.



The work was later installed at Birringa Gallery in 2008 and combined with Source. The first Timed Lapse was followed up with a second version in a survey exhibition at Burrinja Gallery in Feb 2008

Lloyd Godman's "Timed Lapse," elegant and complex, is so oblique in its juxtaposition of growing plants and digital photos gallery visitors take of themselves that it takes the viewer to figure out its relation to time and natural processes.
From: MOCA muses on realities, ironies of growing old
By JERRY CULLUM
For the Journal-Constitution
Published on: 03/06/2005

The growth of the plants exhibited will form a compound metaphor for the rates of change and the experience of duration through time. The actual rate of change will be measured by the accumulation of photo . images of the viewers morphing together over the life cycle of the plants and subject to the vagaries of erasure and chance in time.
At a moment in history when the western worlds population is rapidly aging it is significant that our attention has moved to re-examine what the aging process means. We understand the individual model of self reflective scrutiny offered by Rembrandt or a Van Gogh or a Francis Bacon but a collective experience of the entropy inherent in duration eludes us. It is this state that Lloyd's work seeks to address and explore.

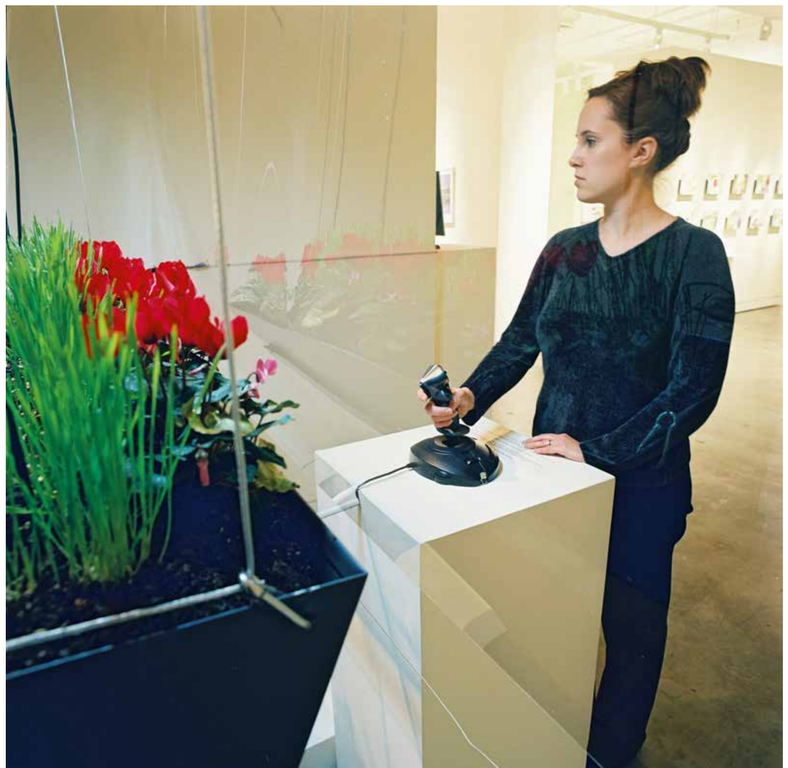
Donal Fitzpatrick


Lloyd with the fantastic staff at MOCA Ga


During the installation there was an ice storm that froze the streets

The set up for the interactive installation *Timed Lapse* 2005, Museum of Contemporary Art Georgia (MOCA Ga), Georgia Atlanta USA. The suspended trough with live plants growing, the control stick mounted onto the plinth in the foreground that allowed the audience to photograph themselves through the plants, the computer screen that played the regenerating image sequences.

Timed Lapse , invited the audience to photograph themselves through the growing plants.



As each web photograph was added to the data base, the computer app would continually regenerate and play a new sequence of fifty images - always beginning with the first image and ending with the most recent. The consequence was that the time lapse of the plants growing became faster and faster.

View from the rear wall and the position of the web cam. The work played for nearly 2 months and accumulated more than 1,200 images from which the sequences were generated.

A view of the laptop computer on the wall behind the plants with the web cam mounted above.

Detail 1 - *Timed Lapse Grid* - 2005 - Sometime after the exhibition, the images from the data base were collaged into a large grid work. In this section the plants are alive growing and the expression of the audience is engaged and jovial.

Detail 2 - *Timed Lapse Grid* - 2005 -

Detail 3 - *Timed Lapse Grid* - 2005 - With water withheld from the plants, the sequence shows the beginning of demise of the plants. Note the woman top right who navigated the plastic screen, got very close to the web cam and photographed her breast.

Detail 4 - *Timed Lapse Grid* - 2005

Detail 5 - *Timed Lapse Grid* - 2005 - The total demise of the plants is nearly complete, the demeanour of the audience has altered considerably from the first sequence to one of sombre and depression.

Detail 6 - Timed Lapse Grid - 2005 - The sequence becomes a great example of how living plants within an environment effects the wellbeing of the people.

Source

a suspended table and chairs with plants growing in pots raises issues of the source of our food, vulnerability and sustainability

Source

At this juncture I had made a decision to have a life change. This involved taking leave without pay, and moving to Melbourne to be with Tess my new partner at the Baldessin Press in St Andrews. After 2 years in Australia I was asked to resign from my tenured position at the Art School. I wrote the letter and emailed it to the head of school. I had worked there for 28 years, established a hugely successful photography program and department which I ran for 20 years. I never even received a letter of acknowledgement for my resignation. So much for institutions!

But moving countries also meant it was too difficult and expensive to move my collection of Bromeliads to Australia. I had met Maurice Kellett who grew Bromelaids and was president of the Bromeliad Society in 1998, when I came to Melbourne for the MFA and had spoken at a society meeting on the Photosynthesis work. Maurice had advised that the plants would have to be quarantined for months and the chance of surviving at the hands of a Government run station was slim. It was better to sell the entire collection of Bromeliads, and begin collection again in a new country and different climate. This impacted very dramatically the work, it took many years to build the collection up again.

Source was a sculptural installation of a table and a set of chairs suspended with food plants growing on the table. The legs of both table and chairs had been removed and replaced with tree roots and the installation appeared to levitate delicately in space. The concept was to confront the viewer with plants and the process of photosynthesis directly in the dinning environment. The process of photosynthesis is like a fine, critical thread that invisibly suspends all our food and the dining experience before us.

As a space to install an ephemeral sculpture, the restaurant presents a stimulating challenge. It is a location where we expect a heightened sensual experience, where our attention is directed to the delights of all that food can be within any given social context. Every dining experience presents a new and different sensation. Social interactions vary from romance and intimacy, casual dining, business engagements, to the group celebration of a joyous occasion. The restaurant encompasses a wide range of social rituals and discourse. As part of an ephemeral sculpture event organized in 2005 by the Nullimbik, Shire Council, I was allocated Bridges Restaurant in Hustbridge. Source was later exhibited as part of the Yering Station Sculpture event in 2005.

The work was later reconfigured as part of a survey exhibition of my work curated by Ross Farnell at Burringa Gallery in 2008. The survey exhibition included 5 interactive works of which Timed Lapse and Source were combined as one. Here, rather than plants growing on the table there was an interactive digital projection titled Timed Lapse. The installation included interactive lighting where red and green lights were turned off independently as the audience moved forward to view animated projection.

The process of photosynthesis is like a fine, critical thread that invisibly suspends all our food and the dining experience before us

Source, Ephemeral Sculpture, Bridges, Hurstbridge, Melbourne, Australia - 2005 deconstructed chairs, table top, tree roots, plants - curated by Tony Trembath

Source, Ephemeral Sculpture, Yering Station Sculpture Award, Yering Station, Yarra Valley Australia - 2005
de onstructed chairs, table top, tree roots, plants

Source - chairs only, Baldessin Press, St Andrews Victoria - 2009

Source II - interactive sculpture, Papier Mache, Light sculpture, Timed Lapse video projection - 2008
This work used the table and chairs from the work Source 2005, but the original tree roots (which had been attacked by insects in the intervening years) were replaced with roots constructed from papier mache. From enLIGHTen a survey exhibition of Lloyd Godman's work Burirnga Gallery, curated by Ross Farnell.

Two lights were projected onto the structure from different angles - one green, the other red. Then, as the audience stepped forward these lights turned off. In another space, the audience photographed themselves as for the Timed lapse, sequence and this data was streamed to a vertically mounted projector that projected the image onto the table top. This linked the two interactive works as one.

Within the dimly lit space, the projectors cast strong focused shadows across the wall an onto the wall.

Timed Lapse - interactive installation. From enLIGHTen a survey exhibition of Lloyd Godman's work Burirnga Gallery, curated by Ross Farnell. The large museum case once enshrined the race horse Phar Lap at the Melbourne museum. Around the sides and across the back was draped a huge mural of a bush scene. Inside real tree trunks and leaf litter completed the diorama. Suspended from the top was a trough with vegetables growing in it , and directly behind this a web cam.

As for the previous *Timed Lapse* installation the audience could take photographs of themselves which were accumulated in a data bank and images sequences were drawn from the as of the installation at MOCA Ga in 2005. This not only played on a screen in the gallery but was also streamed to the vertical projector in another gallery which projected down onto the table of the Source installation.

Planet II & III

Its surprising how many maps of the world cut 10 to 20° off the bottom, where the antarctic is, which lowers the position of the equator and gives a false perception of the world

Planet II –III

When it comes to working with grass and photosynthesis, the artist I admire most are Heather Ackroyd and Dan Harvey. Their work is simply fantastic. I was fortunate to meet them in New Zealand around 1997, and I wrote to them sometime after to let them know of my work with Bromeliads - They suggested they had talked over the idea of working the way I was with Bromeliads but had never got around to it. They were encouraging of the work I was doing - so I always felt that grass was their domain and Bromeliads mine.

However, the first year in Australia impressed on me the heat and dryness of the land, compared to New Zealand there is a huge difference. At the height of summer, the council announced a hard rubbish collection in our area. We dutifully collected up much of the junk that had been accumulated over many years to the road side for collection. Among the rubbish were the lids of several old corrugated water storage tanks. As the truck came up the road to collect the rubbish it suddenly hit me how beautiful the rust patina of the tank lid was with its circular form. I reclaimed them all from the road side and dragged them back into the property at the Bladessin Press.

They sat on the ground for several weeks before the circular shape suggested a globe - a map of the earth. It brought back memories of the Planet work exhibited in Gallery 101. I wondered what was the global perspective of the planet with Melbourne in the center. With google earth its is possible to see the planet from any perspective and yet we are so conditioned to a few standard view points of the planet.

From these view points, living in Australia and New Zealand we are conditioned to look upwards and outwards to Europe , Asia, or the USA. Its surprising how many maps of the world cut 10 to 20° off the bottom, where the antarctic is, which lowers the position of the equator and gives a false perception of the world.

This tank lid globe is drawn with Melbourne at the centre - the dry continent is surrounded by water. The Southern ocean, the Pacific and the Indian ocean dominate, hold it centred like a frame. There is no Europe, North or South America - South Africa disappears along with the Middle East and most of Asia. Its a challenging perspective.

I drew this perspective on to the tank lid and cut it out with a pair of tin snips and a grinder. From here the idea occurred to lay it on the ground and let the grass grow through.

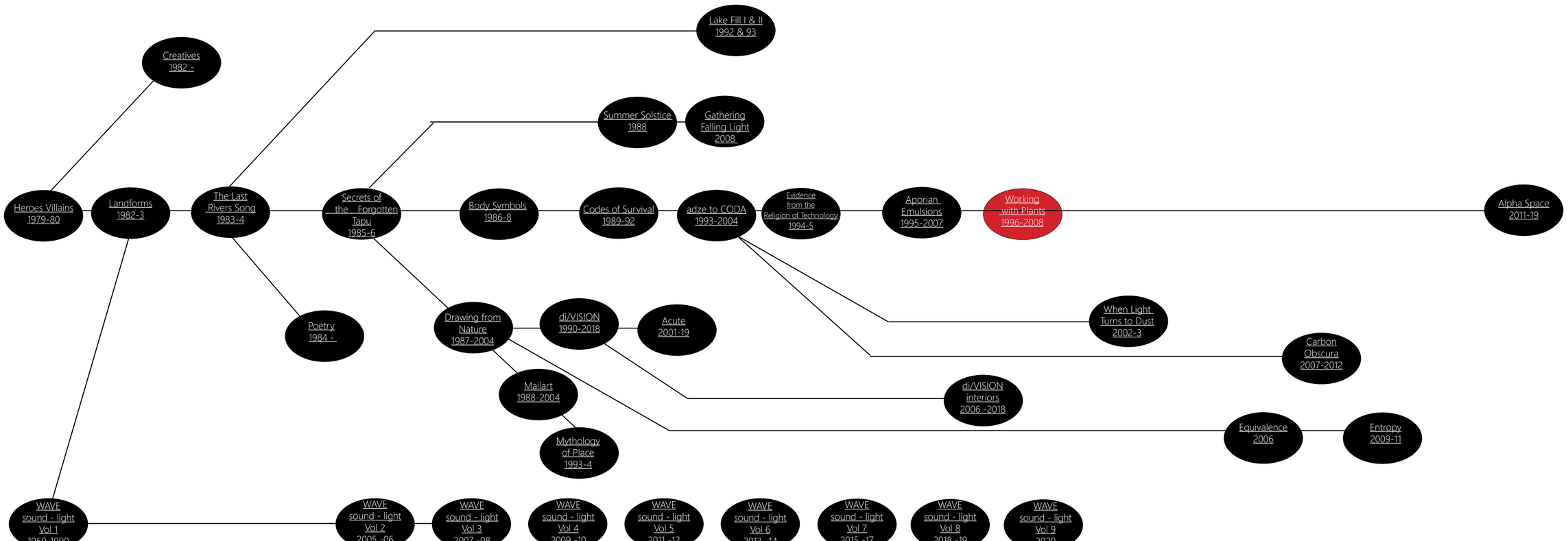
Lloyd with some locals who offered to help

Planet II - Ephemeral sculpture - discarded corrugated iron water storage tank lid - grass - 2.4m x 6m
Merriwa Park - Wangaratta, Victoria Australia - as part of the East Victoria Sculpture Event 2006

Planet III- Ephemeral sculpture - Lloyd Godman - 3mm Steel disk - grass - 1.8m high -2.4 m x 4m - 2006
Yering Station Sculpture Award, Yering Station, Victoria, Australia
With this work an image of a circular map was grown into the grass weeks before the installation - then the upright dish with a similar map was positioned so as the shadow would from the cut outs in the dish would project across the map in the grass.

Lloyd Godman Project Ebooks

gives free access to the large body of creative work by this artist. The schematic outlines the various projects and pinpoints where *Working with Plants* sits within the oeuvre.



In the mid 1990s, Godman made the connection that the process of taking photographs with film and growing plants was analogous - both use light and water - chemistry, temperature and exposure are critical. Plants are in fact an abstract form of photography. In 1996 he began by growing simple images into the leaves of Bromeliad plants - placing cut out tape masks on the leaves and leaving them in the sun for 4 months, then peeling the tape off to reveal an image. These works in turn led to sophisticated interactive installations with plants suspend from the ceiling of art galleries. Working with Plants is an exciting journey that traces the development of this work.

Lloyd Godman's twin careers of serious and successful organic gardener and practicing artist of great creative energy converge in new and constantly surprising ways to make art about the ecological concerns that underly his gardening. Over almost three decades his art has widened out from relatively traditional landscape photography to include elements of performance, audience participation art and multimedia installation to explore the tensions between electronic consumer society and the ecosystem.
Artlink magazine - Ecology: Everyone's Business - Vol 25 no 4 - Dec - Jan 2006

...the largest photosensitive emulsion we know of is the planet earth. As vegetation grows, dies back, changes colour with the seasons, the "photographic image" that is our planet alters. Increasingly human intervention plays a larger role in transforming the image of the globe we inhabit.
Lloyd Godman ecological artist - 2006

E publications

Tillandsimania $30 Aust

This is a series of interactive PDFs and a work in progress which is updated annually. This means key words are linked to relevant information on other pages, so the document is easy to navigate and find information.

The 2020 version offers extensive information on Tillandsias or air plants and includes:

6 documents

Contents includes: Over 1500 pages Over 390 plant entries Over 1600 photographs Over 140 illustrations and renders Over 50 maps Over 100 sound files And 35- charts

It is rich in photographs and illustrations. The resolution of the images is high which allows enlargements to 300-400%, while the text can be enlarged even higher.

Email for more information. lloydgodman@gmail.com.

Lloyd GODMAN projects

More than 30 of Lloyd Godman's art projects are now available as high resolution interactive PDFs. (over 6,000 pages. The complete package can be downloaded. The cost for the complete PROJECTS package is $30 Aust

Email for more information. lloydgodman@gmail.com.

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