A SPIRIT FROM THE SEA

Image 1 “Spirits from the sea” Photo by Lucette Aubort
A SPIRIT FROM THE SEA

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PREFACE

WATER’S EDGE

My body collapses where land and ocean meet,  
My tiny, hot toes dig into the cool damp sand,  
Burrowing in the granules of time in search for comfort.

The golden orb glides into the horizon, hues of orange and purple trumpeting the departure  
My arms wrap tightly around my warm, pink skin  
It is here at water’s edge that I long to become reacquainted with myself-  
Body, mind and soul  

The blue green waves nip at my ankles, inching ever higher  
Like a playful pup they come back again and again  
Each wave contains the deepest secrets of ocean life  

My mind ponders the meaning of life at water’s edge  
It is here that I solve the problems of the world  
It is here that that I grieve – tears spilling into the saltier water – forming a perfect union  
It is here – at water’s edge’ that I come to terms with myself honestly – strengths and weaknesses  

My toes sink in further down, the water trenching out my feet without mercy  
I don’t mind – for there is always more than enough sand to share  
The faint smell of fish and seaweed linger in my nostrils  
Rather than repulse, I draw deeply in – savouring the scent of peace that comes with them  

The occasional plump sea gull swoops down in search of a meal  
Only to be robbed by the pelican who is coming lower and smoother  
Like a dance they continue to scour the ocean surface for a delicacy  

At water’s edge dead give up their secrets  
Trinkets, and remnants, jewels and death all visit – indiscriminately  
Cold dead jellyfish whose sting knows no end  
Is positioned next to the perfect sea shell with mother of pearl coloring  
Parts of larger sea life was ashore – anonymously so  
Yet a closer inspection tells quite a tale of brave battle and noble death  

As the sun gently kisses the sky goodnight, a chill begins to envelop me  
A light gray-white mist rises from the water to lull all to slumber
The still warm water is beckoned home for the night

There is something about the water's edge that pulls me ever nearer
The endless possibilities – for no two visits are ever the same
Familiar yes, but each one has its own signature – like the waves when they reach the shore

At water's edge I find myself again, I am reminded of the awesome majesty of Mother Nature
Each wave coming from a far, exotic land where another pair of feet digs toes in the sand

Rose Limongi, 2004
www.autortsden.com
ABSTRACT

My Master’s work concerns the world of marine invertebrates and has explored the relationship between nature, beauty and creativity. The body of work I have developed consists of a range of glass works that includes wearable jewelry, plinth-based objects and larger sculptural works.

Although I draw inspiration from nature, I translate it through my perception, senses and aesthetics into works of art. I intend these works to resonate with people a sense of how varied, beautiful, inventive, and incomprehensible nature is.

I focus on the ephemeral, subtle and evanescent nature of particular life forms. I play with elements such as translucency, texture, lightness and symbiosis. To see such moments or elements in nature, you have to slow down, be patient and look very closely. In my exhibition work I enlarged little things to give them importance, to make it easier for everybody to see them. I wanted to make all of us suddenly feel small and less important, in a world of giants. The feelings that are so well described in the fairytale Alice in Wonderland. Alice could change her size, becoming huge or tiny, on eating within two sides of a mushroom in the world in the rabbit hole.

Through my artwork I want to create an altered state of consciousness in the viewer – the possibility of a space, a moment, or a point of view, which might suggest beauty or grace, a moment transformed by watery surroundings and harmonious fragility.
INTRODUCTION

Ever since I was a little girl I have loved being in and near the water. Water attracts me because it is so easy to move in, almost weightless, in all directions. I love to dive and visit a world of creatures, movements and rhythms not seen in our daily routine.

My training as a physiotherapist twenty-eight years ago, which taught me to ask questions and research, influences my life to be curious and research the themes I am interested in depth and to search for the interconnection between living forms.

In 1995 I went to Art School for three years at the University of Art and Design in Zurich, Switzerland to get a Bachelors Degree as a foundation towards being an Arts teacher.

Following my art education I taught art at different schools, private and public, was a lecturer at the Occupational Therapy School in Zurich, and taught workshops for adults at home and abroad.

In 2002 I started my Glass Education with a Diploma of Art at the Australian National University, Glass Workshop. I followed this with a two years Masters program by Coursework at the same venue.

My Masters Program has primarily centered on my exploration and research of invertebrate marine animals. This report provides a theoretical and contextual frame of reference for my studio practice, however it is also charts some of the imaginative sittings and layerings that have occurred throughout the journey.

As an artist, I use the tools of observation, imagination and invention to explore my themes. The themes in my work concern water, marine ecology and particular marine invertebrates. This body of work however is anchored in the conceptual and aesthetic relationship between nature, art and beauty.

Nature is my first and foremost inspiration but then I often develop and consolidate my ideas with found materials, which I like to combine in my works.

I have composed this paper in the first-person, as it is about my creative journey. I have researched, and listened, analyzed and reflected, dreamed and submerged myself in underwater rhythms to try to bridge the different experiences, perceptions, and temporalities of the terrestrial and the aquatic realms.
My body of work consists of blown, cast, cold worked, recycled and assembled pieces. I have realized works in various forms - object based, sculptural and wearable art.

Through completing the Masters program I have achieved a deeper sense of why I am intrigued with nature and why I have to make art that is inspired by natural patterns and forms. In reading essays about aesthetics and beauty I realized that I am part of a generation of artists who want to talk through their art about beauty, a concept that was after the sixties taboo with art critics. Ivan Gaskell concludes in a recent essay: “Beauty” can no longer be counted a taboo word, even if its adequate art-historical use requires further definition and elaboration, for aesthetic evaluation is returning to art historical practice as part of a new theoretical turn."

I also developed a deeper knowledge and understanding of some of the myriad biological relationships of the marine world, in my case the invertebrates. Through my research I had the possibility to talk to marine biologists and find similarities between their and my world.

The work for my Masters Degree is an exhibition titled:

A SPIRIT FROM THE SEA

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1 Elisabeth Prettejohn, Beauty and Art, Oxford University Press, Oxford UK, 2005 p. 203
CONCEPT

A SPIRIT FROM THE SEA

Hermann Hesse says in his book "The Glass Bead Game": "Happiness is the secret of beauty, the true substance of art. The artist, the poet, the musician bestow upon us, not their darkness, their suffering or their anxiety but a drop of pure light, eternal joy. And when entire peoples and languages attempt to probe the depths in their myths and religions, this joy is the utmost and the highest they can achieve."  

I hope that some viewers will sense some happiness and calmness when seeing my work.

Nature & Beauty

“Our ability to perceive quality in nature begins as in art, with the pretty. It expands through necessary stages of the beautiful to values as yet uncaptured by language.”

Aldo Leopold’s claim about beauty encapsulates the feelings I often have when gazing around in nature. The closer I look, the more I study and research my subjects, the more I am overwhelmed by the beauty of small details and the interconnection of all living things.

I have talked about the centrality of nature in my creative practice and now I wish to explain what that means. Nature is beyond humans. It expresses a different form of ordering, of creation and aesthetics, to things made by humans. Nature is haphazard in its organization, it is also haphazard in its creative process because of effects caused by mutation, for example. From the observer’s point of view nature is indifferent but the human has an aesthetic point of view. Nature reflects the complexity and mesh of life in its manifold forms on a macro and micro scale and yet as humans we have not exhausted, fully appreciated nor comprehended it.

In my work I draw inspiration from nature, but translate it through my perception, senses and aesthetic into works of art. I intend these works to resonate with people conveying with a sense of the wonder, beauty, fragility and complexity of our world.

With nature "the story told about it, the ideas and beliefs we have about it, are pivotal factors in its appreciation.”

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3 Aldo Leopold (From a plate in Mt. William National Park, Tasmania)
transmitted through myth; in the late 19th century myth was surpassed by science. I think having a background in science is important to my work; I love to explore and search for connections. Through my art I like to tell a story how I experience it.

**Aesthetics & Beauty:**

Aesthetics is a foundation of art theory and critique. It tries to make sense of why some things arouse positive reactions whereas others arouse negative ones. Why do certain objects or experiences attract us, why do others repel us? Aesthetics is a nest of related and entwined concerns and when we try to unpack it we find that it touches on the mind, language, culture, politics, morality, and perception.

Cognitive aesthetics includes appreciation of such things as mathematical formulae found in petal arrangements, which is perhaps the result of a human need to explain things by intellectual laws. Moral responses elicit reaction such as happiness or disgust. David Hume (1711-1776) a Scottish philosopher and historian said: “Beauty in things exists in the mind which contemplates them.” Sensual aesthetics involve a number of sensations and stimuli such as smell, color, movement and rhythm.

“When I think of art I think of beauty. Beauty is the mystery of life. It is not in the eye, it is in the mind. In our minds there is awareness of perfection. It is a mental and emotional response that we make. When a beautiful rose dies, beauty does not die because it is not really in the rose.”

Agnes Martin (1912-2004), American modernist painter.

Aesthetics is the study of beauty and taste, whether in the form of the tragic, the sublime or the comic. The word derives from the Greek aesthetikos, meaning “of sense perception.” Aesthetics seek to encompass and define the human cognitive, sensual and moral response to moments, objects and experience.

Historically there are certain elements that have been defined across art forms as aesthetic markers — symmetry/asymmetry, focal point, pattern, contrast, perspective, 3D dimensionality, movement, rhythm, unity/Gestalt, and proportion. Beauty has also been a specific element or means, through which thoughts are presented to human sensibility in art: others include disgust, horror, sublimity, and sexuality.

What do we mean when we speak of "beauty"? What do we experience?

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4 Salim Kemal and Ivan Gaskell, op cit p 31
5 Martin Agnes, *Writings: Agnes Martin*, Hatje Cantz Publishers, Ostfildern, Germany, 2005
Beauty in this context of aesthetics has been defined as 'a quality or combination of qualities pleasing to the senses that includes qualities such as harmony of form or color, grace, fitness, excellence of craftsmanship, truthfulness, originality, or other noble aspects of experience beyond mere appearance or superficial prettiness.

"The useful may be trusted to further itself, for many produce it and no one can do without it; but the beautiful must be specially encouraged, for few can present it, while yet all have need of it."

Johann Wolfgang von Goethe (1749-1832), German author, philosopher, scientist.

Johann Wolfgang von Goethe's quote explains why I feel I need to show my work. We look at the world from a perspective of cruelty and negative headlines every day; I feel I need to talk about things less obvious and sensational. We all need some optimistic perspectives in our lives; it is too hard otherwise.

"When I am working on a problem, I never think about beauty. I think only how to solve the problem. But when I have finished, if the solution is not beautiful, I know it is wrong." R. Buckminster Fuller (1895-1983), American architect. As with R. Buckminster Fuller I never start out thinking I want to make beautiful work, but if I don't reach different senses or feelings, then I have failed in my aim. Wisely Agnes Martin says in her essay "Beauty is the mystery of life"; "you have to learn what you like about your own work, otherwise you miss the reward." Art making is therefore a continual constant process of judging and contemplating the work.

**Science & Nature**

My life journey has involved two different disciplines and two different ways of seeing and making sense of our world as I have been trained as a scientist and as an artist.

Science is a knowledge system based on empiricism or dependence on evidence. Empiricism is the view that knowledge derives from experience of the world. In this sense, scientific statements are subject to and derived from our experiences or observations. Scientific theories are developed and tested through experiments and observations, via empirical methods. Once reproduced widely enough this information counts as evidence, upon which the scientific community bases its explanations of how things work.

Science has taught us much about the intricacies of nature and the wonder of natural forms. Natural beauty is conceived in terms of eternal laws of

6 [http://www.brainquotes.com](http://www.brainquotes.com)
mathematical regularity and proportion, and it is thus linked to rationality. Natural beauty is the sensuous embodiment of seemingly intelligent design.\(^8\)

The account of nature “given by science” plays “a crucial role in our aesthetic appreciation of nature”, and has increasingly done so in the West since the seventh century. It achieves this by giving an account of the object, and by building a paradigm based on order appreciation.

Science has provided the forces that determine the geological, biological, and meteorological characteristics of the natural order, and thereby makes the latter visible and intelligible.

Of course, for me, science has often provided necessary tools (microscopes, lenses, experiments and observations) and research to access the details and invisible aspects of the life cycle of marine invertebrates.

Art, Nature & Beauty

In addition to science, however art is also a critical storyteller in relation to nature. For me arts knowledge and experimentation is anchored in a more Zen-like approach to knowing; a direct, intuitive insight into transcendental truth beyond all intellectual conception. The Japanese worldview or aesthetic system known as \textit{Wabi-sabi} resonates as a transcendent way of looking and thinking about things and existence; at the core, all is impermanent, imperfect, and incomplete. For me I take pleasure in the unexpected, the out of the ordinary which implies irregularity or imperfection. Imperfection and mutations create uniqueness. This aesthetic concerns “the minor and the hidden, the tentative and the ephemeral, things so subtle and evanescent they are invisible to vulgar eyes.”\(^9\)

Art is my preferential form of knowing—as it is a more poetic and sensual form of knowing and expression than that I can achieve through science. Even though nature provides the model for my work, my art does not seek to imitate nature. I prefer to isolate fragments from my experiences of nature and to use repetition, scale shifts, cross-biological and aesthetic commonalities, to play and create forms, frozen moments wonders. In nature, it is not the mathematical regularity that hooks me; it is ephemerality, subtlety, and the almost unnoticed. As an artist, I filter my experiences through my perception, my values, to create objects and works that convey a sense of the wonder, harmony and elegance of the world we live in.

I try to create through my artwork an altered state of consciousness in the viewer—the possibility of a space, a moment, or a point of view, which might suggest beauty or grace.

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\(^8\) Salim Kemal and Ivan Gaskell, op cit p 184

\(^9\) Leonhard Koren, op cit p 50
THEMES AND PHILOSOPHICAL RESEARCH

WATER

The body of work for my Masters project combines several themes, some of which I have been preoccupied with for a long time and others that are particular to the experiences I have had in Australia. An abiding preoccupation throughout my entire life has been water.

Why Water

Deep Water

No directions came with the sac
that delivered us. When those waters
broke through the slit of arrival
we lost an ocean we can’t
go back to, we who are slow to learn
that we are animals with many faces,
invited to this place on earth
that stains and glorifies, called to make an offering.

Jeanne Lohman

It is like I still feel somehow connected to the world we all evolved from, the amniotic fluids in our mother’s belly. And maybe even more with the oceans from which our evolutionary predecessors first crawled onto land and adjusted to another world of gravity and soil, there is a special bond there, both ancient and sacred.

Ever since I can remember I have been drawn to water. Long before I could swim above water I was able to dive and swim under water. I remember feeling very happy like a fish in their element. The vastness of water bodies allows me to relax because the open horizons of the ocean removes the closed in feeling in my mind caused by everyday problems.

I need the vastness and immensity of water sometimes around me to allow my spirits to relax, to linger.

I am fascinated by the underwater world, the capacity to move in all directions, to be almost weightless.
The vastness of the ocean also makes many of its creatures invisible. Their invisibility makes them vulnerable to the bad effects of some human actions.

I am concerned about how we humans treat our source of life, our water, our planet. With my work I hope to be an ambassador for the not easily visited world of the invertebrates. They are as much part of our whole ecosystem as we are and at least as important.

PHILOSOPHICAL RESEARCH

Since I have been living in Australia two experiences have influenced my making and thinking. In 2002 I was able to go on an exchange program for three weeks to Japan, to the Kyoto Seika University with a group of other ANU Art students and teachers, the other one was witnessing the Montien Boonma exhibition “Temple of the mind” at the National Gallery in Canberra, in 2004.

Shintoism

On the trips around Kyoto and to the Japanese coast I came very often across shrines containing little, roughly shaped stone figures, some of them wearing a piece of cloth in the form of an apron.

I learned that the shrines are places to pray and to worship to the spirits living at that place. However it was only later when I thought more about my connection to nature that I started to read about Shintoism, the earliest Japanese religion. Its beginnings date back to the first millennium B.C. and extend until approximately the sixth century A.D. At that time the Japanese began a period of rapid adoption of continental civilization. Shintoism still existed as a mix of nature worship, fertility cults, divination techniques, hero worship and shamanism. The introduction of other religions such as Buddhism and Confucianism did not cause Shintoism to wane, rather it was submerged. After the sixth century it was gradually transformed into a religion of shrines and its survival until today is due to the deep roots it has in daily Japanese life.

The Shinto worldview is basically bright and optimistic, as one would expect with the main deity being a sun goddess. While it is not unaware of the darker aspects of human existence, Shinto’s central tenet is the celebration and enrichment of life.

Shinto is a loose collection of beliefs without any written creed. It is conveyed by ritual, practice and behaviour, rather than by word. Over 800,000 gods or spirits are revered in Shinto, but the main belief is the unity of nature from which all things are born. Shintoists believe that when they die they eventually become one with the spirits and in turn with nature, to which all things return.
Even though I was born in Europe and raised as a Christian I realize how close I feel to certain aspects of Shintoism and (I will explain later) to Buddhism. I don’t believe that there is a hierarchy of living things. We humans are not to be seen on a higher level than other creatures. When I go for walks in the bush, swim in water, watch the birds, calmness starts to take place in my mind. Is it because the things around me all have spirits; even things like rocks that we believe are dead? Could it be that they just live at an incredibly slower pace and we with our senses can’t feel it? I don’t know, nobody knows, but I know I want to be friendly to a tree, talk to the animals in the bush, I feel sorry for flowers which are broken, and I love it when the sun is out, I am happy for the warmth and the light.

I am not a Shintoist, I even think it is hard to become one if you are not born Japanese. But I definitely want to be grateful for and respectful of life, and I have a deep appreciation for the beauty and power of nature and a preference for the simple and unadorned.

“My heart teaches me night after night”
Hindu saying

Buddhism and the Artwork of Montien Boonma

The second experience, which was important to my development, was Montien Boonma’s show at the National Gallery in 2004. I was just overwhelmed from the first moment I stepped into his exhibition, Temple of the Mind. I had to stand still and just let the impressions take effect. There was a smell of wonderful spice that sent my thoughts into a marketplace somewhere in the Orient. I felt that sense of contemplation that radiates from his art; to be there and just look, put me in a state of happiness. This is an important consideration as the 21st century progresses, and individualism and technology seem to operate against this.

I was very surprised to learn how short Montien Boonma’s life was and how much he had to deal with death. His works never gave me the impression that he had to deal so much with death. Since I have read much more about Buddhism I have realised how Western-influenced my thoughts are. How differently we deal with death. In Buddhist teaching death is not only the end of life, it is at the same time the beginning of a new stage of the constant cycle of life and death; it is a rebirthing and therefore much more promising.

Montien Boonma found his creative voice in a deep belief in Buddhism. Especially after his wife died, herbs and healing practices have played a central role in his work. “Many of his works are metaphors for hope, faith and healing, symbolizing religious devotion and the possibilities of the connection with the spiritual realm”.

Flyer Montien Boonma, “Temple of the mind” National Gallery of Australia, Canberra 23 July-10 October 2004
I think what made me happy the first time I was exposed to Boonma's work, was that sense of hope, conveyed to me by his use of subtle, and at the same time, intense colours, and that wonderful smell of herbs that lay above all the rooms. I connected the smell more with kitchen and cooking. I have since then travelled in Thailand and experienced the wonderful smells that linger over even small houses and temples in the countryside. Cooking also has to do with caring for other people and oneself. Caring, being mindful for all living beings is a very important Buddhist teaching.

What I liked very much about Temple of the Mind was that it was such a sensual exhibition. It is also very rare in a museum that one can go into an artwork; here it was even encouraged.

Since then I have realized that with my pieces I have similar things in mind. I want people to be able to go into some of my artworks and to be part of the installation. I am not able to convey smells; my intention is to evoke feelings of being immersed in another world; a world I would like people to become curious about.

Another piece by Montien Boonma, House of hope also has connections to my ideas. This work is made of thousands of little beads made of honey and herbs and worked into nearly 2000 strands. The strands are mounted on a metal grid near the ceiling. All the threads together formed a house-shaped, very translucent and floating work. When exhibited in New York through the Asian Society, the work was accessible, you could walk through the beads and feel the caress of the strands on your skin, and you could immerse yourself and indulge in this incredible fragrant work.

House of hope is dedicated to Boonma's wife. He created it not long after her death. He says about it: "It looks solid, but it is not. You think you can touch it, but you can't. It exists but you can't reach it. It is like hope. It is like God." The thousands of meditative chants symbolized by the fragrant beads, seem to rain down from the heavens. Boonma's work, I think to western people in general, is so accessible because he understood how to cross cultural boundaries. He explored Buddhist imaginary in a very contemporary way and can reach feelings within us that are sometimes as vague as a presentiment.

The piece I created, and now feel has a connection to the House of hope, is made of thousands of little glass parts, each part cut off glass rods and lamp worked over countless hours. I then stuck the glass parts through transparent rubber tubes and hung the tubes from a wire grid from the ceiling in a cylindrical shape. Among the tubes I have jellyfish floating, made of recycled lampshades

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11 Jennifer Gampell, Thinking Big, Far Eastern Economic Review, September 18, 1997 p.74
and plastic bags. The tubes can be seen as tentacles with the stinging parts of the jellyfish, but also as air bubbles rising to a surface. The round shape of the whole piece talks about the circle of life, the infinite coming and going.

Overall my favourite pieces of Montien Boonma’s were his alms bowls drawings and sculptures. They made me feel content; made me come back to just sit and watch. I sat in front of the wall with all the drawings for a long time and drew them myself. They invited me to do what Montien did, to concentrate only on this one circular, or depending on the angle from where you look, oval shape, of the alms bowls. This shape has always been important to me as well. It is the symbol of the infinite, the changing, the circle of life, and the reincarnation in Buddhist teaching. It is what I am trying to talk about in my work. Only recently I realized I cast similar forms to the alms bowls when making my jellyfish. Things that are important to explore, are in me and come to surface in variations over the years. My very first pieces I made of “pate de verre” in Switzerland in 1998, also had similar forms and already then I referred to them as jellyfish.

What fascinates me so much is that Montien Boonma is an artist who can put me, through his art, in that same state of calmness that I normally only get when I am surrounded by nature. I feel this awareness and at the same time relaxation of my thoughts when I swim at night in a calm, warm Swiss lake in summer, or when I walk along Mount Ainslie and smell the eucalyptus in the air after a little rain, or when I watch the changing colours of a fire at night on the beach. All these phenomenon include more than one sense. I love to be surrounded and touched by water and smell the sweetness or saltiness of it, to be immersed in different smells of the woods and feel the ground I am walking on, and be warmed at the same time when I watch colours in a fire. This is a form of meditation, finding my inner space, finding calmness for myself.

Montien Boonma was a devout Buddhist. In Buddhist teachings to be one with the beings around us, is very important. In a Buddhist perception, everything is alive and interconnected. All of nature is vibrating with life, even the air.

Montien’s work creates an aura of fragility and impermanence. By contrasting the ephemeral such as the gilded lotus leaves or the scent of the herbs or sound of a bell that is only evoked through memory, with elements that are far more enduring like the clay or bronze, he increases the feelings of being part of a fleeting moment.

I try to create this sense of fragility by casting a very thin skin of glass and by using only a pale hue of colour.

As we push into the 21st century Montien Boonma’s works give me hope that in this world where technical development insulates us more and more from genuine contacts, where daily we get more information, instead of understanding,
and where new technology has altered society, that basic beliefs have remained unchanged and reach people across all borders.

The *Temple of the mind* exhibition deals with feelings and our hearts. It got me thinking about consumerism and all the many things that are produced today that we don't need. It also got me interested in a religion or rather a philosophy of life I thought I hadn't known much about, but learnt that even though I grew up in a Christian world, Buddhist concerns like being aware and taking care of all living beings is very important to me. The source of concern for my own artwork has always been our being in the natural world. That Montien Boonma is able to speak in such a humble and simultaneously powerful voice through his art, and to convey his concerns and beliefs so they touch us deeply, is an extraordinary gift. His work is increasingly important as another voice in a world where individualism and isolation is so common: that is his legacy to the 21st century.
WORK AND METHODOLOGY

Bill Viola said in his exhibition called: *The Passions* "Art is about the invisible world".

“Greatness” exists in the inconspicuous and overlooked details".12

METHODOLOGY

The body of work for my Masters program consists of a range of glass works that shift in scale from wearable elements of jewellery, through to plinth-based objects through to larger sculptural works. Working in different sizes gives me the possibility to lead the viewer into “my” world from different perspectives. I work mostly in glass because this is the medium that best describes the fragility and transparency of the creatures that inspired me for this body of work.

Structure, colour (or the absence of it) and the patterns of plankton, coral, argonaut, nudibranch and jellyfish are the origins of inspiration for this body of work. I am not inspired by the architectural construction of these animals; what captures my attention is the variations, the beauty of diversity, the repetition of pattern. I do not try to capture nature literally; it is not possible to convey the wonder of the undersea world, in its vastness, diversity and richness. Instead, I anchor my work through detail and repetition, and instinctually make tangential associations such as the affinity of form between tripe and coral.

My scientific and artistic training also helped me to observe closely these life forms, to consider carefully what elements I wanted to isolate as carriers of wonder. I use this information not to summarize the seascape and its organisms, but to make them more astonishing.

Barry Lopez considers natural landscapes capable of bestowing a grace upon those who pass through them. For me one aspect of seeking to capture the beauty of the undersea world in my glass work, is to suggest a spiritual correspondence; through repetition of abstract shapes I hope there is an apprehension of order, beauty, goodness. Lopez senses that light "In a winter-hammered landscape' can create 'a feeling of compassion ... it is possible to imagine a stifling ignorance falling away from us." Maybe my work too can create insights such as this or stimulate people to go and explore the world I draw my ideas from.

SCULPTURAL WORKS

In the sculptural works I play consciously with repetition of forms and detail and scale shifts.

A whole bed of undulating soft coral is an experience of the rhythm of a marine scape, and yet the viewer is very aware of the particularity of its individual arms. A shift in perspective out and then in, then out. Similarly, the trailing tentacles of the jellyfish pod above, drifting lines, tracing currents, challenging our gravity based perspectives.

“Soft Coral”

My sculptural work “Soft Coral” is about ten times bigger than the form I was inspired from in nature (sea anemone and soft coral). I wanted the viewer to feel they are be immersed in another world, to be part of the installation.

The work consists of one hundred and thirty blown pieces that are loosely mounted on a specially created base for the installation. The blown elements link to the plinth through a foam intermediary. In this open form, the viewer can step into the work and get the feeling of being small. With seven identical components, I can also vary the shape of the form from a circular to a meandering line or other free forms that can respond to the specificity of the spaces I exhibit in. There is a further play inherent in this display for me, as soft coral animals are able to change their form. The work is fixed to the floor, but because the pedestals are foot mounted to the centre, the work looks as if it is floating, suggesting the possibility that a soft coral or a sea anemone can very slowly move its location on the seafloor, or the gallery!

I wanted to abstract the work from its natural source of inspiration, but still suggest a sense of roundness and the possibility of changing shape. The dark colour I have used with a hint towards purple reflects the original I saw on the seafloor in Queensland. (Image 2: “Soft Coral”)

“Jelly Dance”

Playing with different ideas for “Soft Coral” I realized that I wanted to create a further piece that acts as a counterpoint. I envisaged something hanging from the ceiling and initially thought of creating huge tentacles of clear tube combined with big sculpted glass parts. However the tubes I was able to source were too stiff for my aesthetic, and looked lifeless when hanging.

I found lots of different sized and shaped glass lampshades which were white on the inside and clear on the outside that reminded me of jellyfish in different stages of locomotion. I sandblasted patterns on the inside and combined the
glass forms with plastic bags, as metaphors for mouthpieces. Around them I hung trailing plastic tubing with lamp worked glass inclusions. The tubes can be seen as either free floating tentacles (the glass cylinders being stinging cells), ripped apart from the jellyfish in a heavy sea, as often happens during the cyclone season in Queensland, or also as little bubbles, spiralling up to the surface, a synonym for life.

To make the two thousand little glass parts was a very relaxing and meditative task. I had time to think about my whole work, it was like a retreat into a mental state of calmness. This work for me has an associative link with Montien Boonma’s “House of Hope”. I could feel the slowness of that work; when making my installation, every bead made by my friends and I, brought us closer to the whole; it was a very slow, meditative and a rewarding process.

I like to make a point in reusing material in our world of abundance. In using plastic bags in the jellyfish pieces, I like to address the problem of the increasing plastic pollution of the oceans. Plastic bags often float freely in the water. Sea turtles mix them up with jellyfish, and when they eat them get digestion problems as the plastic bags cannot be absorbed and then die pitifully. (Image 3: “Jelly Dance”)

The sculptural works are large, and so suggest viewing arenas that accommodate public artwork such as galleries. Their relationship to the human scale is huge which generates a different form of engagement to objects or wearable artworks that fit into hands, or nestle on the neck.
OBJECT-BASED PIECES

My object-based pieces are cast in crystal and exhibited on plinths, each individually designed. The object-based works stand by themselves; but can also be read as groupings. The viewer is invited to walk around them. These works are smaller than the sculptural pieces and can accommodate more intimate exhibiting environs. The forms are abstracted from my ideas of jellyfish, nudibranch and paper boat, I want the viewer to contemplate and find their own interpretation for these pieces.

“Jellyfish”

Three plinths support cast bowl-shaped pieces, called “Jellyfish”. These consist of different sized glass components, the biggest being on the outside but containing a smaller one inside and this one containing another smaller one again. The last one is lightly coloured, its colour shining through all the layers on its outside. These works are the abstraction of jellyfish, how I see them in pictures or in an aquarium floating in water. I am interested in that little bit of colour that is visible through the outside layer of the real animal and have tried to create that sensation of colour hue of putting smaller “containers” inside of each other.

The plinths are about at eye height, so the viewer can’t really see the centre form. They are painted charcoal, a dark colour, and constructed to look light, to give the work a sense of floating. The plinths are made of two steel plates at the top and bottom, connected by four square steel rods. The plates vary in size and thickness depending on the size and weight of the glasswork.

These works remind me of Montien Boonma’s “Alms bowls” in his exhibition Temple of the mind. To look at these works evokes in me the same calm and meditative feeling. (Image 4 “Jellyfish”)

“Nudibranch”

“Nudibranch” is the piece that might have started this whole body of work. Once in Melbourne in a bookshop, I saw a very poetic picture of a nudibranch, the first time I had heard of such an animal. Jeff Rotman, an underwater photographer, took the picture. The sea slug looked as if was wearing a chiffon dress and was dancing through water. It was very vividly coloured.

This “Nudibranch I created is cast very thinly in crystal to show the delicacy of the little animal. I scaled it up to give it more importance and I made its edges wavy; inspired from the wavy foot of the real animal with which it undulates through water. The plinth is similar to those of the “jellyfish”, but longer and and serves for
the same purpose, being a support that looks light, to give the work a sense of floating. (Image 5 “Nudibranch”)

“Corals”

In the last three works the use of particular texture became central to express different things. I cast the honeycombed patterned tripe, using this texture flat or on the outside of a massive piece of glass, the impression is of coral. However when I cast that same honeycomb pattern on the inside of pieces the impression is more of the paper boat shell. I find it amazing that I get different associations with the same texture.

I intended to make a few flat and wavy casts with the negative imprint of tripe, but ended up with several smaller ones. When I started to search for larger pieces of tripe, I realized that the size is limited to a cow’s stomach. The honeycomb structure is only one part of the four different stomachs’ the animal owns. The structure after that stomach part is much finer and less impressive. It reminded me of coral with a different structure I saw on my snorkeling expeditions in Queensland. (Image 6 “Table Corals”)

On top of the thin works I cast two solid pieces with the honeycomb structure on the outside. Through the polished bottom it is possible to view the inside of the piece too, as if it were an x-ray view. The outside is possible to touch, the inside can only be observed. (Image 7 “Solid Corals”)

The coral-like works sit on a traditional plinth evoking stability, as the coral do not move. The plinth therefore sits solidly on the floor. I cast the pieces in three different colours, a light blue, a light- and a darker green, and transparent. The combination of two kinds of patterning and the different colours suggests variations in surfaces of coral, similar to the table and ear corals I saw on my fieldtrips. I included coral in my work because they are related in form to the sea anemone in their polyp state. What we really see with our eyes is the calcified form that the symbioses of the algae and the animal produces. (See below “Biological Connections of Invertebrates”). Another reason for my use of “coral” is the possibility to make a statement about climate change. Only a slight increase in sea temperature makes the animal expel its plant and turn white; we know this process as coral bleaching. The formation that looks so indestructible is actually very sensitive and easily destroyed. By casting “Coral” in thin crystal, I honour their fragility and sensitivity.
“Paper Boat”

I cast thin forms reminding me of paper boats shells (which the female octopus produces as egg cases). The impression appears because glass is translucent, the Paper Boat shell is so thin that it is also translucent, both structures with the ripple-like outside look similar. (Image 8 “Paper Boats”)

The “Paper Boat” works I set on the same type of plinth used for the “Nudibranch” and the “Jellyfish”. I have a whole group of “Paper Boats” and I want to draw the same floating and light impression; the close-up to the isolated object, the nautilus form, and the opportunity of a 360° observation round and to absorb the detail.
Image 4 “Jellyfish” Photo by Stuart Hay

Image 5 “Nudibranch” Photo by Johannes Kuhnen
Image 6 "Table corals" Photo by Lucette Aubort

Image 7 "Solid Coral" Photo by Johannes Kunhen

Image 8 "Paper Boats" Photo by Lucette Aubort
In my initial Masters Proposal two years ago, I mentioned that I wanted to make wearable art. Before I came to Australia to study, I shared a studio with four other jewellers. For the first two years here I concentrated on glass, there were many new things to learn. However, I also like to create pieces that can be worn and therefore have a more interconnected life, and be seen in different circumstances. Helen Aitken-Kuhnen and Johannes Kuhnen knew about my jeweller’s background and invited me to participate in a jewellery and glass exhibition which opened at the time of the glass conference in March and April 2005.

With the invitation dormant ideas surfaced and I created several necklaces combining plastic and glass, and some glass rings, all the work inspired by marine life. From a practical point of view, a necklace for me must be light, so it is comfortable to wear. The most difficult part from a design point of view is the clasp; it has to correspond in some way with the intent of the piece of jewellery.

"Seaweed necklace"

At Revolve, a place for recycling materials, I found a piece of aqua green plastic tube, exactly the colour and the suppleness I was looking for to use in my necklace. When Ryuhei Nadatani was creating his glass buildings during his Masters program, he was drilling hundreds of holes through window glass with a hollow burr. He let me have the cores. They were sitting on my desk for a year, until I used them by pushing them through the tube, in the necklace called “Sea weed”. For this necklace the inspiration came from seaweed I found during a beach walk at the south coast, containing many little bubbles.

This necklace can be worn in different ways, as there is no clasp; people can wrap it around the neck one to three times, depending on how they want to display the piece on their body. The necklace does what I had envisaged, it becomes alive when being worn, moves with the body, because of its flexible plastic tube elements. I describe “Seaweed” here even though I created it a year ago, because it was the starting point of the “tentacles” or “air bubbles” in the “Jelly dance”. (Image 9 "Seaweed")

Rings

Invertebrates also inspired the necklaces and the ring for this body of work, which corresponds, with my sculptural pieces. The ring is made of a plastic toy and Art Clay Silver, a material developed in Japan. It contains fine silver particles, water and a binder, is soft as clay and can be modeled with fingers. When fired at 650° in a kiln, the binder and water fires away, leaving the fine
silver, which has sintered to metal. When worn on a hand the “Sea anemone” is able to move with the movements of its owner. (Image 10 “Sea anemone”)

“Urchin necklace”

The necklace with twelve sea urchins is made of cast crystal, sterling silver, nylon and plastic tube. The piece featuring a single urchin contains cast crystal, sterling silver and nylon. For both pieces, I created a clasp made of sterling silver. The one with twelve elements can be hooked together, I wanted it to be strong and easy to put around the neck, because the necklace contains so much glass and is fragile. Fishing hooks used in the sea inspired the form. The round form of the sea urchin inspired the other clasp, being two rings with an opening and sliding into each other.

For both of these works, the body and natural light are important. The body, to realize the kinetic possibilities of the piece; and light, to catch the translucency and enhance the subtle pattern of the cast. (Image 11&12 “Sea urchins”) Wearable art is intimate and personal and as is displayed on the body; in some ways, it becomes an extension of the wearer.
Image 9 “Seaweed” Photo by Johannes Kuhnen

Image 10 “Sea anemone” Photo by Johannes Kuhnen
Image 11 "12 Sea urchins" Photo by Johannes Kuhnen

Image 12 "1 Sea urchin" Photo by Johannes Kuhnen
MARINE RESEARCH

Before I began my current work I knew that I wanted to work with marine forms. I had experimented with making glass representation of some of these forms. However I wanted to know more about these creatures and their life histories. I therefore undertook a program of research.

The decision to make work about marine invertebrates and the larger context of marine ecology was determined by Australia as a place—a continent where beautiful reefs are relatively easy to access. It made sense to me while here in the Southern hemisphere, to further explore my fascination with the shapes and forms, the rhythm and movements, of the marine world.

Two experiences are central to the theme of marine ecology, snorkeling in the Red Sea ten years ago and my first encounter with colorful coral and crazy shaped and colored fish. The second experience was going to an exhibition of Dale Chihuly’s Sea Baskets in Seattle in 1994, which confirmed for me the potential of glass in relation to concepts of the marine world.

Initially for me, in becoming familiar with the coral reefs and animal forms that inhabit these regions, there was inherently an aesthetic attraction to particular life forms; jellyfish, corals, polyps, sea slugs and anemones. The animals that inspired my work have survived for millions of years, with a remarkable constancy of form. I am not inspired by the architectural construction of these animals, what captures my attention is the variations, the beauty of diversity, the repetition of pattern. But more significantly it is the ephemerality of their forms, their lives, the particularity of their adaptation to their world of currents, rhythms, and weightlessness that captures me.

VISUAL

In 2003 I saw the exhibition “liquid sea” at the Museum of Contemporary Art (MCA) in Sydney, which explored aquatic themes. I was especially interested in the lamp worked marine glass creatures of Leopold and Rudolph Blaschka and the documentaries from the first days of underwater cinematography of Jean Painlevé. The Blaschka’s, father and son, were amazing lamp workers who had been commissioned by Harvard University to create samples of flora and marine life for the students to study, since it was almost impossible to study marine creatures in their habitat in the middle of the 19th century. They reproduced the living forms very accurately, after having studied the originals for the most part in glass jars, very closely. The marine creatures are only a small part of the over three thousand samples they produced. These glass creatures are exquisite and unequalled piece of works.

Jean Painlevé’s films are other pieces of artwork that I found fascinating. One of his short films was made in 1935 and shows the birth of jellyfish; this was very
inspiring for the work I had just begun. I found a CD ROM of his eight short films and can watch these for the relevant parts whenever I like.

The next thing I realized was that I needed to see the objects of my study alive and three dimensionally in order to comprehend them fully. I went to aquariums both in Sydney and Melbourne where I could easy observe them. In December 2003 I was able to visit the one in Perth.

The Melbourne Aquarium has the most beautiful display of jellyfish, at least one hundred Moon jellyfish in all sizes swim up and down in a huge illuminated cylindrical tank in the middle of a dim room. Around the walls are more tanks, containing different species of jellyfish. I sat for hours, drawing, watching and admiring the pulse and rhythm of these creatures. It is the only place I found where it is so easily possible to be submerged into the world of jellyfish.

In September 2005 I saw an exhibition at Object Gallery in Sydney of the artist Ruth McDermott, whose work is inspired by the marine world. Her exhibition was called “Coralscapes” and incorporated light, sound, water and big panels of embossed coral-patterned paper panels. Ruth had been able to spend seven days with Marine Biologists at the research station on Lizard Island, 270 kilometers north of Cairns on the Great Barrier Reef. Her installation of translucent paper walls conveyed a sense of fragility and reflects the difficult situation of the coral at the Great Barrier Reef today. (Images 13 & 14 “Coralscapes”)

Towards the end of my first semester I realized I needed to be in the water myself, and went to spend four days on Hook Island, a large island in the Whitsunday group. Hook Island has a thirty-year-old, tiny aquarium directly built into the sea. The manager of the resort allowed me to be there by myself, to draw and study, ten meters under sea level for hours. It was here that I developed my idea for the soft coral piece. I saw different types of soft coral in front of these little windows and fish came and visited me when I was drawing. I felt as much observed than observer, being in an enclosed building with windows into their world. The four days on Hook Island were truly fruitful, as I was able to see the forms and color over and over again, and for a small amount of time, able to be part of the marine world.

My visual research helped me to understand better the lightness of being and the movements of my creatures, the trailing of the tentacles of the jellyfish, the combination of color and the huge variation of forms.
INTERVIEWS & BOOKS

Part of my research took me to Townsville to the James Cook University (JCU) where I found two very helpful and enthusiastic female scientists, Dr. Gilianne Brodie and the recently graduated PhD candidate Lisa Gershwin from California.

Gilianne Brodie has been a lecturer at JCU for many years with a specific focus on nudibranchs. Nudibranchs share the same ability to float in water like jellyfish and argonaut (nautilus), a quality I try to capture with my cast work in making them very thin and translucent to underline the lightness and fragility of the animal. It was Gilianne who explained to me the biological interconnectedness between the invertebrates I had selected for my work. (See biological connections further on in this chapter).

In September 2005 I went a second time to Townsville, and to meet again Dr. Gilianne Brodie. I showed her the results I had achieved to date in my artwork on slides and a CD. She was very happy that a person from the “Art World” could be another voice for the animals she has researched for such a long time. It is often hard for scientists to be heard in the non-scientific world. Gilianne is very concerned about the changes she sees at the Great Barrier Reef, in the disappearance of some corals and other species that build the whole ecologic system of this beautiful formation.

Dr. Gilianne Broodie tries to get students from all over the world enthusiastic about researching and studying marine biology and finding connections in small and bigger relationships. In my Masters project I aim to get a public not trained in science interested in extending their knowledge about the marine world.

During my second visit to Townsville, Gilianne also introduced me to Lisa Gershwin who had just finished her PhD on Box Jellyfish, the most poisonous jellyfish living around Australia. From Lisa I learned that there is still so much that we don’t know about all the connections within our ecosystem. She made me aware how many different species of Jellyfish exist, over 2500! I learnt that hydras, coral, sea anemone and jellyfish are biologically in the same family. Box jellyfish are the most poisonous animal in the ocean around Australia; they are in the sea all year round and also around the islands of the Great Barrier Reef. She also informed me of the smallness of these creatures, some of them are only visible through a microscope.

I am very happy that I crossed paths with these two scientists, as I believe that sharing common interests can enrich each other’s process. There is a common base of wonder and curiosity about our world. The thought processes of scientists and artists are parallel in that both require imagination, and imagination is visualization.

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Gaston Bachelard says of this: “in poetry we can find the richer understanding of the world.”

I started my research by going to libraries and found the most amazing collection of wonderful books, some of them very rare about marine life. I started to draw, take pictures and model in paper, which assisted me to get a better understanding to realize the forms and possible movements I wanted to blow in glass. (See Bibliography for books consulted)

**BIOLOGICAL CONNECTIONS OF INVERTEBRATES**

A jellyfish is the floating and reversed version of its previous state, a polyp. It is not connected to the underground anymore with a foot, the foot becomes the top of its cap and the tentacles that reached up for food, now hang down. Polyps look very much like sea anemone or soft coral with their body mounted to the ground and their tentacles sticking up.

“Coral is in fact a tiny animal whose symbiotic relationship with a minute internal plant allows it to thrive. The plant in the coral’s tissue harvests energy from light by photosynthesis and passes that energy to the animal. This energy allows colonies of coral animals, on the skeleton of their forebears, to create the spectacular reefs we see now.”

Nudibranchs like to eat jellyfish and their early stage as polyps. They like the gelatinous body and reuse the poison of the stinging cells in building the poison into exposed parts of their backs.

I have also read descriptions of associations between jellyfish and paper boats. Sometimes the cuttlefish clings to the cap of a jellyfish and uses it as a free ride, (protected from stinging cells, and using it as a source of food, eating through the jellyfishes’ mouthpiece, from the plankton it filters through water).

Not only therefore are works I have made and displayed connected through my making, there is also a biological connectedness, some because of their life stages others because of form or symbiosis.

13 [http://www.brainquotes.com](http://www.brainquotes.com)
CONCLUSION

I have researched, thought, touched, felt, spoken and written a lot about this body of work. Is it complete now, because my assessment is approaching?

Nature has always been my major inspiration and point of contact. Working in it when painting and drawing, taking pictures and walking or swimming through it quietly observing, brings the most joy to me and puts me in a harmonious state of mind.

For me conflicts are wasted energy, harmony focuses it. Therefore harmony has the greater creative potential. What I am trying to do is to orchestrate individual elements into a unified rhythm.

My work is a celebration of life. I use glass because this is the perfect medium to convey the fragility of the creatures under water I have looked at for this body of work, but also of the environment they and we live in. I use them as a metaphor for the circle of life. I regard these works as a part of a continual process, through which my understanding grows. They are studies, steps, and moments of thought.

I already have new ideas about where I want to look, sit, draw and investigate for a new body of work after graduation. One thing is certain; it will be about life, about its strength and delicacy, the continuation, the imperfection and incompleteness. The moment I finish something, I feel that I could have done it differently.

All things, including the universe itself, are in a constant never ending state of becoming or dissolving.
APPENDIX

1. MAKING THE WORK

FOUND OBJECTS AND MIXED MEDIA CONSTRUCTED WORKS

For my work “Jelly dance” I used found glass lampshades. I first made jellyfish with tentacles and mouthpieces and displayed them in one of my crit sessions. The plastic bags that I worked into mouthpieces and the clear tubes fitted with little lamp worked glass cylinders, looked too similar to the natural form. I separated the tubes and the body parts and have them now hanging individually from the ceiling.

It was challenging to drill holes in the glass. Only after using hollow burrs on the engraving tool was I able to drill holes without cracking the form. And sometimes I had difficulties in sandblasting patterns in the glass without destroying the glass. I think not all the found shades were annealed properly and the heavy impact of the sand jet made them crack. I was able only to sandblast thicker blown glass shades.

BLOWN WORKS

To create the work “Soft Coral”, I spent more than fifty hours in the hot shop, perfecting and realizing the glass forms I envisaged to make this piece. I like how organic and fluid the work is when I blow glass, it is a very immediate way of working. There is only a limited time to get the shape you want.

Soft corals evolved from another work I tried to blow but discarded because my supervisors thought it looked too much like pieces from the seventies, too organic and not a distinct form. The “seventies” works were inspired from seaweed, I wanted to blow them with a solid foot, so they would stand properly, but on the upper part be organic and fluid. It was very difficult to achieve such a form; they looked more duck- and animal-, than plant like. Sophia Emmet asked me if they had to be open at the top. Sophie’s question and my fieldtrip on Hook Island were I saw soft coral, lead me into the piece I show now.

I tried different color combinations but liked the milky and reduced combination of Ivory and Enamel White the best. To blow the pieces was not so difficult any more; I had gained a lot of skills when trying to make the seaweed work. It was just a big task to make many, so that the installation would be impressive. At that time Lene Lunde and Brian Corr, both professional glassblowers, started their Masters program. We teamed up, so each of us could blow bigger pieces for what one needs more assistance.
CAST WORKS

Most of my object-based pieces and also many of my jewelry components were realized through glass casting processes, largely using lead based glasses.

It is a very time consuming process to make kiln-formed glass. First I have to create an original (in my case in wax), then I have to surround the wax with mould material, steam the wax out and cast the piece in crystal. With that method I have a lot more time to elaborate the delicateness and fragility of my pieces, but this process takes much more time to examine and eventually change the results. I seem to work at the edge of the possibilities of casting big size pieces so thinly.

Firing schedules

I cast my body of work in two different types of crystal. Blackwood glass is fabricated in Australia; its specific weight is 3.2, the other one I used is Gaffer glass, the specific weight is 3.6 and this type is fabricated in New Zealand. The difference in the specific weight means that Gaffer glass contains a bit more lead, it is therefore a bit heavier. Lead acts as a flux and helps the glass run into the mould. Since I cast very large and very thin pieces I needed to use a glass that would run at lower temperatures into quite thin crevasses. I wanted to cast at lower temperatures because I had troubles with moulds that begun to disintegrate and layers shifting in, when I cast at temperatures around 880 degrees Celsius and held the temperature for 12 to 14 hours. Glass that runs easily into the moulds at 850 degrees Celsius gave me less trouble and prevented mould layers disintegrating.

I also started to fire my bigger works in a way different to how I used to do the smaller pieces during my Diploma course. To be gentler on the mold, I gave up pre firing and vacuuming them out, and then start the firing with glass; instead I combine now all these stages into one, not to stress the mold with two firings. I found I have less trouble getting plaster residues in my glass pieces working that way and further, I save energy and time as well.

Mould recipe

Internal layer:

2 parts aluminum hydrate or talc
3 parts pottery plaster
3 parts silica
3 parts water
The water is measured into an appropriately sized bowl. The aluminum hydrate or talc, silica and plaster are first mixed in another bowl and then sprinkled over the water with a saucer. Agitate the bowl to bring the bubbles to the surface; if you see there is too much water you can tip some out.

It is better to make the first layer thinner, in order to be able to capture the details. It is also very important not to make too many molds at once, specially if they are big; so the layers put on top of each other are still quite humid, and bond easy onto each other. This is beneficial during the firing, the single layers do then not start to move too much from each other at top temperature and glass cannot run in-between them and pull mold material into the glass skin.

Following layers:

1 part pottery plaster
1 part silica
1 part water

External layer:

1 part pottery plaster
1 part silica
1 part brick dust
1 part water

*Casting schedule Blackwood crystal*

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**Casting schedule Gaffer crystal**

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These firings need to be programmed so that the last-wax burning out takes place at night, when nobody is at the workshop. Wax fumes are highly toxic and cannot be inhaled. The kilns need to be vented during the first two stages of the firing cycle, to allow moisture and fumes to escape. Then the vents have to be closed to keep the heat inside the kiln.

The programs at the ramping up stage and the holding stage differ from firing to firing. Each piece requires a variation of schedule depending on the size and the humidity of the work.

For a long time I had trouble with the biggest pieces I wanted to cast. From August onwards I did lots of tests, which take a long time, because I always had to wait for one mold to come out of the kiln, to see if it had worked and to analyze what I needed to change. The only way I could test big pieces was in making them big! My moulds, which I tried to make thinner because I thought the glass was broken when coming out of the mould layers because they were too heavy, would have cracks and leak. So I needed to secure them again with a plaster, silica and grog layer. They supported the glass, but became heavy again. My two biggest pieces came out of the mould cracked again. It was very frustrating. (Image 15 breaking mould)

In analyzing the two biggest moulds with my student friends I decided to do a “soak state” in coming down from top temperature to annealing temperature at 650 degrees for 3 hours. One of my friends has had similar problems with glass coming out of the moulds cracked and it had seemed to work to give the glass and the mould longer time to even out the temperature. My cracks looked like the mould was already too rigid when the glass was shrinking when cooling. The mould was a too big of a resistance and the glass just cracked.

I had two pieces that looked exactly the same in the manner they broke. The crack started both times very close to where the reservoir was connected. So our theory was that the reservoir that at the top, which is thicker and more exposed to the kiln air than the more inner and thinner parts of the piece, would cool faster and cause the cracking in a very uneven cooling down process.
For my biggest pieces I had to change completely everything I knew before and which had previously always worked. I had to change my mould making; I needed an assistant to be fast enough to put one layer quick enough onto the next, and I changed the mould material in using fiberglass strands to get lighter moulds to allow the mould more flexibility when contracting at different speed at different temperature. (Image 16 working with Jen)
Image 15 mould breaking  Photo by Lucette Aubort

Image 16 working with Jen  Photo by Lucette Aubort
I also used Blackwood glass again. Gaffer runs in at a lower temperature but the surface in the end is rougher and less pleasant to touch. The 30 degrees higher casting temperature didn't seem to stress the mould much, therefore I went back to the Australian glass with a beautiful finish. I think I solved the problem with the layers that had disintegrated into the glass, by making the moulds quicker, less at a time, steaming them out faster because the mould was thinner and would heat up quicker, and not pre firing the moulds. All together I was much gentler to the mould and this would stress the inner layers less to fall apart.

For my biggest moulds I used:

**Mould recipe:**

**Internal layer:**

2 parts aluminum hydrate or talc  
3 parts pottery plaster  
3 parts silica  
3 parts water

**Second Layer:**

1 part pottery plaster  
1 part silica  
1 part water

I dip pieces of fiberglass "fabric" in that mixture and place them especially around the edges, the inside and the belly of the piece. That is where the most movement will happen during the firing process. For a big hollow piece I also twist the fabric after dipping like Won tons, to fill the hole with material and air, a method developed by Helen Stokes from Melbourne. The rest of the plaster-silica mixture, I put on top of the Won ton layer, to add more stability. Later I found out, that the "Won Tons" were again too rigid, my forms cracked still.

For the piece I finally succeeded in getting out of the mould in one piece, I only put some fiberglass strands around the edges, to support the layers from moving too much at top temperature. On the inside I had a thin layer of plaster/silica.

**External layer:**

1 part pottery plaster  
1 part silica  
1 part brick dust  
1 part water
Casting schedule Blackwood crystal

<table>
<thead>
<tr>
<th>Stage</th>
<th>Ramp C°/hour</th>
<th>Temperature (C°)</th>
<th>Hold (hours)</th>
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<tbody>
<tr>
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<td>20-30</td>
<td>200</td>
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<td>296</td>
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<td>Stage 8</td>
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</tbody>
</table>

JEWELRY

See chapter Work and Working Methodology
APPENDIX

2. MARINE RESEARCH

Through my visual and book research and interviews I discovered that I wanted to have a deep understanding of the forms I was depicting. The life stages are complex and fascinating. Each form I have chosen to depict varies considerably from the others.

ZOÖLOGICAL DESCRIPTION

Marine Invertebrates:

In the world of science, invertebrates are animals that lack a spine or vertebra and more than 95% of the Earth's animal species are invertebrates. Life on our planet has started with water. The first cells could only multiply because of the presence of water, and the greater proportion of life has remained in the sea. Of the 34 phyla of animals, 25 are exclusively aquatic and 19 exclusively marine.

Deep in the history of our planet, the invertebrates, in being multicellular organisms, represent several steps along the road to the organizational complexity that had to occur before we human beings could exist.

The marine invertebrates I have focused on derive from two phyla within marine invertebrates Cnidarians and Opisthobranchia.

Cnidarians

Thousands of species of Cnidarian inhabit the world's oceans, from the tropics to the poles, from the surface to the bottom. They comprise four major groups: Anthozoa, which includes true corals, anemones, and sea pens; Cubozoa, the amazing box jellies with complex eyes and potent toxins; Hydrozoa, the most diverse group with siphonophores, hydroids, fire corals, and many medusae; and Scyphozoa, the true jellyfish.

Although Cnidarians are incredibly diverse in form, they are all armed with stinging cells called nematocysts. Cnidarians classification is based on the presumption that their nematocysts have been inherited from a single common ancestor. The name Cnidaria comes from the Greek word "cnidos", which means stinging nettle. The nematocysts of Cnidarians eject barbed threads tipped with poison.

The Cnidarians that exist today have hardly changed their shape and way of living since they first appeared.
Anthozoa: coral & sea anenomes

Anthozoans are probably the most famous cnidarians: they include the corals that build great reefs in tropical waters, as well as sea anenomes, sea fans, and sea pens. They also have a long and diverse fossil record, extending back at least 550 million years. The oldest anthozoans are probably some of the polyp-like and sea pen-like fossils from the late Precambrian. A few tens of millions of years later, in the Cambrian period, the first mineralized coral-like organisms appeared. True corals of the kind living today did not appear until the middle Triassic, at about the same time that the first dinosaurs were evolving.

Anthozoans completely lack a medusa stage; they are polyps throughout their life cycles. An anthozoan individual has a saclike body divided by radial partitions known as septa; these septa can easily be seen in corals, and their arrangement is an important character for classification.

While anthozoans retain their nematocysts, or stinging cells, and may feed on large prey or particulate food, a number of anthozoans supplement their diet by growing symbiotic algae in their tissues. Reef-building corals in particular owe their success to the fact that most have symbiotic algae living inside their tissues. Coral polyps also use their tentacles and nematocysts to feed, but the algae may actually produce most of a coral’s food. For this reason, reef-building corals are exclusively shallow-water dwellers; without light they cannot survive (although solitary corals, octocorals, and anenomes may inhabit much cooler and deeper waters). Therefore, one result of global warming and rising sea levels is the death of coral reefs.

Scyphozoans: Jellyfish

Jellyfish are one of the most successful living forms. They have existed since the Precambrian period (also called the Cryptozoic, which means the time of the hidden animal life), which is at least 670 million years. We don’t know a lot about that time, there is not a strong fossil record as jellyfish morphologically lack hard parts.

Scyphozoans include most of the jellyfish familiar to beach-goers; other similar organisms are classified in the Hydrozoa and Cubozoa, two other groups of cnidarians. True jellyfish are graceful, and sometimes deadly creatures. Their stings may cause skin rashes, muscle cramps, or even death.

Jellyfish range in size from a mere twelve millimeters to more than two meters across. The largest is Cyanea arctica, which may have tentacles over 40m long! Despite their often enormous size, jellyfish have no head, no skeleton, and no special organs for respiration or excretion. Their life cycle involves an alternation
between sessile polyp phase and a free-swimming medusa stage, though the medusa stage, shown in the picture here usually predominates.

Jellyfish have a large internal digestive cavity with only a single opening. This means that food must enter, and waste and sex cells must leave through the same opening. The opening, or mouth is cross-shaped, as is the cavity into which it opens. Cilia in this cavity help to circulate water and dissolved substances throughout.

Jellyfish have no head and no special organs for respiration or excretion. They do not have a rigid skeleton nor any specialized organ systems, and there are only two tissue layers, with relatively simple internal organization. The jellyfish swims by contracting and relaxing sets of muscles at the margin of the bell. Contraction of the muscles tightens the bottom of the bell, like pulling the drawstrings on a bag. This forces water out through the bottom of the bell, and pushes the jellyfish forward. Relaxing the muscles opens the bell again, preparing for another contraction.

Scyphozoans have eight-fold radial symmetry. This symmetry is present in both stages of the life cycle -- the polyp and the medusa. The polyp phase is a stalked organism, which remains attached to some hard surface, and looks much like a Hydra. The medusa is the free-swimming phase, which is usually thought of as a jellyfish.

Only since scuba diving gear developed to a much better standard, have marine biologists be able to observe jellyfish in their natural habitat. Before when they were caught for research purposes they would often fall apart under their own weight when taken out of water. Jellyfish are composed by 99.7% of water.

The position of jellyfish in the ecosystem is still very unclear. Are they important, as regulators in the ecosystem of the ocean or are they just organisms that bother us?

**Opisthobranchia: Nudibranchs**

Nudibranches are sea slugs, and surprisingly represent the most beautiful and diverse creatures in the ocean. They are a small size with often bizarre body shapes and dazzling coloration. There are over 3000 described species worldwide. They are found all over the world, including the British Isles, the tropics and even the Antarctic. Sea slugs range from the lower intertidal zone to depths of over 700 m.

Nudibranchs are essentially snails without shells, and their name literally means "naked gill". In most species, the gills are prominently displayed on their backs.
Some kinds of nudibranchs have a tuft of gills located on their backs at the posterior end, which are used only for respiration. Other kinds of nudibranchs have many finger-like structures on their dorsal surface called cerata, which function for gas exchange and often defense.

They have a pair of tentacles (called rhinophores) located on top of their heads, which biologists believe are used as sensory organs to assist in finding food and seeking a mate.

Nudibranchs are benthic organisms, meaning they live on the ocean bottom. They can be found crawling over rocks, seaweeds, sponges, corals and many other substrates.

As grazing carnivores nudibranchs feed on a wide variety of animals including sponges, hydroids, tunicates, anemones, corals, sea pens, bryozoans, barnacles, and sometimes other nudibranchs! Most nudibranchs have a ribbon of teeth called a radula, the structure of which is usually adapted to the animal's particular prey items.

Since nudibranchs have lost their protective shells, they require alternative means of defence. The bright colouration seen in many species is believed to warn potential predators that the nudibranchs contain distasteful or even toxic compounds. Many of the dorid nudibranchs (Suborder Doridacea) are strongly scented, which is thought to be a chemical anti-predator warning.

Many sea slugs feed on sea anemones and hydroids, which contain stinging cells called nematocysts. The nudibranchs are able to block the discharge of these nematocysts during digestion, and they are then passed to special storage sacs in the cerata. The adopted stinging cells form part of a defensive mechanism against any predators that attempt to prey on the nudibranchs.

Some nudibranchs can also swim short distances when disturbed by predators - they contract their body muscles and undulate through the water while flapping their cerata.
Lucette Aubort

Curriculum Vitae

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Enrolled Masters of Arts Visual Arts, The Australian National University, School of Art, Glassworkshop

education/training:
2003 Diploma of Visual Arts, The Australian National University, School of Art, Glass
1999 Instructor Silver-Art Clay, Creative Glass, Kindhausen, Switzerland
1998 Bachelor of Arts, University of Art and Design, Zuerich, Switzerland

Professional Experience:
2005 Lecturer, Australian National University, Gold and Silver Sommer workshop for Silver Art Clay
2004 Teaching Assistance for Richard Whiteley, Northlands Glass School, Lybster, Scotland
2004 Lecturer Boys Grammar School, Canberra (Silver Art Clay)
2003 Teaching Assistant for Mel George and Jeremy Lepisto, Australian National University, School of Art, Glassworkshop
2003 Teaching Assistance for Bernhard Dejonghe, Northlands Glassschool Lybster, Scotland
2003 Technical Assistant for Alexandra Chambers, Australian National University, Glassworkshop (Lampworking)
2003 Technical Assistant for Tae Schmeisser Australian National University, School of Art, Glassworkshop (Beadmaking)
2003 Lecturer, Girls Grammar School, Canberra (Kilnworking, Fusing)
2002 Lecturer, Australian National University, Gold and Silver (Silver Art Clay)
selected group exhibitions:
2005 Glass Jewellery and Object, Workshop Bilk, Queanbeyan NSW, Australia
2005 Verge, Topfloor Gallery, Adelaide SA, Australia
2004 Student Exhibition Glass Association Society (GAS) New Orleans, USA
2003 Kamberra Wine Prize, Kamberra Wine Company, Canberra ACT, Australia
2003 Graduation Show, School of Art Gallery NITA, Australian National University, Canberra ACT, Australia
2003 Ceremonial Vessels for the drinking of water, School of Art Foyer Gallery, School of Art NITA, Australian National University, Canberra ACT, Australia
2002 Variationen in Glas, Gallery Claudia Bollag, Unterstammheim Switzerland
2002 Reflect, Spiral Gallery, Bega NSW, Australia
2000 Kunst aus Glas, Kulturmuehle Luetzelflueh, Luetzelflueh, Switzerland

awards, grants, commissions & research funding:
2005 Graduate Material Award, Australian National University, Canberra, Australia
2004 Honorable Mention Award, Art Clay World, Tokyo, Japan
2003 Commission for the Brazilian Embassy, Canberra, Australia
2003 The EASS (Emerging Artist Support Scheme) Logos Award, Canberra ACT, Australia
2003 The EASS Strathnairn Art Association Exhibition Award, Canberra ACT, Australia
2000 Prize of Overseas Encouragement, Art Clay World, Tokyo, Japan

collections:
R.P. Meyer, Zuerich Switzerland
Heidi & Roger Aubort, Meilen Switzerland
Claudia Bollag, Unterstammheim, Switzerland

Pamilla Berg, Canberra, Australia
David Thomas Collection, Canberra Australia
Tina Oldknow, Corning Museum, Corning, USA
Susi Muddiman, Wagga Wagga Art Gallery, Wagga Wagga, Australia
Aims of the Project Outline

This last semester is to continue and unify the body of work I was creating during the last 1.5 years of my research and study in the Masters program at the Glass workshop, Faculty of Arts, Australian National University.

The whole path of exploring the ephemeral moments of change in life, started during my studies for an associate Diploma 2003/2004. Then, I expressed my ideas through the intensive exploration of the lotus plant. Now, I have researched marine life, especially nudibranches, jellyfish and soft coral. Using glass to capture the essence of their translucency and fluidity I try to convey their fragility, or put it broader the vulnerability of all marine life.

Methods and resources

After my last review in June of this year, I narrowed my whole body of work down again and continue to work with the most promising pieces I made last semester. I am going to cast six pieces in a much larger scale, so they will better correspond with my blown piece called “soft coral”. To be able to do that, I have to learn more about casting big but thin works. I will discuss this process with Richard Whiteley my tutor and Head of workshop.

I will further blow more “tentacles” to complete the about 130 parts of the piece called “soft coral”. For that work I have to make Marquette’s and in the end the final construction so it looks like the tentacles grow out of its base.

As a further project I intend to make a correspondent work to the “soft coral” on the floor. This piece will contain recycled lampshades, which I will cold work and transform by adding other materials, to new objects. The whole installation will be suspended from a special constructed lighting system, which is suspended underneath the ceiling.

If there is time, I have another idea for a necklace, continuing my creation of jewelry from last semester. I intend to make a wearable piece to invite the viewer to take a closer look at unseen and hidden parts of our planet.

Context

This last semester I am looking at artists like Janet Laurence for her use of glass in a very poetic way. Her layering of glass, the ideas of veiling, to not really know
for sure what lies underneath, inspires me. She also (like me) sees her art as a voice for ecology in a quite subtle way.

I am inspired by Rosalie Gascoigne who was working with discarded pieces from her environment. Like her I like to reuse and bring back life into material that had a previous meaning.

I still like to look at Andy Goldsworthy’s oeuvre and his ability to convey a stillness and subtleness through his work. I believe many people see nature differently and look twice thanks to his art.

**Anticipated Outcomes**

I will present my body of work in February/ March 2006 in the gallery of the School of Art, Australian National University. I also will write a report about my work during the last two years of study.
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