

# Paperclay Sculptures

By Graham Hay

"Using this larger vocabulary of clay techniques, I began to illustrate in 3D my understanding of the social, economic and political structure of the educational institution I was in."

## Influences

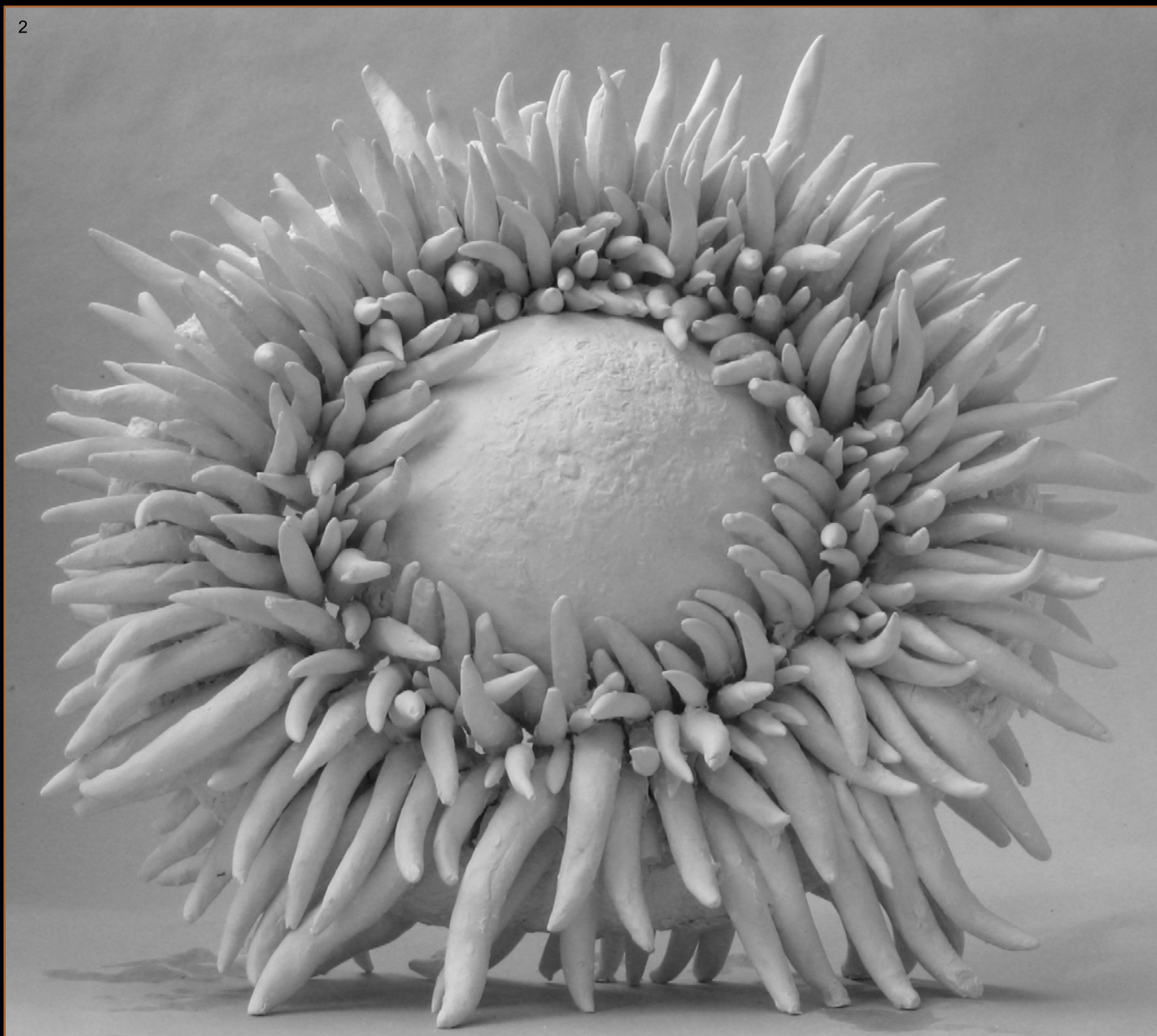
Along with my early memories of digging, making, and drying clay on the family farm in New Zealand, I remember spending huge amounts of time moving, sorting and feeding various large herds and flocks of different types of cattle, sheep, chickens and even turkeys. This early awareness of the dynamics of different group's was reinforced when I spent my teenage years 24/7 within a boarding school. Perhaps because of these early experiences, and the fact that it was the only co-ed class, I studied business economics at school and then went on to graduate with a degree in the same subject from the University of Western Australia. Working as an economist and political lobbyist I became fascinated with more sociological concerns; the way we collectively respond economically to changes in weather, the behaviour of other sectors, countries, the law, politics and culture.

Yet there was a competing interest in my life: art. Even during high school, then at Dunedin Teachers College, and later at Edith Cowan (ECU) and Curtin universities, I was fortunate to specialise in ceramics and sculpture. Originally I created dynamic works with ceramic wheels, or precariously balanced hinged parts. These were a playful replication of childhood machines that I'd made from my Grandfather's scrap wood pile. Over time the clay work began to physically reflect the risks and changes I felt in returning to tertiary education for the third time to try and become a full time artist.

## Enter Paperclay

I eventually became frustrated with the physical limitations of clay. It was at this point that Jaromir (Mike) Kusnik, a retired ceramic chemist, introduced me to paperclay as a way of create non-warping tiles. I embraced this new medium straight away and





starting experimenting, pushing way past the existing clay limitations. I discovered I could re-join breaks in dry paperclay with the paper-slip, build work by joining my old dry scraps together, successfully join soft paperclay onto completely dry paperclay and even accelerate drying and firing! There was just such a sense of freedom there; with paperclay I could use traditional clay techniques as well as techniques, borrowing from woodwork, metal work and textiles.

My unusual work resulted in requests from fellow students and lecturers, then pottery and art groups, to explain, demonstrate and write descriptions and names for the new techniques. I began to dip wool in slip and build when wet and dry. Another radical technique was to spoon whipped cream consistency paperclay slip over dry paperclay lattice structures.

The image on the cover of UK textbook *Working with Paperclay and Other Additives* illustrates these two techniques well.

When fellow students alerted me to overseas ceramic journal articles on paperclay, I wrote to authors Brian Gartside (NZ) and Rosette Gault (USA), describing my techniques. They both rang me back. Brian told me that what I was doing was equal to what they had been doing, while Rosette used my images in her international slideshows, books, and journal articles.

### Inspirations

Using this larger vocabulary of clay techniques, I began to illustrate in 3D my understanding of the social, economic and political structure of the

#### 1 'Stirred'

*Ceramic Earthenware*

*Paperclay and Steel*

*180 x 110 x 110 cm*

*Purchased by Greg Wild*

#### 2 'Caught'

*Handmade Herend Porcelain*

*Paperclay*

*44 X 46 X 22 CM*

*Aquired by the International Ceramic Studio, Kecskemet, Hungary*

*Photo: Graham Hay*



3



educational institution I was in. These insights were informed by my past interest in groups, and work on a university boards and national committees. Not surprisingly my artworks were increasingly being made from hundreds and sometimes thousands of pieces of dry paperclay joined together. The form these took was initially inspired by architecture and the unique Western Australia native banksia tree flowerhead, which can contain up to 6000 individual parts. Meanwhile, back in the studio my peers gave me more old papers and documents than I could convert into paperclay. So I developed unique paper sculpture techniques as well. These sculptures grew to over four tonnes, as well as being used to grow native fungi cultures. Their forms often reflected my reaction to information overload and the contents of the documents.

As I spent increasingly amounts of time updating details on my contact database, I become more aware of the dynamic relationships between artists and arts organisations. This was complimented by the addition of the names of arts grant recipients over the last 30 years. The challenge then became how to show not only social structure, but its dynamic and fluid structure: the institutions, branches, tribes of taste and dynamic inter-relationships between these and individuals over decades.

Then in June 2002, I was stuck in the Moscow airport coffee shop for a day between flights on my way to a symposium in Lithuania. I began imagining the repeated flow of coffee in and out of the cup in front of me, over days, months and years. I began imaging the flow of thousands of artists, images and audiences in and out of galleries, across art journal pages. Later I began to consider the flow of art journals into libraries and studios, where they build up into tidy and untidy piles, in cupboards and on shelves, creating nests of information, ideas and inspiration. These days, of course, these have become virtual nests inside our computers, and our digital social network webpages.

### 3 'Loose Circle'

*Ceramic Earthenware & Terracotta Paperclay*  
50 x 30 x 20cm  
Collection of the Cagdas Sanatlar Muzesi, Anadolu  
Universitesi, Turkey  
Photo: Victor France

### 4 'Planted'

*Ceramic Paperclay, 48 x 133 x 14 cm*  
Commissioned by L Bladen

# A Brief History of Paperclay

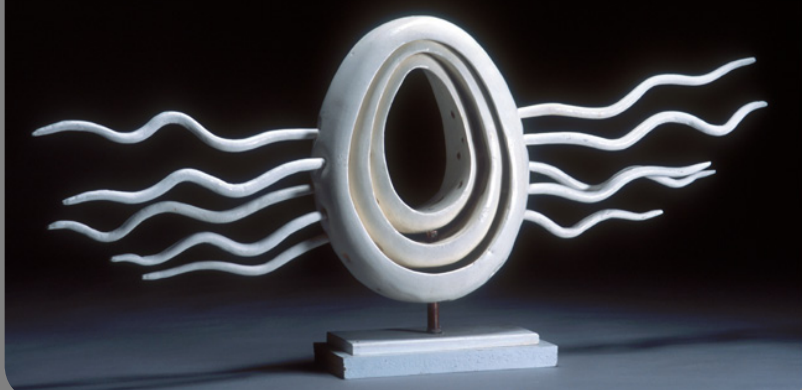
Paperclay is a revolutionary change within the long 6,000 year history of ceramics.

While adobe, reinforced unfired clay by the addition of plant material or manure, has been around since pre-biblical times, there were a few problems when pieces were fired. This "fibre clay" was a stringy, difficult material to work with due to water repellent lignin in it and when fired, was very weak with large cavities where the fibre had burnt out. Many experimental potters added paper (a processed plant material containing cellulose fibre and no lignin), but the wet paper was also lumpy and burnt out leaving fault lines or cavities within the ceramic body.

Since the 1950ss the paper, ceramic and manufacturing industries have been experimenting with combining processed cellulose fibre and ceramic materials to solve various problems, and in the late 1980s studio potters publish their own successful experiments. Farrow in Great Britain, Beranger in France, Kusnik in Western Australia and Gault in the USA, independently developed similar techniques for making paperclay. In remarkably similar processes, all beat paper (processed cellulose fibres without lignin) in water to completely separate the individual fibres, and then mixed the damp pulp into clay slip, to produce the new material. The resulting uniform dispersion of the individual fibres through the body created an amazing material. Just like traditional clay, it was smooth, plastic and could be glazed and kiln fired. Yet it could also be more quickly dried with less cracking and warping, was stronger and highly absorbent when dry, and vertically as strong when fired.

This combination of the traditional strengths of clay, but with a diminishing of the weaknesses, has created new possibilities. New techniques and aesthetics are appearing which turn the ancient clay orthodox on its head. Strange textures and gravity defying structures are appearing. Students are producing work that was only previously possible after years of trial and error. Experienced ceramicists are developing experiential and expressive works. The result is a quiet, studio-based revolution that is sweeping through the ceramic community, revitalising it and creating a new sense of excitement.

4





## Feature Graham Hay

Currently, as the parent of a young child, I am considering more carefully the nature of the parent and child relationship, and the rapidly extending international paperclay network. I am also revisiting the incorporation of compressed paper and metal within my works, with better results. The work is becoming more airborne, with separate ceramic rods not even touching, but rather connected by Kanthal kiln element wire to suggest strong but separate connections.

### In the Studio

I usually quickly draw ideas as soon as they come to mind. I don't think about them too much; just jot them down and then think about them again while building. Sometimes I will daydream through possible steps to build the work.

When one work is finished, I select the most interesting new idea to build. From experience I know that I will remake new works an average of five times before I get close to what I want. So I tend to take a lot of risks, and have a lot of failures, either during building or firing. More recently I have had less failures, so I have moved on to using porcelain paperclay, resulting in much more satisfying, and a higher level of, failures! Unfortunately the manufactured porcelain paperclay now has less paper/cellulose fibre than it used to, so I've been adding more fibre to it to speed up my dry to dry joining. Despite these risks, the joins have survived the 1300 C (2372 F) firing, but I have had slumping problems. Which is fun!



#### 5 'Journey III'

Carved Interior Design and Financial Journals, Steel (no glue)  
8 x 43 x 11 cm, Commissioned by J Wright

#### 6 'Paper Over'

Ceramic (paperclay) Stock Images Books, Steel  
68 x 75 x 21 cm, Purchased by Bruno de Tastes

#### 7 'Sprouting Circles'

Ceramic earthenware and Terracotta paperclay  
30 x 45 x 30 cm, Commissioned by Dr. D'arcy Ryan



8



11 'Emerge II', Ceramic earthenware and terracotta paperclay, 21 x 20 x 21 cm, Photo: Victor France, Purchased by Mark and Mary Greenshield



## Learning by Teaching

New techniques are always a by-product of solving an artistic problem. But often it is not until I actually demonstrate a technique to others, and see their eyes light up, that I know it's something completely new. I've started collecting people's digital photos of my workshops and sorting them into folders as part of a long-term project to map my techniques. Last time I looked there were dozens and dozens of folders! As the number of techniques has grown, there is never enough workshop time to show them all. Consequently I've started to run workshops that are driven by the questions, interests and problems of participants, rather than just demonstrate one technique after another.

## The Future

It's difficult to know where I'm sailing to, since no one has charted the full potential of paperclay before and it's still an emerging art form. But paperclay is evolving quickly, and on a global scale. In Western Australia it makes up a third of all clay used in classrooms and studios. In New Zealand it's about a quarter, and in the US paperclay production is doubling each year. My workshop participants continue to be inspired to push the techniques further and I've also had the chance to connect face-to-face with my peers at symposiums in Hungary, Norway and the US, which has allowed me to better understand how the paperclay aesthetic is developing in other countries. It's an exciting time to be a paperclay artist and I'm grateful to be a pioneer of such a rapidly growing art form.





## 9 'Tremor'

Porcelain Paperclay  
55 x 22 x 23 cm  
Photo: Victor France

## 10 'High'

Paperclay  
35 x 15 x 15 cm  
Purchased by Anne  
MacFarlane  
Photo: Victor France

## 11 'Ancient Tribe'

Porcelain Paperclay  
55 x 22 x 19 cm  
Purchased by Terry Dowling  
Photo: Victor France

## 12 'Blooming Bureaucracy'

Earthenware Paperclay with  
Plaster Base, 59 x 46 x 46 cm  
Purchased by Jenny Morris  
Photo: Victor France



# Paperclay in Three Easy Steps



What is paperclay, and what don't most "how to" articles tell you about its creation?

Any clay, such as stoneware, porcelain or terracotta, can be converted into paperclay. This is done by evenly mixing processed cellulose fibre into the clay. Processed cellulose fibre is plant fibre with the lignin coating removed and the individual fibres separated. The cheapest, most convenient and quickest sources of processed cellulose fibre include tissues, toilet paper, old newspapers and egg cartons. The longer the fibre the more stringy the soft paperclay and the higher the hygroscopic properties and tensile strength of the dry paperclay.

**Step 1:** The single most important step in making paperclay is to completely separate the individual processed cellulose fibres in water, before adding them to the clay. The quickest way to separate the fibres is to mechanically beat the paper in about 10 times its volume of water. Use an old electric kitchen blender (for small volumes), electric clay slip/glaze mixer or mains electric powered drill with a metal paint mixer attachment. To test if the resulting "paper soup" is sufficiently beaten, mix a sample with clean water in a clear glass and if the solution is milky without lumps, then the process is completed.

**Step 2:** To this fibre "soup" progressively add the clay, as dry powder or soft clay cut into 3 cm cubes, to create the paperclay slip. Continue to add clay until the solution becomes as thick as a smooth porridge. You can also add a very small amount of a deflocculant (used in clay slip casting) to further increase the amount of clay suspended in the water, and shorten drying times.

**Step 3:** There is no need to be too precise in volumes or weight of paper, water and clay. Just make a small batch first, recording your measurements and examining the resulting plastic, dry and fired paperclay, and adjust the next mixture accordingly.

Things to look for: adding more fibre will make the plastic body feel more fibrous, but also more absorbent, less fragile in the dry state, but weaker and lighter when fired. Adding more clay will make it less absorbent and more fragile when dry, plus stronger and heavier if fired. So modify your paperclay recipe to suit the needs of your project.

Read different recipes at: [www.grahamhay.com.au/articles.html](http://www.grahamhay.com.au/articles.html).

[www.grahamhay.com.au](http://www.grahamhay.com.au)

[gwh@grahamhay.com.au](mailto:gwh@grahamhay.com.au)