

The Centre of Everything

There's nothing specially special about your specific species. The Lesser Spotted Woodpecker has its own evolutionary history. The Wintry Diatom and the Queenly Threepearl are as unique.

All species are equal. In the Republic of Creatures our people are not the King.

There's nothing specially special about your specific planet. It's just another shining globe. It's another part of Heaven, we don't need a ladder up.

All worlds are equal. In the Republic of Space our Earth is not the Pope.

There's nothing specially special about your specific size. There's nothing big about being big.

The clouds think they are the masters and we are algae, a stain on the surface to be washed away in the rain, while plankton think we are a race of eyes, all-seeing but misguided. Everyone's a mesobe to themselves and someone else is always the extremist.

All sizes are equally medium. In the Republic of Measurement our scale is not The Truth.

There is no Universe, only a loose federation of mutually suspicious appearances. The mystics were wrong. Everything's not One. So welcome to the microverse. Welcome to the invisible cabaret. Welcome to the Small Worlds.

BROAD SHEET

BROAD SHEET communicates the work of the Museum of the History of Science, Oxford.

It is posted on the Museum's website, sold in the shop, and distributed to members of the mailing list, see www.mhs.ox.ac.uk.

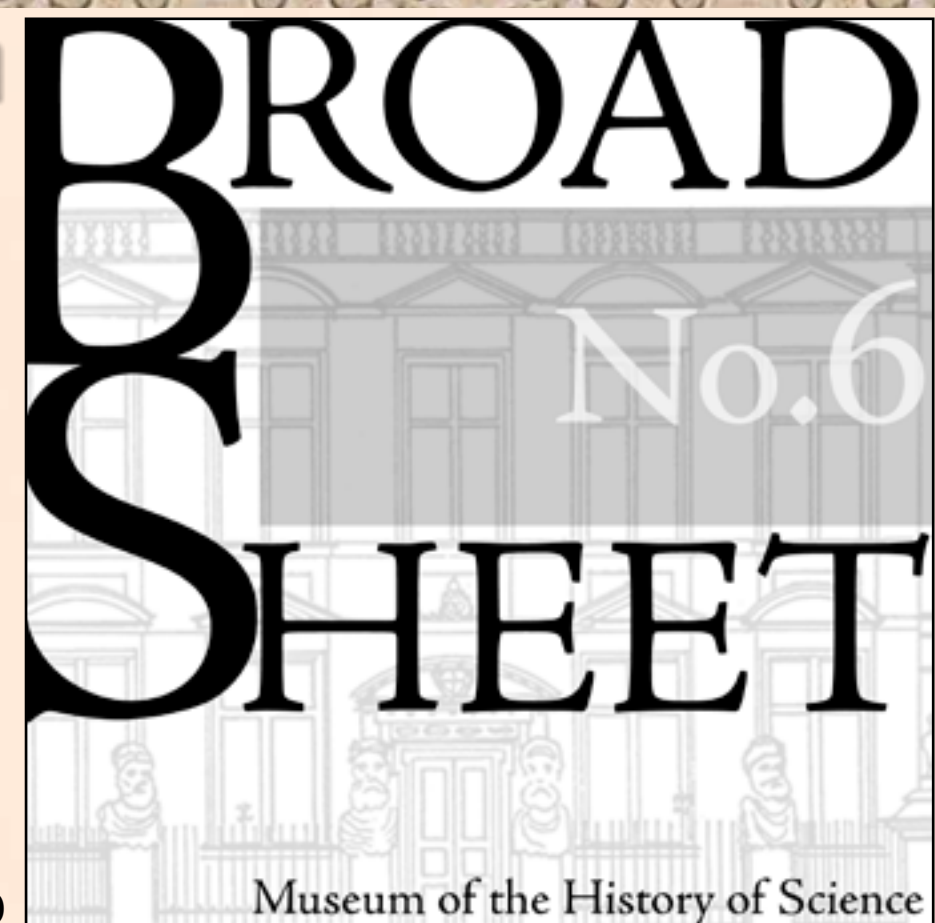
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SMALL WORLDS

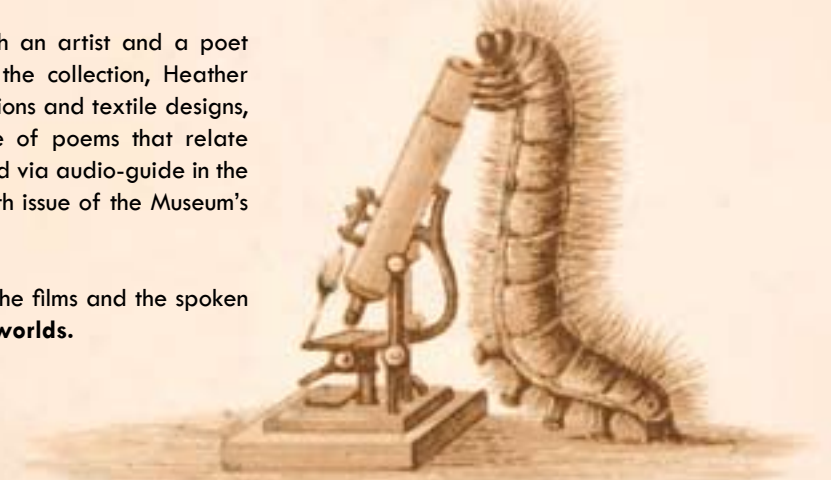
the art of the invisible

The 'Small Worlds' project at the Museum of the History of Science has been active since June 2006 with the support of a grant from the Renaissance in the Regions Designation Challenge Fund administered by the Museums, Libraries and Archives Council. Research staff on the project are completing a catalogue, with photographs, of the Museum's large collection of microscopes and microscopical specimens, which will be made accessible via an internet database.

A further outcome is a special exhibition, *Small Worlds: the art of the invisible*, which aims to present the specimens in an original and engaging way – a particular display challenge since the material itself is too small to be seen directly. The exhibition will be accompanied by a programme of public events and will also be available in an on-line version.

The Museum staff have collaborated with an artist and a poet in producing the exhibition. Inspired by the collection, Heather Barnett has made animated films, installations and textile designs, and Will Holloway has created a range of poems that relate directly to the displays. These can be heard via audio-guide in the gallery and are published here, in the sixth issue of the Museum's *Broadsheet*.

The 'Small Worlds' web pages, including the films and the spoken poems, are at www.mhs.ox.ac.uk/smallworlds.



The Worm of Destiny

There must have been a kind of worm with legs no more than bulges, pivoting along the sea bed and there must have been a slide of gravel or a stranding in a pool, dividing one worm nation into two.

In time, their limbs and manners then diverged (the ways of life of nations often do) but one worm was the worm of destiny, which grew, invented mandibles and joints, became the spider, crab and honeybee, and ruled the planet in a million ways; its sister set her heart on slumming it with microbes, hiding in the worlds between soil particles and in the shade of moss, and rarely used the special gift she had of drying herself up just like a seed, enduring radiation, cold and heat.

The Earth, somebody said, is a cassette, a C600 million, so rewind, you'll hear a different song play every time as different creatures stomp around the world, so even fossils are not set in stone, there is no worm of destiny, just worms of lottery and when I've sat and drawn the losers in my notebook then I've seen the ghosts of everything that might have been.

I've seen the triumph of the tardigrades, acquiring lungs, emerging from the swamp, to glide on membranes, taut between eight legs, their stylets piercing lizards with a shriek and drinking out the destiny. I've watched them lumbering and roaring on the steppes, surviving fire and ice and meteorites. I've seen their clever claws make a stone axe and rehydration systems of brass pipes and microchips to end their hibernations, the day their starships reach their destinations.



Feedback Loop

Hello Human,
We are the Foraminifera,
bobbing about without a rudder
at the top of the ocean.
Round and round go our pointlessly detailed,
tiny, carbonate spirals.

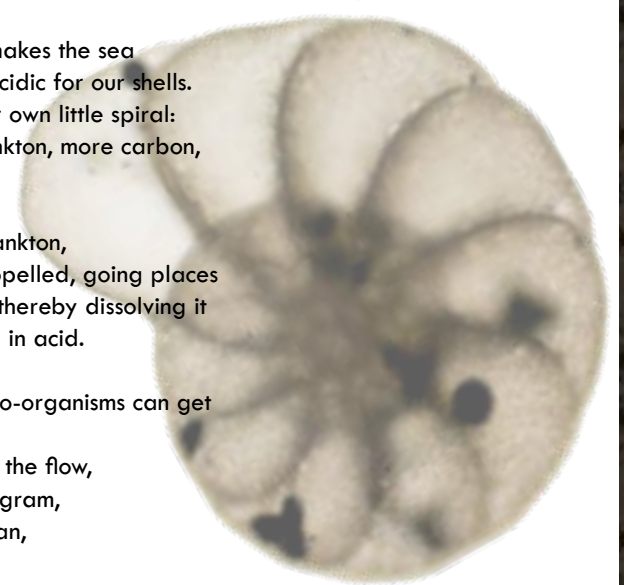
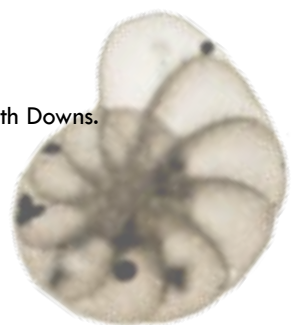
Now, we might be microscopic but we're not narrow-minded
so we're speaking today
for all invisible marine creatures,
not that we'd hector you
about your own locomotion, we're plankton,
by definition we have no motivation.

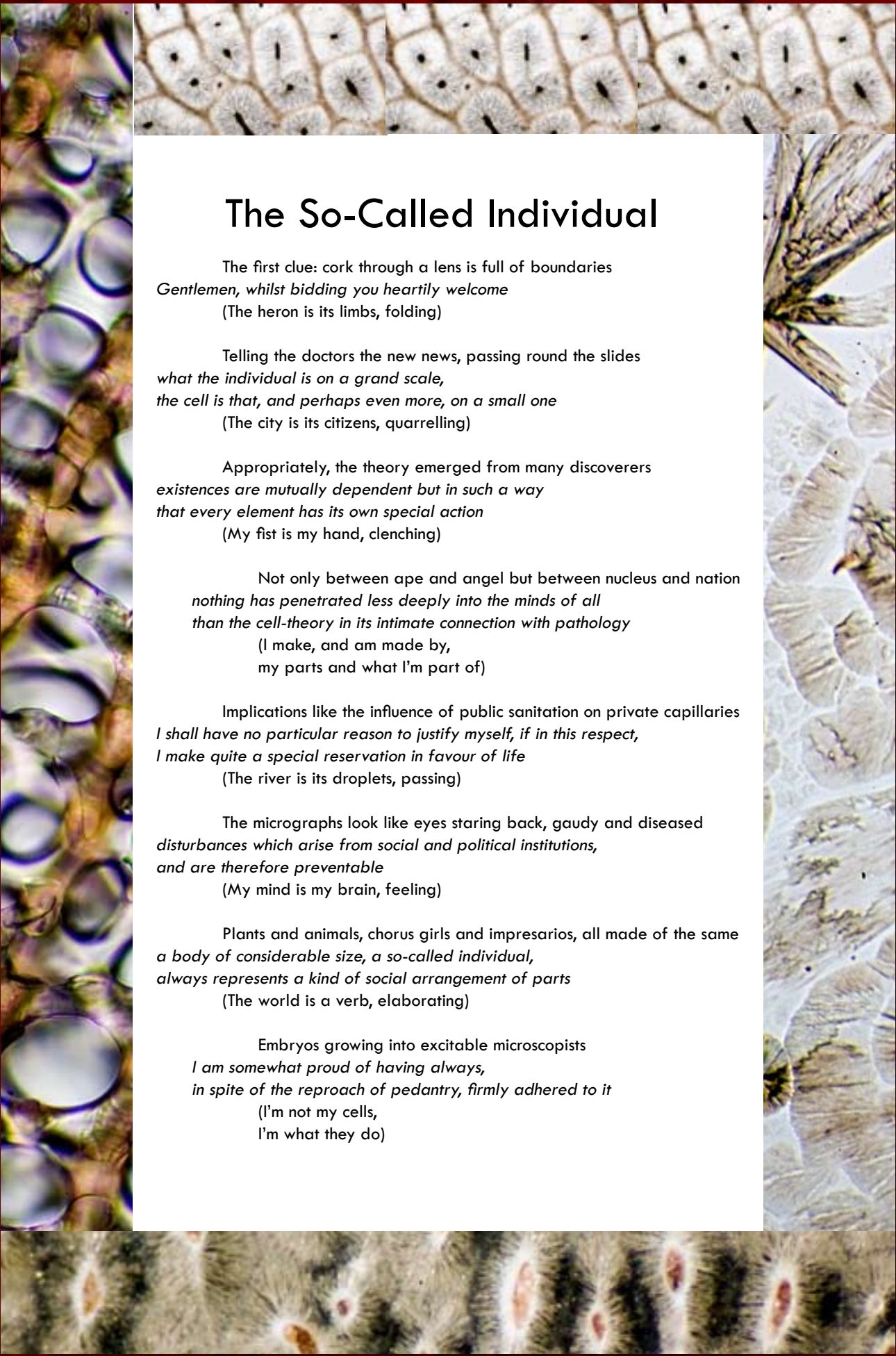
We just float, then we die
and our shells sink to the bottom,
becoming ooze and eventually chalk
which is so useful for making diagrams and the South Downs.
We remember other coastlines
and the blithely doomed Cretaceous dinosaurs,
while what you know about the ebb and swell
of the weather since then
you know by dredging up and measuring
the seafloor squelch of our fallen bodies.

And what you have discovered is this:
that we are the ones who turn your smoke
into intricacy and oxygen
but only up to a point
at which your smoke makes the sea
too warm for us, too acidic for our shells.
So you're making your own little spiral:
more carbon, less plankton, more carbon,
round and round.

Because you're not plankton,
you're nekton, self-propelled, going places
to see the world, and thereby dissolving it
like a delicate curlieue in acid.

We're as cross as micro-organisms can get
which isn't very,
we do tend to go with the flow,
we're arrows on a diagram,
round and round, human,
round and round.





The So-Called Individual

The first clue: cork through a lens is full of boundaries
Gentlemen, whilst bidding you heartily welcome
(The heron is its limbs, folding)

Telling the doctors the new news, passing round the slides
what the individual is on a grand scale,
the cell is that, and perhaps even more, on a small one
(The city is its citizens, quarrelling)

Appropriately, the theory emerged from many discoverers
existences are mutually dependent but in such a way
that every element has its own special action
(My fist is my hand, clenching)

Not only between ape and angel but between nucleus and nation
nothing has penetrated less deeply into the minds of all
than the cell-theory in its intimate connection with pathology
(I make, and am made by,
my parts and what I'm part of)

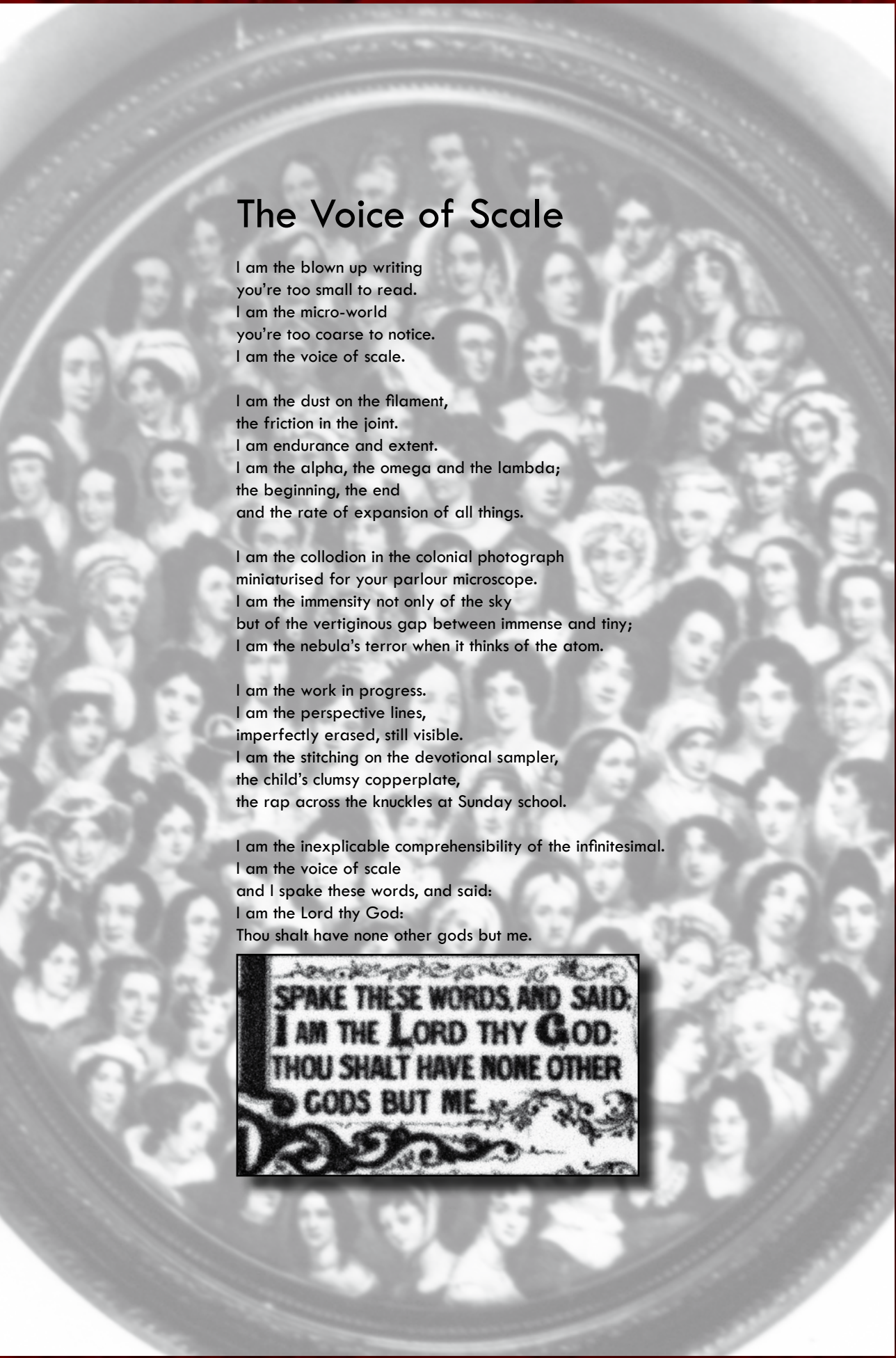
Implications like the influence of public sanitation on private capillaries
I shall have no particular reason to justify myself, if in this respect,
I make quite a special reservation in favour of life
(The river is its droplets, passing)

The micrographs look like eyes staring back, gaudy and diseased
disturbances which arise from social and political institutions,
and are therefore preventable
(My mind is my brain, feeling)

Plants and animals, chorus girls and impresarios, all made of the same
a body of considerable size, a so-called individual,
always represents a kind of social arrangement of parts
(The world is a verb, elaborating)

Embryos growing into excitable microscopists
I am somewhat proud of having always,
in spite of the reproach of pedantry, firmly adhered to it
(I'm not my cells,
I'm what they do)

The italicised lines are all quotes from the German pathologist Rudolf Virchow (1821-1902).



The Voice of Scale

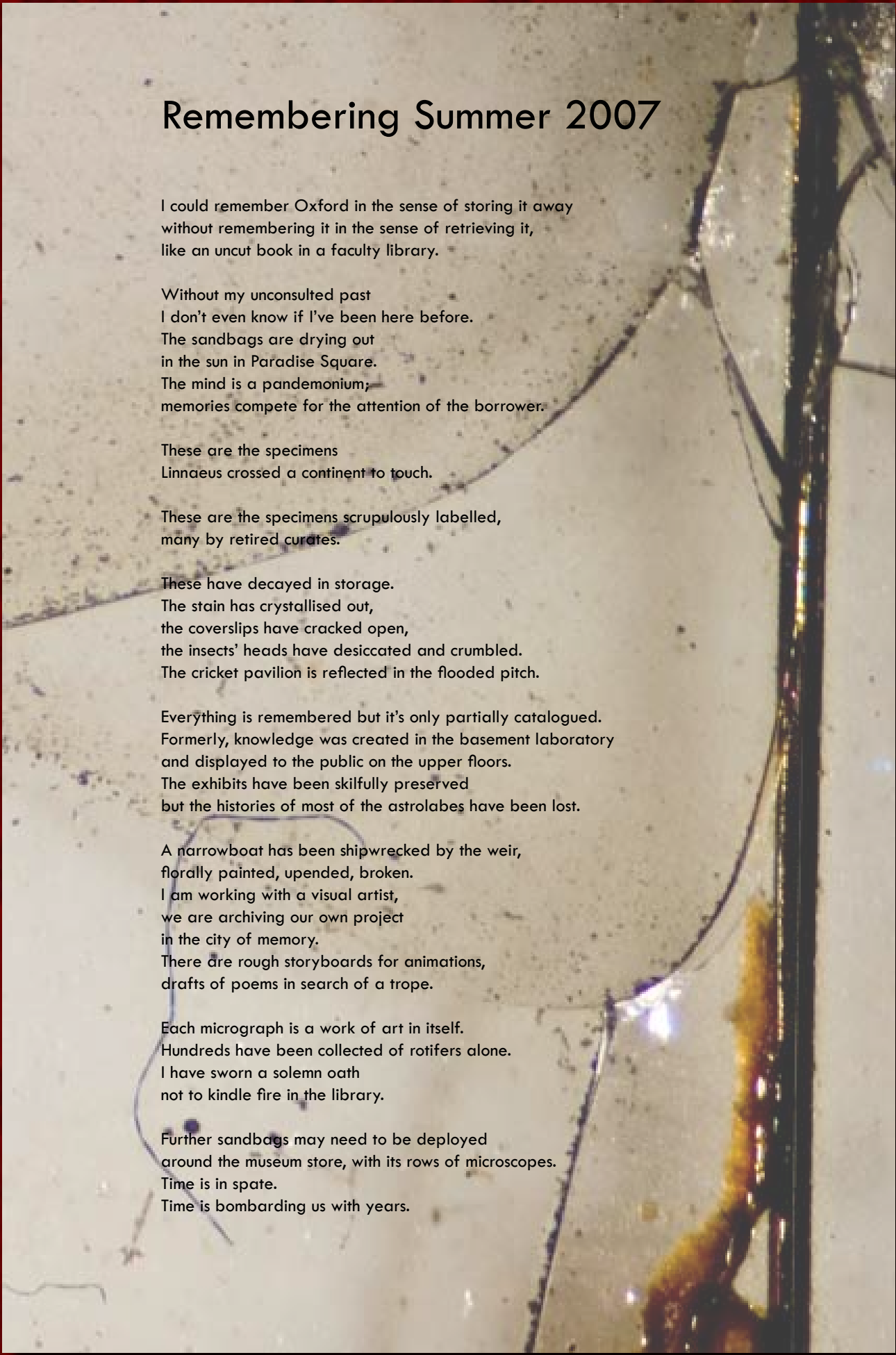
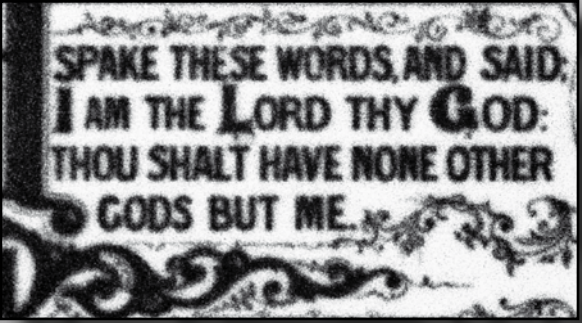
I am the blown up writing
you're too small to read.
I am the micro-world
you're too coarse to notice.
I am the voice of scale.

I am the dust on the filament,
the friction in the joint.
I am endurance and extent.
I am the alpha, the omega and the lambda;
the beginning, the end
and the rate of expansion of all things.

I am the collodion in the colonial photograph
miniaturised for your parlour microscope.
I am the immensity not only of the sky
but of the vertiginous gap between immense and tiny;
I am the nebula's terror when it thinks of the atom.

I am the work in progress.
I am the perspective lines,
imperfectly erased, still visible.
I am the stitching on the devotional sampler,
the child's clumsy copperplate,
the rap across the knuckles at Sunday school.

I am the inexplicable comprehensibility of the infinitesimal.
I am the voice of scale
and I spake these words, and said:
I am the Lord thy God:
Thou shalt have none other gods but me.



Remembering Summer 2007

I could remember Oxford in the sense of storing it away
without remembering it in the sense of retrieving it,
like an uncut book in a faculty library.

Without my unconsulted past
I don't even know if I've been here before.
The sandbags are drying out
in the sun in Paradise Square.
The mind is a pandemonium;
memories compete for the attention of the borrower.

These are the specimens
Linnaeus crossed a continent to touch.

These are the specimens scrupulously labelled,
many by retired curates.

These have decayed in storage.
The stain has crystallised out,
the coverslips have cracked open,
the insects' heads have desiccated and crumbled.
The cricket pavilion is reflected in the flooded pitch.

Everything is remembered but it's only partially catalogued.
Formerly, knowledge was created in the basement laboratory
and displayed to the public on the upper floors.
The exhibits have been skilfully preserved
but the histories of most of the astrolabes have been lost.

A narrowboat has been shipwrecked by the weir,
florally painted, upended, broken.
I am working with a visual artist,
we are archiving our own project
in the city of memory.
There are rough storyboards for animations,
drafts of poems in search of a trope.

Each micrograph is a work of art in itself.
Hundreds have been collected of rotifers alone.
I have sworn a solemn oath
not to kindle fire in the library.

Further sandbags may need to be deployed
around the museum store, with its rows of microscopes.
Time is in spate.
Time is bombarding us with years.



Deep Time

Turning a mineral section in polarised light,
the minute readjustment of brass wheels,
the deepening suspicion of just how old things are,

the forest roots joined up by fungal wires,
what's seen can be collectively recalled,
turning a mineral section in polarised light,

the little things that make the big connections,
the religious life of apes, the cure for age,
the deepening suspicion of just how old things are,

the sedimentary rock, made grain by grain,
the lesson where we're always copying down,
turning a mineral section in polarised light,

the row of monsters gurning from their jars,
as knowledge nears but never touches truth,
the deepening suspicion of just how old things are,

the machines that are the subject of our researches
cannot be dismantled without being destroyed,
turning a mineral section in polarised light,
the deepening suspicion of just how old things are.

The italicised lines are a quote from the French anatomist Georges Cuvier (1769-1832).