

Phil Abernethy

SIX :

SCULPTURAL TIMEPIECES

Phil Abernethy

SIX :

SCULPTURAL TIMEPIECES

PHOTOGRAPHY & LAYOUT by www.graphactions.com

INTRODUCTION

As an artisan clockmaker from a family with long standing ties to the craft, going back three generations, I have always felt that the craft of mechanical clockmaking, with its myriad of devices, held great potential for exploration as an art form. Over the past many years, I have investigated the interpretation of the machinery of mechanical clocks as art works.

The current work is the culmination of many years of experimentation, research and thought, and has been influenced by ventures into other mediums, particularly forged ironwork. Until recently, the prospect of Horology as art was, given its complex considerations and development requirements, a medium tempered by economies. Recent developments in machine technology, particularly CADD and CNC technology, have made experimentation in the craft a more viable prospect. Over the last few years, access to these technologies has allowed me to explore creative boundaries and realize a continual development of mechanical and electro-mechanical devices employable in the work.

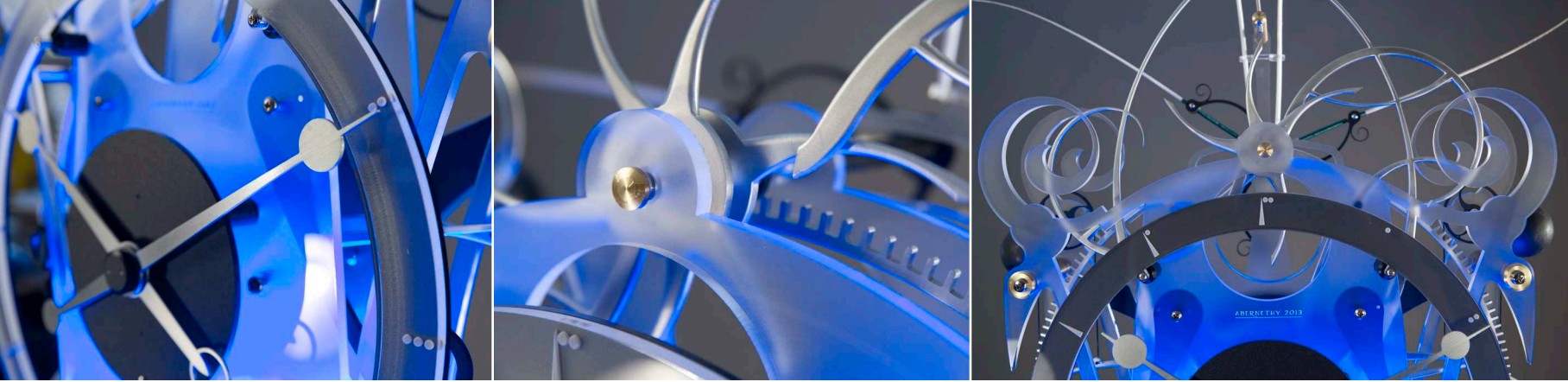
Most recently my work has seen the reinterpretation of a geometrically complex device known as a Grasshopper escapement, which is the device that keeps a pendulum in motion. Over many experiments, I have reworked this device into a sculptural representation and employed it in several works. Variations on this escapement can be seen in 'Monolith', 'Suspension' and 'Cleití'.

It has also seen the interpretation of a double 3-legged Gravity escapement. Typically these types of escapements and their interesting animations are hidden away in large tower clocks. Its obscurity and curious actions made it a prime candidate for interpretation and can be seen in *Insíonn*.

Mechanical clocks certainly have a place in our collective history. Not only have they enabled societal co-ordination and scientific inquiry, but they have also taken a distinct place within our lives, memories and homes. They have been with us for almost 700 years and have become indelibly woven into the fabric of modernity.

The history of how clocks came to be, and became so interwoven into our cultural fabric is a vast narrative of labour, experimentation and dedication by many individuals. They enabled us to chart the seas and they regulated our daily existence, within a narrative full of intrigue, shaped by ambitions, politics, war, and colonialism. In of the clocks themselves, they are also a record of advancing technology and interior fashion.





My involvement began at an early age and has continued throughout my working life. The story goes that my own endeavors as a clockmaker began at age 6, when I visited the vacant bench of my father who had just finished assembling a marine chronometer. My adjustments to the critical components were not appreciated. From there, I went on to become his apprentice at the age of 14 and, on completion, shared a career of restoration work spanning 36 years.

Already early on in my career I entertained thoughts of clocks as mechanical sculpture. At 16, my father brought home a 16mm film about a clockmaker, which set in motion a quest that continues. The 1971 documentary 'Clock-maker' followed the English maker, Martin Burgess, through the design and installation of a massive sculptural clock at Shroeders Bank in London.



The film confirmed my sense that there was more that could be done in horology, as my contemporaries in the craft of watchmaking have so vigorously pursued. Technology has provided watchmakers a platform for experimentation, which allows them to offer creative reinterpretations of historic devices that compel intrigue and fascination, as watches always have. More often than not, that intrigue has in the past been hidden within a case, but the turning inside out of these machines allows everyone to appreciate the complexity and skill that goes into a functioning device.

In my own work I have opted to use non-traditional materials in the mechanisms. Advances in materials science mean that there is a wide palette of materials that have significant advantages over traditional materials. I use Acetal (a high performance engineering polymer) for the roller pinions that connect gears to each other and sealed stainless roller bearings for the pivot points. This allows significant reductions in the weight required to run the clocks and provides long service life, without the need for constant attention or lubrication. I also use aluminum for the wheels and working elements, which provides a significantly reduced moment of inertia to further reduce the driving weight requirements.

In my current work, I use quartz-based mechanisms to provide time keeping, which has no connection to the sculptural mechanics. Given the nature of my sculptural work, it means that I am pushing the required geometry for accurate timekeeping. This is true especially with their dramatic pendulum arcs and therefore I could not expect them to keep accurate time as entirely mechanical clocks. If an entirely mechanical clock is preferred, I can provide such clocks. However, fully mechanical clocks will require significantly more attention from the owner, as completely mechanical clocks do.

With the exception of Monolith, the sculptural mechanics are driven by an automatic winding system I have developed. This allows significant flexibility in the design of a clock in that it can be rewound at very frequent intervals, thereby reducing the number of wheels required.

In the design process, I make every attempt to design all systems to be as simple, efficient and easily adjusted as is possible so that they can be managed by those unfamiliar with clocks.

I am always happy to discuss ideas, design possibilities and site specific installations.

Video of the work can be seen at: www.philabernethy.com.





ASPIRE



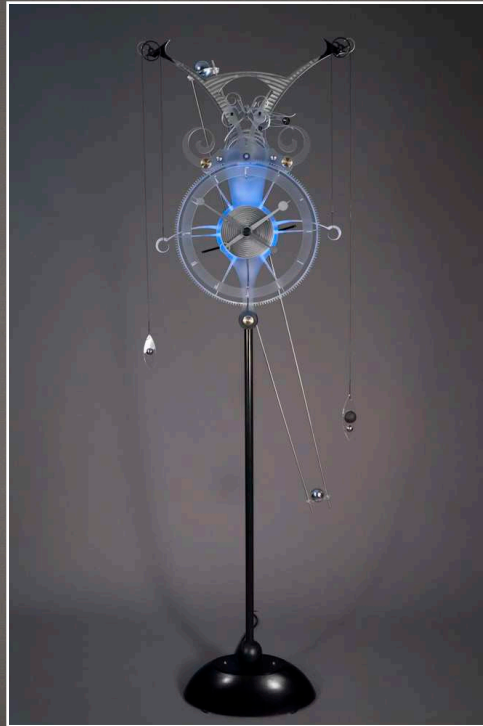
CLEITÍ



INSÍONN



MONOLITH



SUSPENSION



THE PHILOSOPHICAL
RETROGRADE

ASPIRE

I've always had a soft spot for different ways of indicating time. Aspire presents one mode I have had in mind for many years. Time is implied by the apex, as the ring passes slowly by the hour with only an approximate reading possible between the hours.

I am also keen on exploring the ways in which time indication in different formats affect our perception of time and its passing. Aspire is an experiment in such time perception. There is neither ticking nor apparent motion. Just the slow passing of the hour.

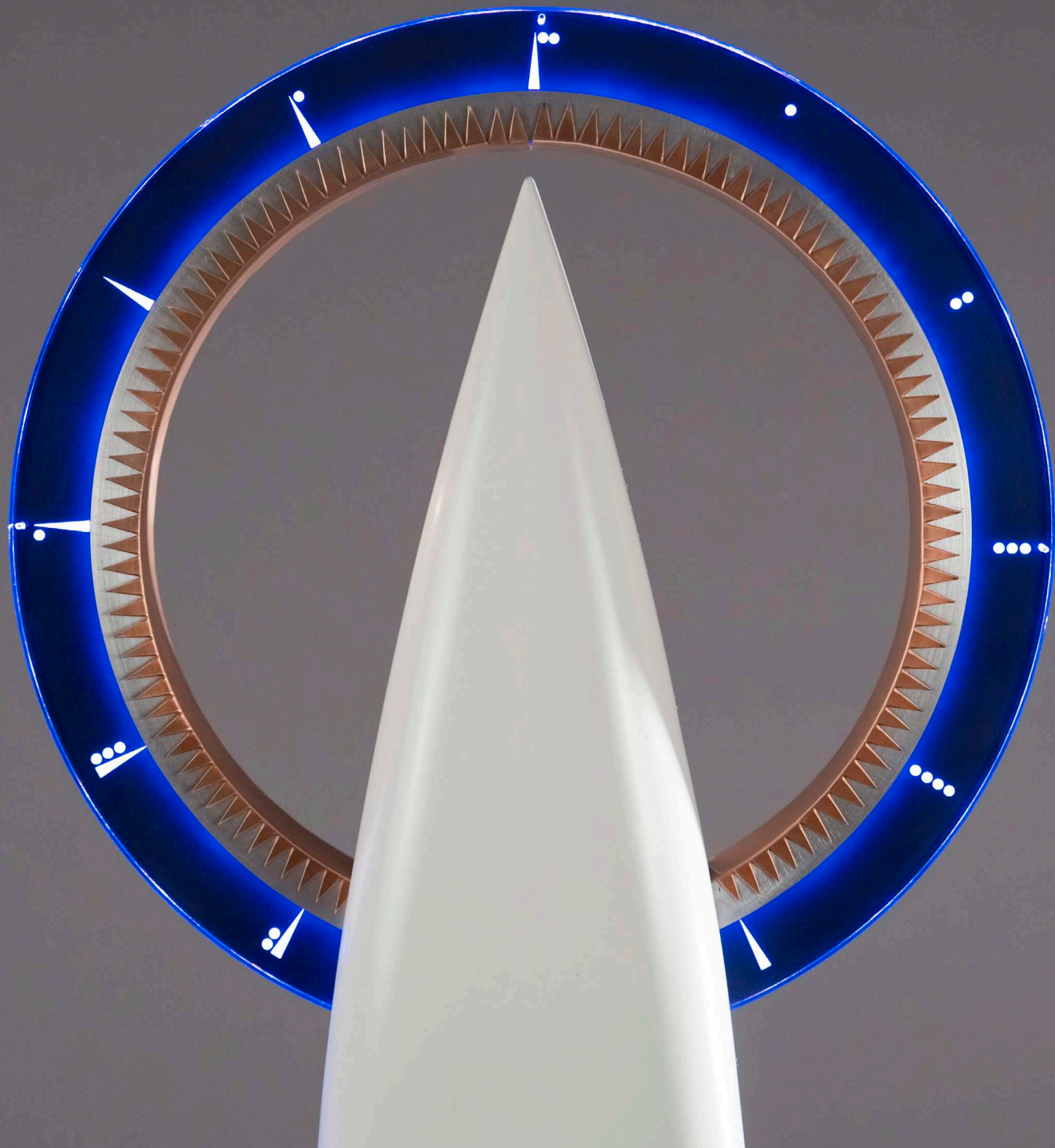


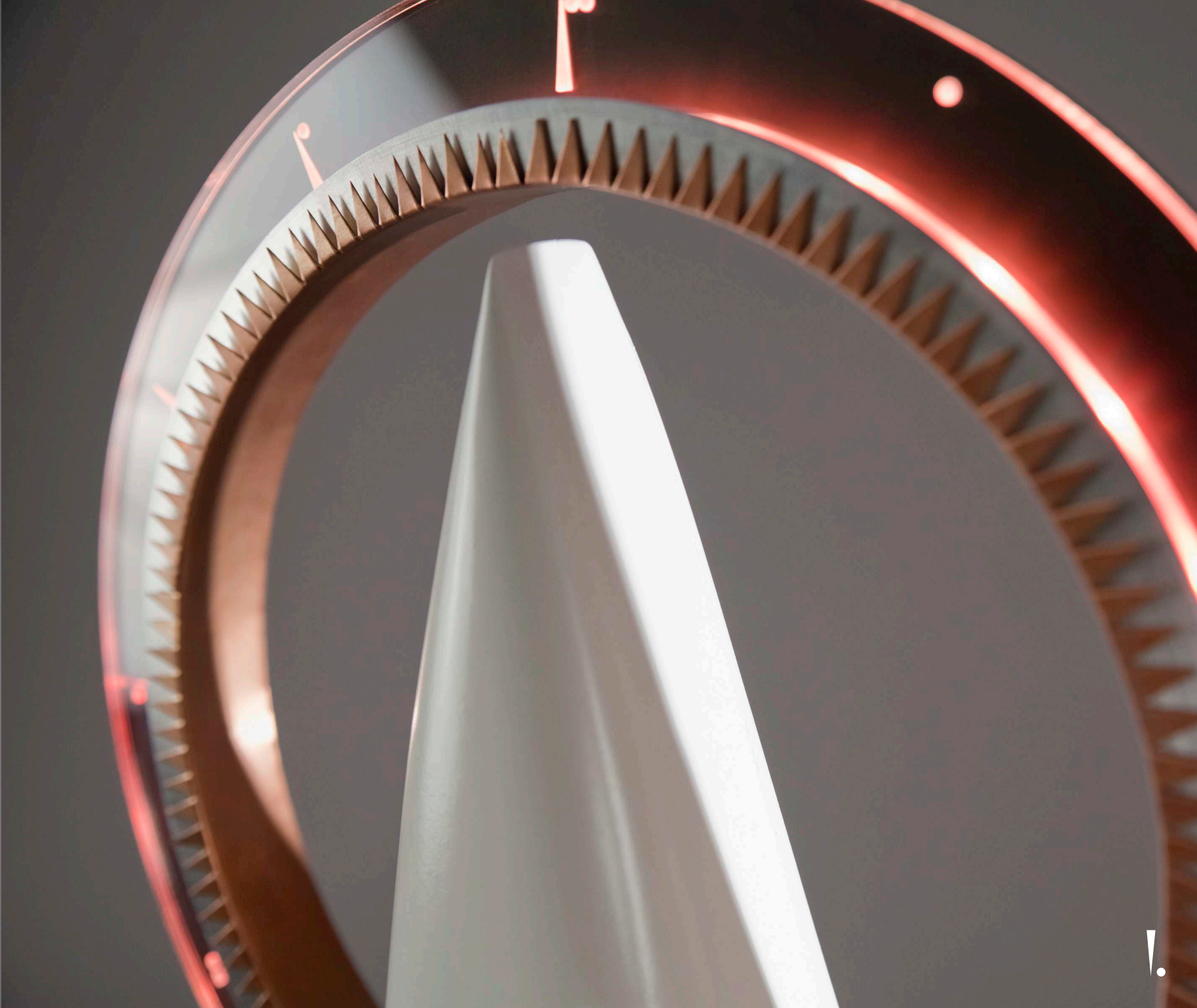
Technical Details:
Synchronous drive motor,
Programmable LED lighting.

Materials:
Acrylic, copper, aluminum and PVC.

Overall Dimensions:
IN: 12W 3D 25H CM: 30W 8D 63H







CLEITÍ

(Gaelic: Feathers)

I took creative license with the Grasshopper escapement used in Cleiti, which I believe is the first of its kind. I began with the arrangement used in the clock mechanism solely in consideration of its symmetry. When compared with the Grasshoppers used in Monolith and Suspension, one can see that their Grasshopper arrangements are one-sided. I've named this variation 'Spider ' given its spider like appearance.



Technical Details:

Spider escapement, Automatic winding, Programmable LED lighting.

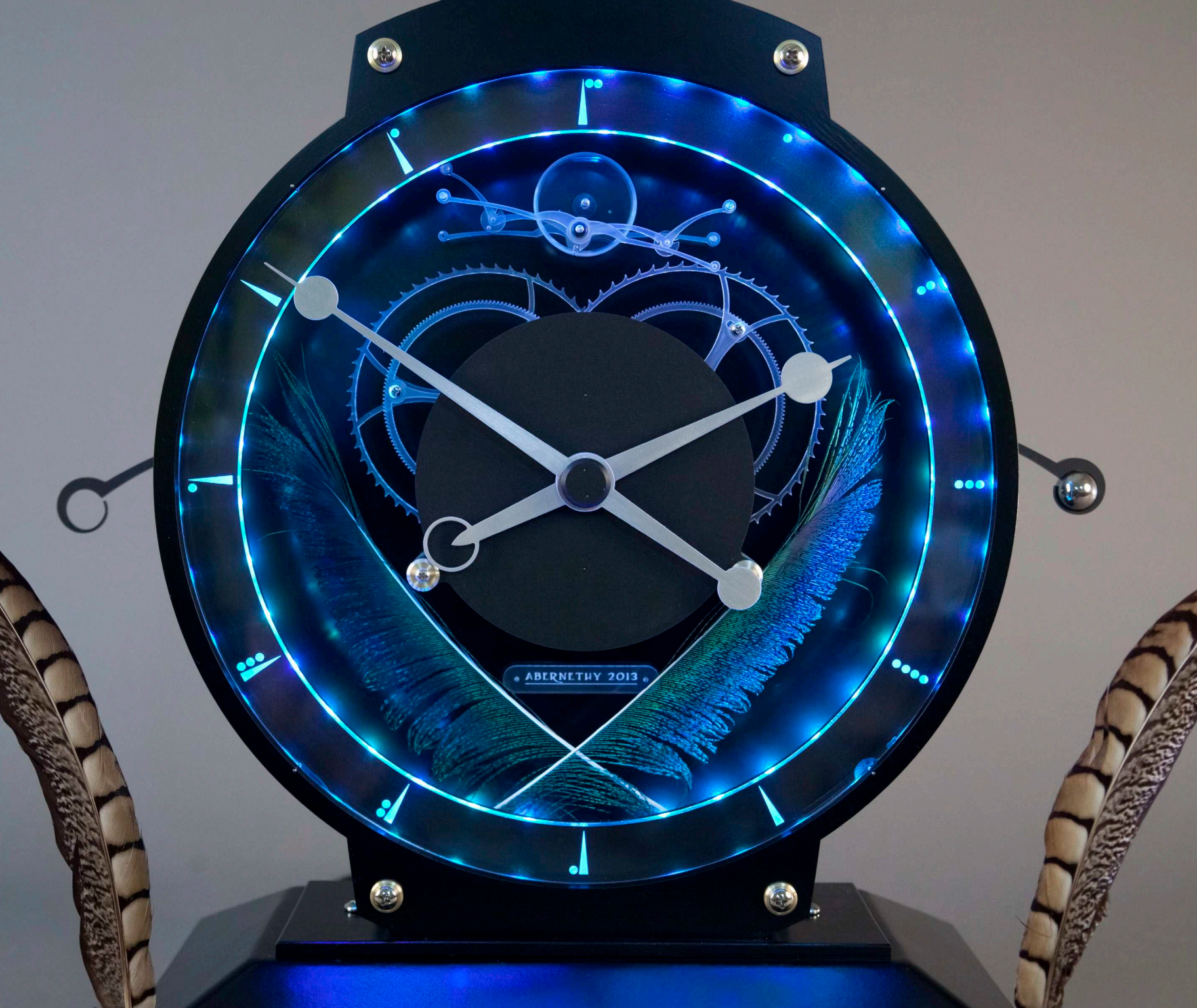
Materials:

Peacock and Pheasant tail feathers. Acrylic, copper, brass and aluminum. Quartz mechanism.

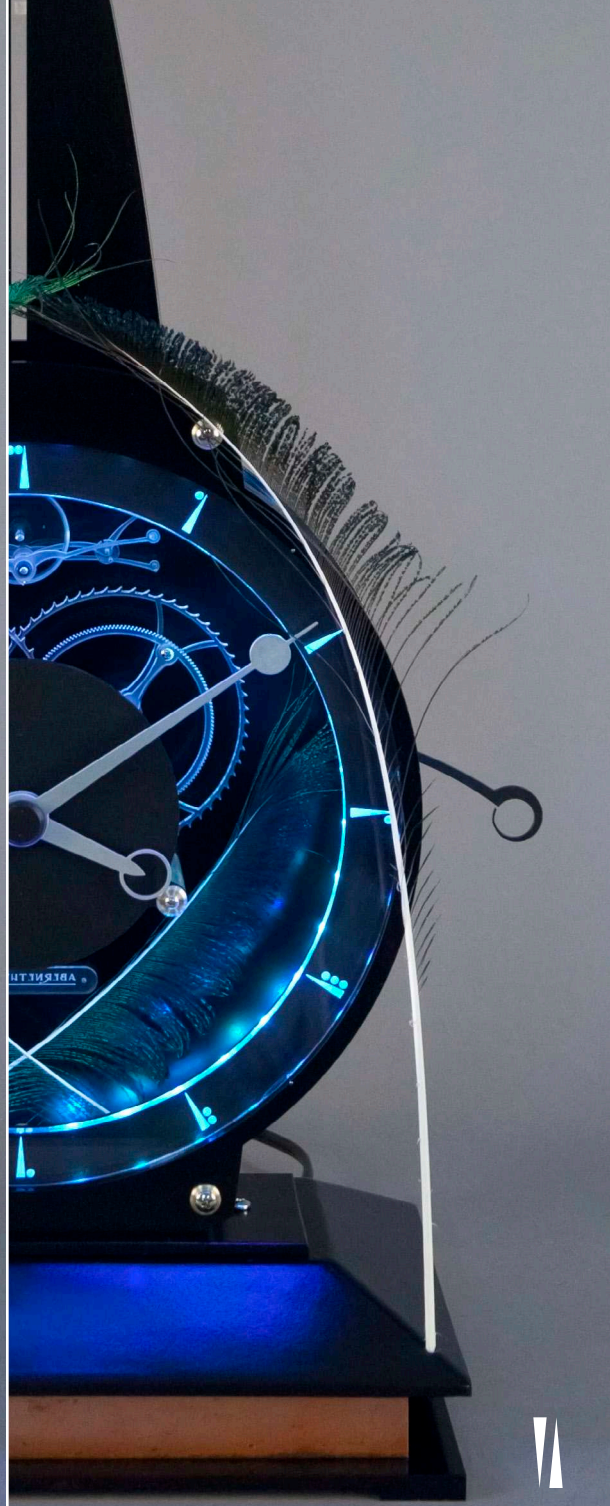
Overall Dimensions:

IN: 16W 8D 49H CM: 40W 20D 125H





ABERNETHY 2013



INSÍONN

(Gaelic: Mechanical time telling device)

I have two favorite escapements. Grasshoppers are first on my list by virtue of their geometry and animation. A close second is the Gravity escapement as used in Insionn.

Typically these types of escapements are used in very large tower clocks. Tower clocks need a significant amount of power to turn large hands and deal with weather conditions. If that same power were allowed to impulse the pendulum, it would adversely affect its timekeeping properties. The gravity escapement is arranged in such a way that this excessive power is used only to reset arms either side of the pendulum. When the arms are released by the escapement, they impulse the pendulum and keep it in motion. This ingenious arrangement was invented by Edmund Beckett Dennison (Baron Grimthorpe) around 1850 and used in his design of the clock at Westminster (Big Ben).

The action of the escapement and the resetting of the arms are fluid and large enough to appreciate visually. In Insionn, I have deviated from the typical pattern of Gravity escapement by arranging the arms upside down. I have also slowed down the action of the escapement with large peacock feathers and a slow beating pendulum.



Technical Details:

Gravity escapement, Automatic winding,
LED lighting.

Materials:

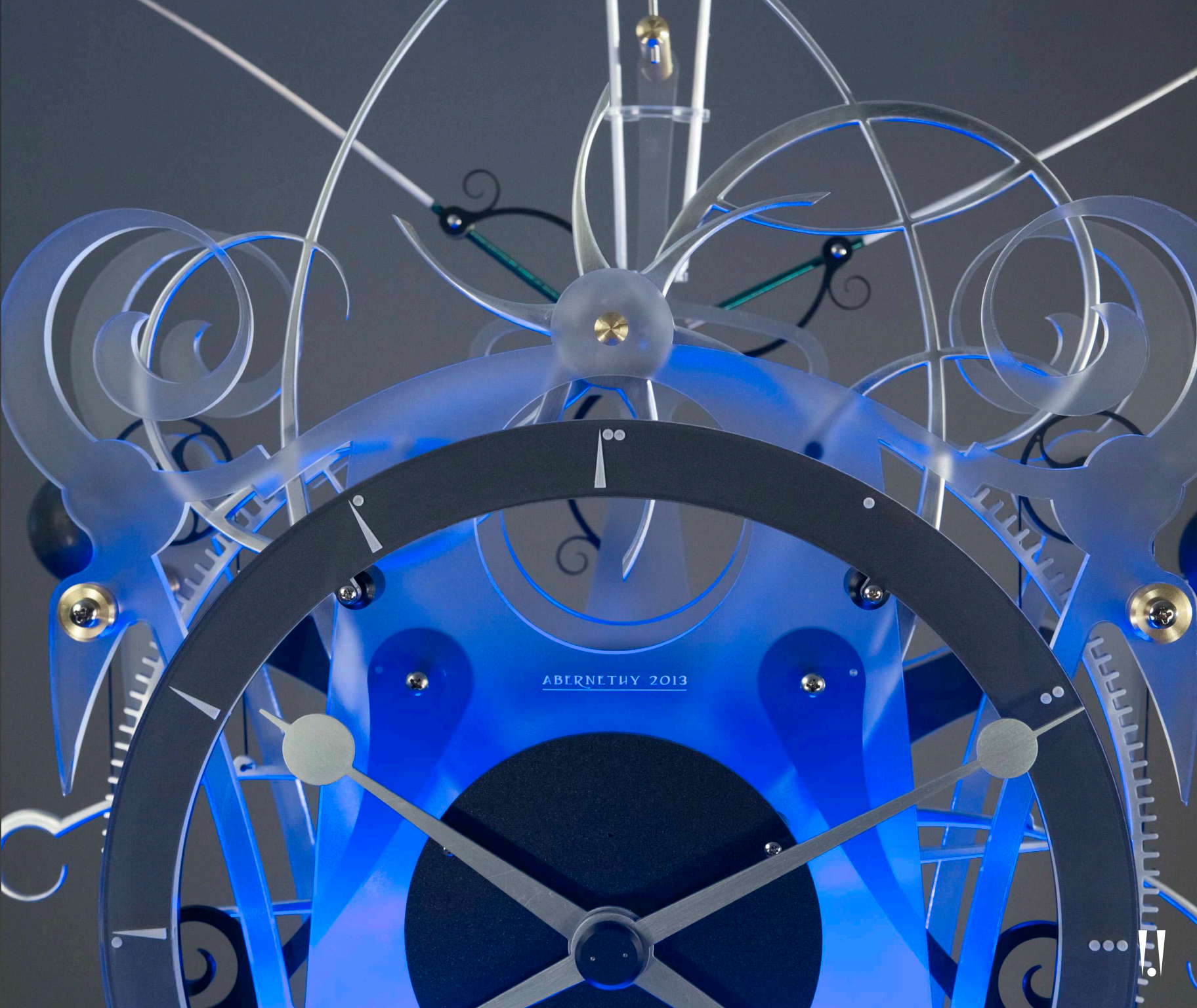
Peacock feathers. Acrylic, copper, brass
and aluminum. Quartz mechanism.

Overall Dimensions:

IN: 32W 11D 80H CM: 84W 28D 200H





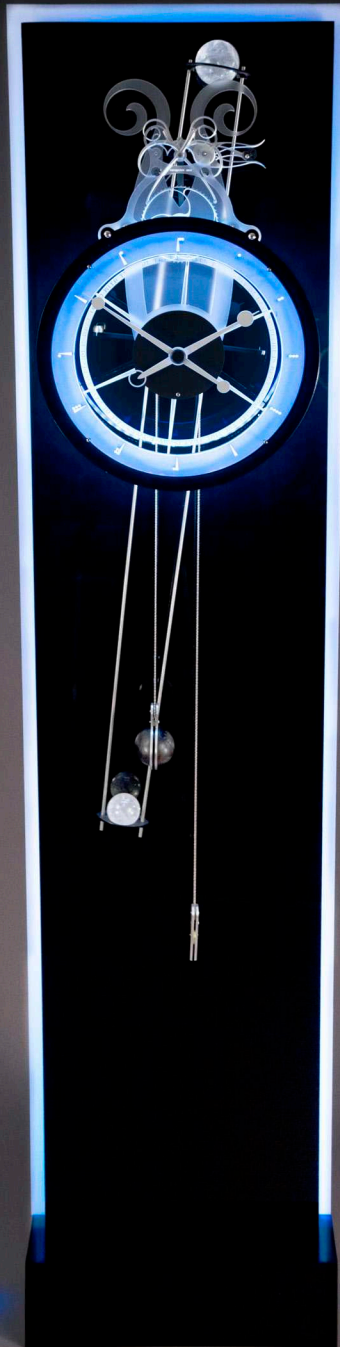


ABERNETHY 2013

MONOLITH

Monolith is a statement about the vastness of time and relative time scales. The black depth of the mounting panel conveys the immensity of past behind us, and the very slow beating pendulum conveys the incremental passing of time, as it recedes into the past. I thought the Tolkien quote from Lord of the Rings would give pause for thought about 'what to do with the time given to us' and therefore engraved it into the large aluminum wheel.

The clock features two historically important devices employed in the escapement and winding system. The escapement is a sculptural variation on the Grasshopper escapement, invented by the British clockmaker John Harrison, around 1722, and used in several of his famous sea clocks. The winding system employs an endless chain, which was first applied to clocks by the Danish scientist, Christiaan Huygens (b1629 - d1695).



Technical Details:

Grasshopper escapement, Manual winding (daily), LED lighting.

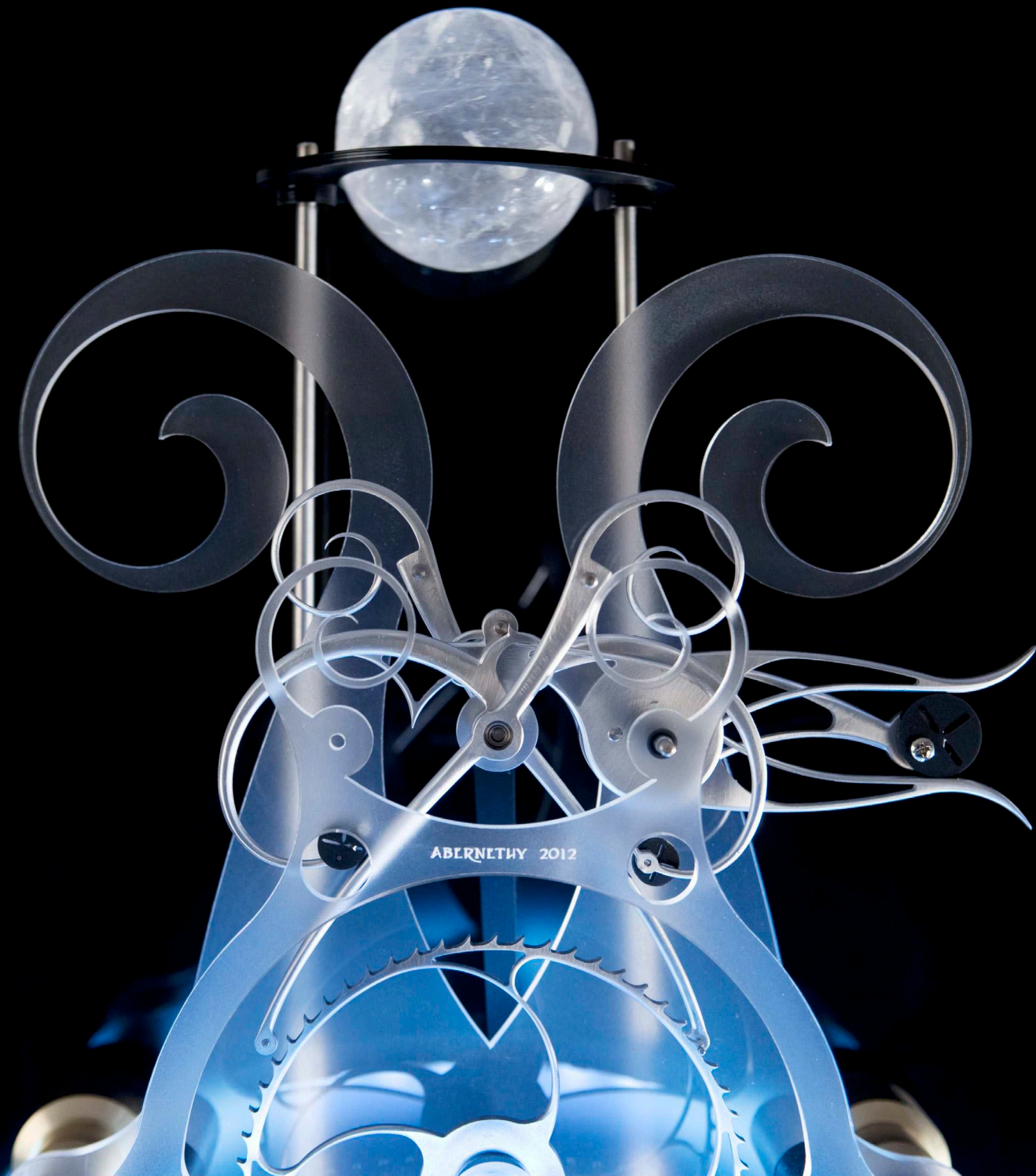
Materials:

Acrylic, copper, brass and aluminum.
Quartz mechanism.

Overall Dimensions:

IN: 20W 11D 87H CM: 50W 28D 220H





ABERNETHY 2012



SUSPENSION

I consider this my first successful sculptural clock. I have made a few variations of it, much to the chagrin of my father who has had one after the other, as I reclaimed it from his residence and reworked it. It's seen a number of formats, from various window mounted versions to the floor standing clock shown.

It was also the first successful application of an automatic winding system I developed. The winding system, which operates at frequent intervals, allows me to reduce of the number of wheels typically used in clocks, which in turn allows greater design flexibility.



Technical Details:

Grasshopper escapement, Automatic winding, Programmable LED lighting.

Materials:

Acrylic, copper, brass and aluminum.
Quartz mechanism.

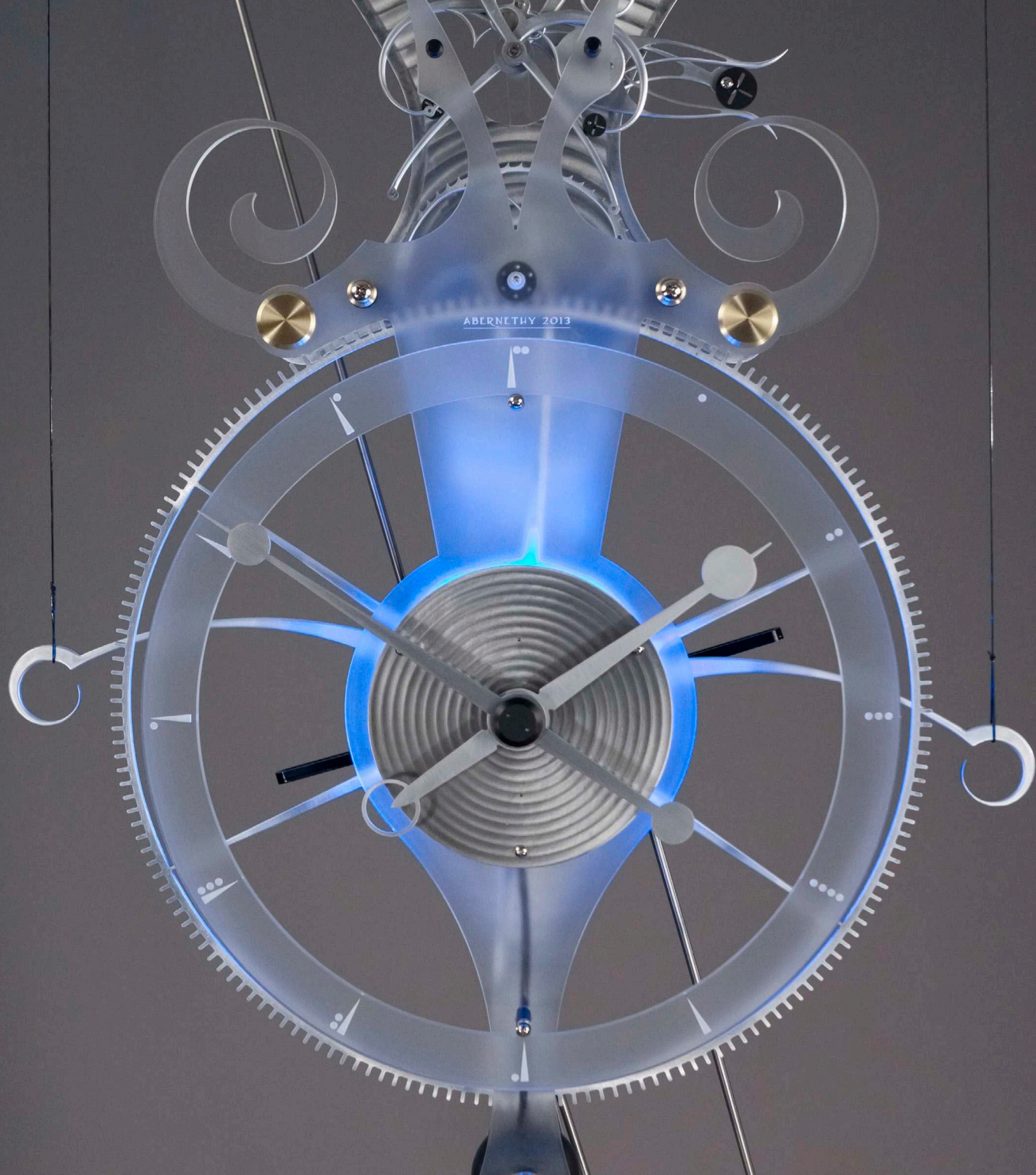
Overall Dimensions:

IN: 21W 8D 70H CM: 54W 20D 177H





ABERNLTHY 2013



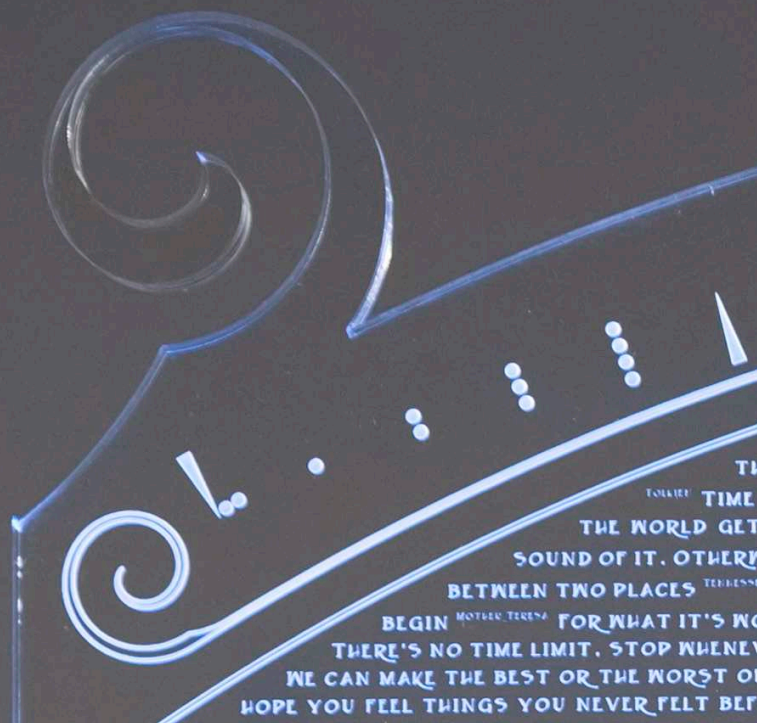
ABERNETHY 2013



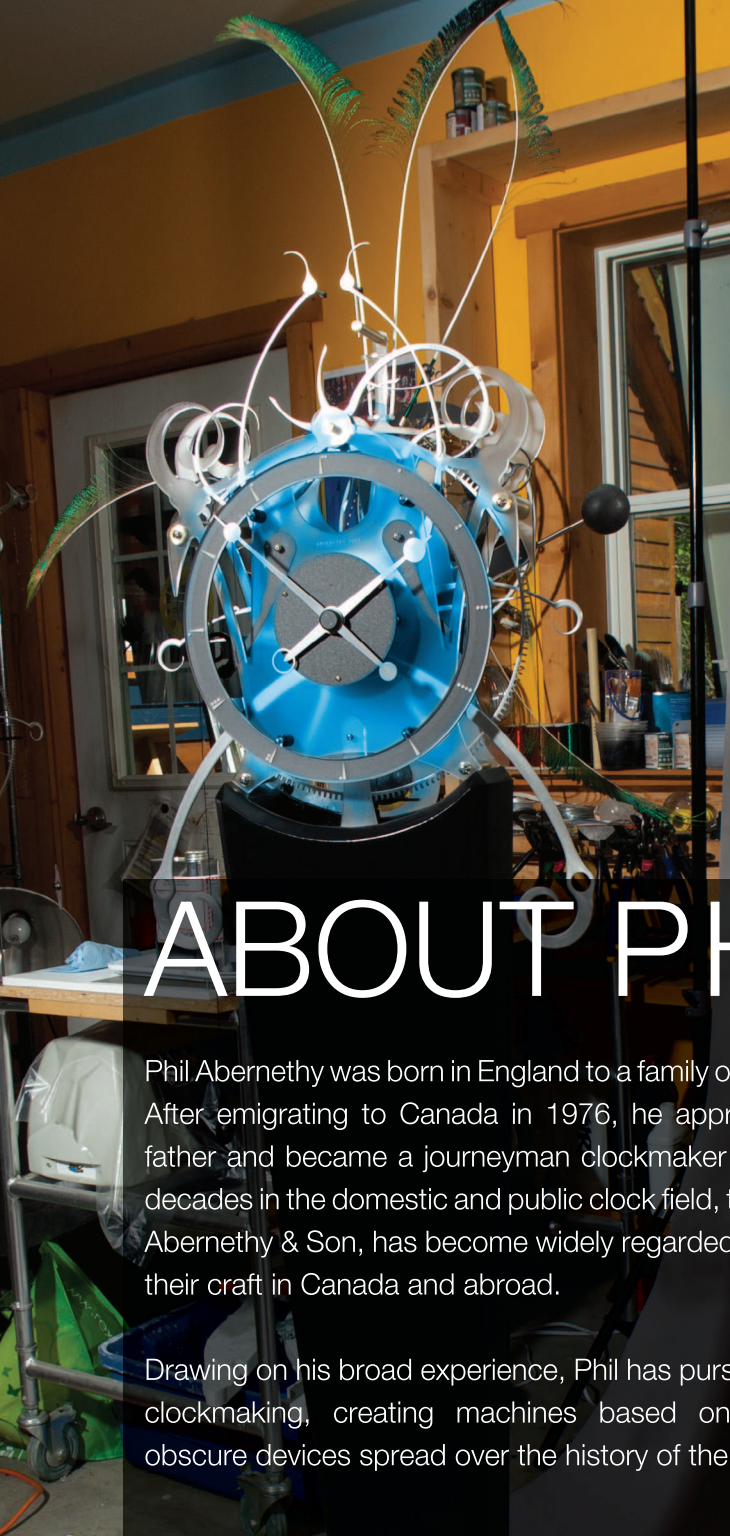
THE PHILOSOPHICAL RETROGRADE

Retrograde is a method of time indication, where the hand travels across the numbers and 'retrogrades' back to a beginning, illustrating the cyclic nature of time. In 'The Philosophical Retrograde' I incorporated quotes from various sources as an exploration of our varied perceptions of time and its meaning to us. Some quotes are moderately contradictory, illustrating that we all have our own notions.

...MEONE SAYS THAT THEIR LOVE WILL NEVER DIE. IT MEANS THAT THEIR
...EVERYTHING LASTS FOREVER. ^{CP/IG/FERD/501} TIME IS TOO SLOW FOR THOSE
...RIEVE, TOO SHORT FOR THOSE WHO REJOICE, BUT FOR THOSE WHO LOVE,
...NG CLICKED OFF BY LITTLE WHEELS; ONLY WHEN THE CLOCK STOPS DOES
... ^{RELD/IN/LNO/EMER/01} THE STRONGEST OF ALL WARRIORS ARE THESE TWO — TIME
... WISEST ARE THE MOST ANNOYED AT THE LOSS OF TIME ^{DEL/TE/ALIG/12/1} IF YOU
... INTO A NORMAL EARTHLY DAY, THEN LIFE BEGINS VERY EARLY, ABOUT
... BUT THEN ADVANCES NO FURTHER FOR THE NEXT SIXTEEN HOURS. NOT
... AS EARTH ANYTHING TO SHOW THE UNIVERSE BUT A RESTLESS SKIN OF
... TWENTY MINUTES LATER BY THE FIRST JELLYFISH AND THE ENIGMATIC
... 04 P.M. TRILOBITES SWIM ONTO THE SCENE, FOLLOWED MORE OR LESS
... BEFORE 10 P.M. PLANTS BEGIN TO POP UP ON THE LAND. SOON AFTER,
... FOLLOW. THANKS TO TEN MINUTES OR SO OF BALMY WEATHER, BY 10:24
... RESIDUES GIVE US ALL OUR COAL, AND THE FIRST WINGED INSECTS ARE
... LD SWAY FOR ABOUT THREE-QUARTERS OF AN HOUR. AT TWENTY-ONE
... S. HUMANS EMERGE ONE MINUTE AND SEVENTEEN SECONDS BEFORE
... BE NO MORE THAN A FEW SECONDS, A SINGLE HUMAN LIFETIME BARELY
... SLIDE ABOUT AND BANG TOGETHER AT A CLIP THAT SEEMS POSITIVELY
... ICE SHEETS ADVANCE AND WITHDRAW. AND THROUGHOUT THE WHOLE,
... A FLASH-BULB POP OF LIGHT MARKING THE IMPACT OF A MANSON-SIZED
... AN SURVIVE IN SUCH A PUMMELED AND UNSETTLED ENVIRONMENT. IN
... LOVE IS WASTED ^{TOR/BE/10/TAN/1} TIME IS THE COIN OF YOUR LIFE. IT IS THE
... T. BE CAREFUL LEST YOU LET OTHER PEOPLE SPEND IT FOR YOU ^{CARL/SLEP/12/0}
... TURE, AND TIME FUTURE CONTAINED IN TIME PAST. IF ALL TIME IS
... HOURS TOO SOON THAN A MINUTE TOO LATE ^{WILLIAM/SHAKESPEARE} BUT THERE IS
... ONLY ACROSS THE SKY AND FAD
... THE MOON



... THE
... TALKER TIME
... THE WORLD GETS
... SOUND OF IT. OTHER
... BETWEEN TWO PLACES ^{TE/DE/5/1}
... BEGIN ^{MOT/LE/TE/1/5} FOR WHAT IT'S WO
... THERE'S NO TIME LIMIT. STOP WHENEV
... WE CAN MAKE THE BEST OR THE WORST OF
... HOPE YOU FEEL THINGS YOU NEVER FELT BEFO
... YOU'RE PROUD OF. IF YOU FIND THAT YOU'RE NOT
... THAT'S IMPORTANT. THERE'S NO PAST AND THERE'S NO
... EXPERIENCE FROM THE PAST. BUT WE CAN'T RELIVE IT:
... ARE. TRAPPED IN THE AMBER OF THE MOMENT. THERE IS
... AN ILLUSION ^{ALBERT/EINSTEIN} YOU MAY DELAY. BUT TIME WILL
... UNCERTAIN BUT THE END IS ALWAYS NEAR ^{JIM/MORRISON} THE F
... WHATEVER HE DOES, WHOEVER HE IS ^{C.S. LEWIS} I SIT BESIDE T
... SUMMERS THAT HAVE BEEN. OF YELLOW LEAVES AND GO
... UPON MY HAIR. I SIT BESIDE THE FIRE AND THINK. OF H
... FOR STILL THERE ARE SO MANY THINGS. THAT I HAVE N
... THE FIRE AND THINK. OF PEOPLE LONG AGO. AND PEOP
... OF TIMES THERE WERE BEFORE. I LISTEN FOR RETURNING
... TIME.' IS LIKE SAYING. 'I DON'T WANT TO ^{LAO/TZU} I WA
... APPRECIABLE EFFECT UPON HUMANITY. MAN IS NOW ON
... ^{ALLAN/DOE} I DON'T UNDERSTAND PEOPLE WHO SAY THEY NEED
... IN SOMEONE ELSE'S BODY? ^{JAROP/KUTZ} THERE IS MORE TO
... EMPLOYER. EACH HUMAN BEING HAS EXACTLY THE SA
... SCIENTISTS CAN'T INVENT NEW MINUTES. AND YOU C
... FORGIVING. NO MATTER HOW MUCH TIME YOU'VE WAS
... TRUTH IS MORE PRECIOUS THAN TIME ^{BEN/JAMIE/DISRELLI} AS IF Y
... OF TIME ^{OSCAR/WILDE} THREE O'CLOCK IS ALWAYS TOO LATE OR
... TO BE PROFIT-ORIENTED. WHERE EVERYTHING IS MEASU
... TO GENERATE RESULTS. IN THE EAST -- ESPECIALLY IN
... A BANYAN TREE FOR HALF A DAY CHATTING TO EACH O



ABOUT PHIL

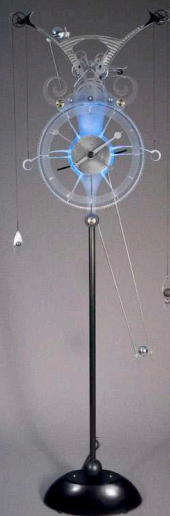
Phil Abernethy was born in England to a family of clockmakers. After emigrating to Canada in 1976, he apprenticed to his father and became a journeyman clockmaker in 1988. After decades in the domestic and public clock field, their company, Abernethy & Son, has become widely regarded as masters of their craft in Canada and abroad.

Drawing on his broad experience, Phil has pursued sculptural clockmaking, creating machines based on historic and obscure devices spread over the history of the craft.



Phil Abernethy

T 416 574 6795
pxiibernethy@gmail.com
www.philabernethy.com



Phil Abernethy

T 416 574 6795
pxiiabernethy@gmail.com
www.philabernethy.com

PHOTOGRAPHY & LAYOUT by www.graphections.com