When Christiaan Huygens invented the pendulum clock in 1656, it would take at least 400 more years for the owners of CHOPSTICK ASIAN FOOD in Frankfurt, Germany, to furnish their restaurant with a rather bizarre accumulation of gently mechanized boxes.

They were hung on the service-yellow walls of the small bistro, irregularly and definitely as an afterthought, when the first attempt to decorate the room and make it presentable for its few visitors had already failed (you could see traces of a decoration that seemed to have been).

Very few of them were rectangular, so don't think of them as shoeboxes lined up against the walls of the small location. They were of all shapes and sizes, but never taller than a human being can grow in height.

Some of them were golden, mostly wooden, some wore highly decorative ornaments on their cases, others inherited the minimalistic look of modern times. Most of the clocks were working – at least moving – while others remained silent.

What they all had in common, however, was their little baroque palace, which they inhabited, each on their own, to shout to each other from their hills that they were too late, …

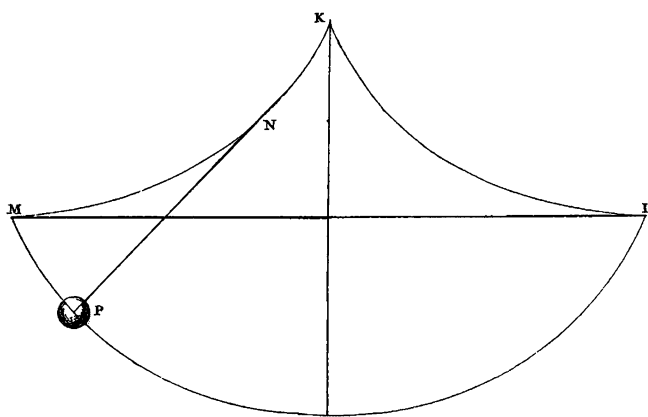No, too early!   …because the hour had already struck.

The hour was yet to come.
                                        Time likes to make a home for itself.

Most of time settles in a clock. Wandering time, the kind that does without the materiality of a man-made container, is disparagingly labelled by people as "lost time". That is why the Germans came up with a particular name for the clock's case, this fragile shell which gives shelter to the clock's delicate, mechanical core, : "Uhrgehäuse", the housing of the clock. For a clock to work, it must first feel comfortable in its home.

However, it wasn't the clock's faces that caught my attention, but their pendulums: the simple yet highly scientific bodies clinging to them, light-hearted heavyweights swinging in their lavishly decorated cabins with persistent carefree abandon, while the clockworks cheered them on with enthusiastic ticking.

The room was filled by the constant of irregular ticking sounds forming a quiet concert that reached its climax when one clock after another chimed on the hour,

ignored…

or unnoticed?

…by the pendulums in their continual oscillation.

≀

But there was something deceptive about the scene, as one clock had struck and only after it the next, and not all the clocks at the same minute, as would have been expected of clocks. I set about investigating this anomaly and could only come to one conclusion:

Time didn't care about these clocks.

Or was it the other way around?

The impossible and yet inevitable had befallen the pendulum clocks:
They themselves seemed to have fallen victim to the passing of time.

I started to panic: How can one know what time it is, if the clocks are wrong? Being stripped of their precision, they had given up their place in the world order and had become deterministically useless.

Yet the question remained:

What even is their place in the cosmic order?

The answer was obvious: The time-marking clock is the cosmic order!

That seemed a bit extreme.

But pendulums are all about extremities.

PROPOSITION:

If, after falling, a body converts its motion upwards, it will rise to the same height from which it came, no matter how many contiguous plane surfaces it may have crossed, and no matter what their inclinations are.

I was fascinated by the geometric order of the solid spheres on their leashes, so I went on the search for the pendulum

Of Foucault?

Of Galileo!

Once I would have found it, I could work my way up on it until I would reach the point of its suspension. Then, perhaps, I would be able to find back to the origin of time. So I had to keep an eye out on this very object, heavy but steady in its infinite fall.
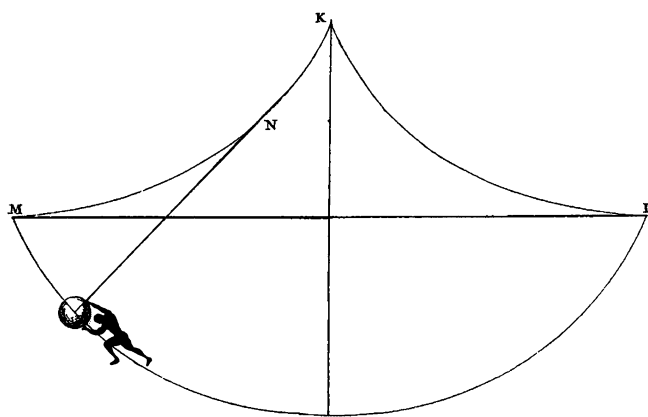
PROPOSITION:

If a body falls perpendicularly or through any surface, and if it later moves upwards by the acquired impetus through any other surface, then it will always have the same velocity at points of equal height in its descent and ascent.

Pendulums cover a distance in which they always cross point zero in the centre. The pendulum does not cover the distance from A to B in a straight line (the shortest distance), but on a cycloid. As a result, the pendulum must move away from the height of the deflections in order to return to the same height later.

Variables quickly became my faithful companions: s was the distance traversed, v was the velocity, t was the time and g was the constant of gravitational acceleration.

ENCOUNTER WITH SISYPHUS

I walked across the evolution and dimension of the curved line,   Balance.

I got lost in the falling of a heavy body and its motion on a cycloid,   Gravity.

Just to find myself back in the center of the rotation.

PROPOSITION:

If a body moves downwards through some surface and then reverses
its motion and moves upwards through the same surface or through
another similar surface similarly situated, then it will descend and
ascend through the same distance in equal times.

The pendulum is always falling.   We can hear its scream, always at point zero.

The pendulum clock is a sisyphos machine, damned to push the same
round body up that eversame hill.

ISOCHRONIC

It would make no difference how long the pendulum's rod was and
how big the sphere at its lower end, because as long as the balance was
intact, every pendulum clock in the world would strike on the hour at
the exact same moment.

They would defy the laws of space because they were bound to time
and nothing else.

And in this, too, they were like Sisyphos: for if Sisyphos is outside of
temporality, this means that the height of his rock and the size of his
stone are arbitrary as well.

But what did that mean for the Counsellor of all time-measuring,

THE CLOCKMAKER?

THE CLOCKMAKER'S
ultimate goal is to build the clock as precisely as the constant fall of
Sisyphos' rock.

…so I thought. But I realized that this was impossible, leading me
to the conclusion that the Clockmaker's goal would also be the exact
opposite of this, namely to remind us of the indifference of time.

And this is how the Clockmakers' Fight first began.

WELCOME, MY FELLOW CLOCKMAKERS!

IT IS EXACTLY SEVEN TO TWO.   IT IS EXACTLY TWO O'CLOCK.

We have gathered here to finally and once and for all settle the matter
of the purpose for which we exist and the question of whether we
serve the clocks… …or if it is the clocks which serve us.

> Time should play no part in this debate; we can take as much of it as
> we require.

> The Clockmaker is a master of crafts for we are the ones who set the
> pace for all living people and bring order to their lives.

The Clockmaker is a storyteller. Because for every person who metic-
ulously looks after time, there are two more who master the fine art of
being able to forget about it.

> The clockmakers are a metaphor. They vouch for the keeping of a
> promise. That's how the clerics and the aristocrats saw them back then.
> They trusted the clockmakers with caring for us by devoting their
> utmost attention and detailed expertise to serving the general public.

The clockmakers are enablers to the metaphor, providers of symbols
and riddles - and theories, for the scientists.

> Exactly. And all this is only possible because we humans have become
> the masters of time by starting to build clocks.

No, you fool, it's the clock that has the clockmaker under its command.
Or why else would we need clocks to make time perceptible to us
humans in the first place?

> To prevent the order of life from falling out of balance! We need the
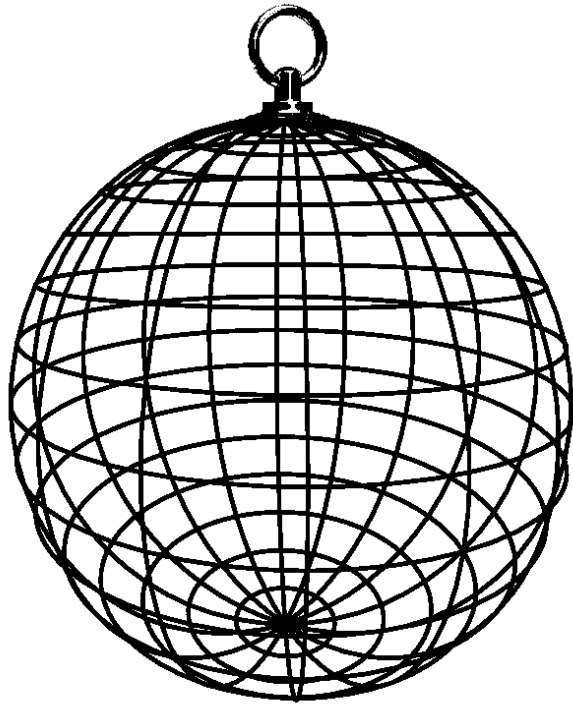> precise clock!

That's presumptuous of you! We need the imprecise clock!

> Clocks have given us the ability to capture time in a moment, rather
> than requiring movement to perceive it. Isn't this beautiful?

This is cruel! If "slow" equals "late" and "fast" is the same as "early", we become subject to the authority
of timekeeping! This is a primal equation to exploit the clock by breeding it into a high-performance
instrument that shows winners and losers instead of hours and minutes.

Clocks, with their precision, were created for the wellbeing of community.

Precision is human-made. Time cannot be tamed, it cannot be pressed
into our artificial domesticating moulds.

What are we the clockmakers there for then?

Sometimes, time is a hermit crab that wanders around looking for
a new home and if we are patient with it, it will need our clocks to
inhabit them. We can call ourselves lucky if time finds us.

We have always needed structure - moreover, all nature is dependant
on is rhythm and predictability to find safety. Imagine what happens
if this fragile living system is going off the rails.

With every look at the clock, we give up a small part of our personal
freedom and self-determination.

Be careful not to confuse freedom with chaos.

A space is created by dwelling, and that requires a minimum
of controlled disorder. It goes from noise to listening.

An environment changes when it contains a clock.
Suddenly there is a rhythm, can't you hear its timeless melody?

Or so it is us who try to capture time and lock it in a golden cage so
that we can observe it for our own amusement:

SING!

SING FOR ME!

This is   DISSONANCE   HARMONY

It is all about balance, my friend. Balance is the condition of the clock.

Gravity is the condition of the clock

GRAVITY.   BALANCE.

BALANCE?   GRAVITY?

BALANCE   GRAVITY
GRAVITY   BALANCE

BALANCE

BALANCE

The clock is about Balance.   Pendulum is Gravity.

NON NISI CUM DEFICIT SPECTATOREM HABET

It suddenly burst out of the disputants.

Only when it's imprecise we do perceive it.   Cesare Ripa was right.
                                               The failure of the clock leads to inescapable chaos!

No! He was right that once we are able to perceive the wrongly set
clock, we can recognise the complexity of things.

                    After countless more hours of heated exchanges about clock, its
                    pendulum and the desired level of precision, the Clockmakers had
                    broken time down into so many tiny little pieces that they had
                    arrived at Zeno's paradox of the flying arrow that tells that all objects
                    are motionless in space.

If you were to stop the pendulum's clock at any moment of its motion,
it would no longer be moving. We can therefore imagine the movement
of the pendulum as an infinite sequence of static images, and in each
of them it stands still in a new position.

                    The pendulum is never where it appears to have been
                                               the last time you saw it.
Reducing the period of time to the moment when the pendulum
stands still is impossible, but asymptotically approximable..

                    Soon they were arguing about the geometric construction of the
                    pendulums and their mathematical behaviour

This led them to the problem of which of the countless points they
had drawn on the circular line of the pendulum, were the extremities
of the pendulum's movement.

THE GREAT ESCAPE

Are the two points we are trying to connect opposites (of one another)?
Can they be shown, can they be drawn on a circle?

A full circle.   Where, then, does the circle still lead?

Consisting of an infinite number of points, each of them representing the movement of the pendulum.

This is the solution!   To what?

To the Problem of Sisyphos!   It's in the nature of things! The way out is through geometry! The more precisely we construct the hill from its infinite points of movement…

the movement of sisyphos' stone   …the more it completes into a full circle.

And since the stone would be, according to Christian Huygens rules
for the fall of a body in a cycloid, always in motion, then Sisyphus
would be rid of his miserable labour…   …without ever reaching the top of the hill!

The endless pushing of the stone would now be performed by
geometric regularities instead of by the efforts of a man

But that is impossible! The new fate of Sisyphos is now that instead of
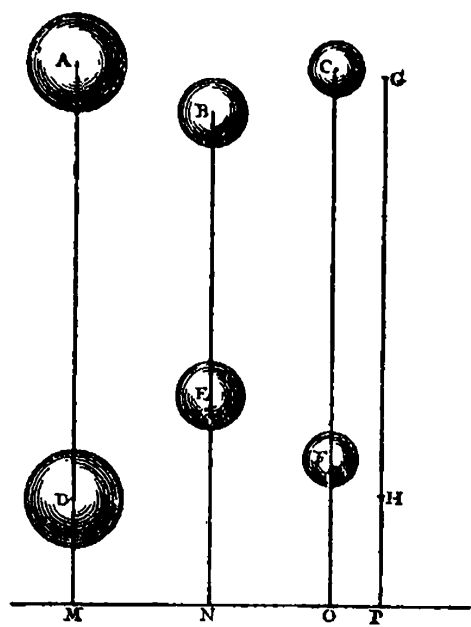facing an unsolvable task, he is now faced with an unrealisable solution.

In this paradox, gravity does not apply, because we observe the object
in space as stationary.
Just like in Zeno's paradox of the flying arrow.

BUT…

If this effect takes place in two-dimensional space,
then Sisyphus himself is trapped in this two-dimensionality.

From now on he would have to run away from the stone for all eternity.

Always along the circle.
He would be trapped in the solution to his problem.

⸮

A new, eternally gruelling task.

RELATIONS

IT IS EXACTLY TWO O'CLOCK.   IT IS EXACTLY SEVEN PAST TWO.

In this paradox, gravity does not apply, because we observe the object
in space as stationary.

Just like in Zeno's paradox of the flying arrow.

IT IS

IRRELEVANT   RELEVANT

whether the clock runs precisely   or not.

I realised that the precise pendulum clock was not possible at all,
because the pendulum changes its oscillation rate due to changing
gravitational forces, depending on the spatial location of the pendulum.

A clock that had been set somewhere in the Upper Rhine Plain
showed the wrong time when it was carried to the Tyrolean mountains.

The precision of the clock relative to its location.

Every clock is

SOMEWHERE IMPRECISE   SOMEWHERE PRECISE

RELATIVE PRECISION   ABSOLUTE PRECISION

BECOMES

ABSOLUTE PRECISION   RELATIVE PRECISION

Now I understood the watches in that collection in the bistro.

The wrongly running clocks were only imprecise because they were
not on their original location anymore.

They had probably somehow got lost in the urban turmoil
and had formed a flock to escape their discomfort.

They all had found refuge here from the tyranny of the exact time.
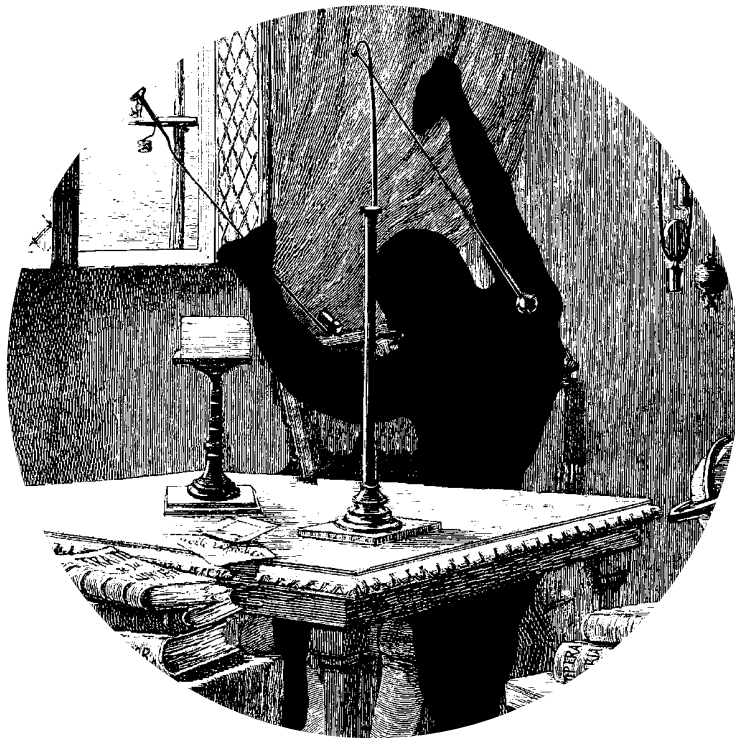
The clocks had moved away from their place of origin
because they were imprecise.

> Or else, the clocks might be imprecise
> *because* they had moved away from their place of origin.

At two o'clock,
a fascinating spectacle took place in the aforementioned room:
One by one, they all struck on the hour, each at their own rhythm.

> After all, they seemed to agree on the time. I was full of amazement to
> witness them as they used the language they had found to now perfect
> it with unexpected precision.

There is a paradoxical calm in the simultaneous ticking of many clocks.

> Incorrect clocks are marvellous objects. If you are completely still,
> so still that you cease to exist for a brief moment, then, but only then,
> can you sometimes perceive them.

I did not see any other pendulum clocks in Frankfurt that day, and I
hope that all inprecise clocks have made it into the collective shelter of
a harbouring flock.

⁊

> More than 400 years after Christiaan Huygens has invented the
> pendulum clock in 1656, there is a man sitting in CHOPSTICK
> ASIAN FOOD in Frankfurt, Germany. He is sitting here, all day,
> every day, at a small table next to the counter, watching videos on an
> iPad. I wonder if he finally figured it out.

Figured out what?

> The Sisyphos Problem.

How could he not?
After all, he has an infinite amount of time to almost find the honourable solution.

Day after day.

Until he abandons his unrealisable endeavour as night falls in frustrating exhaustion.
Only to tackle it all again from its beginning when the next sun rises.