domenica 28 marzo 2021					
lunedì 29 marzo 2021	13	14	55	51,7	79,1
martedì 30 marzo 2021	13	14	37	52,1	78,0
mercoledì 31 marzo 2021	13	14	19	52,4	76,9
giovedì 1 **aprile** 2021 12:16	13	14	1	52,8	75,8
venerdì 2 aprile 2021	13	13	43	53,2	74,8
sabato 3 aprile 2021	13	13	25	53,6	73,7
domenica 4 aprile 2021	13	13	8	54,0	72,7
lunedì 5 aprile 2021	13	12	50	54,4	71,7
martedì 6 aprile 2021	13	12	33	54,7	70,7
mercoledì 7 aprile 2021	13	12	16	55,1	69,7
giovedì 8 aprile 2021	13	11	60	55,5	68,8
venerdì 9 aprile 2021	13	11	43	55,9	67,8
sabato 10 aprile 2021	13	11	27	56,2	66,9
domenica 11 aprile 2021	13	11	12	56,6	66,0
lunedì 12 aprile 2021	13	10	56	57,0	65,0
martedì 13 aprile 2021	13	10	41	57,3	64,2
mercoledì 14 aprile 2021	13	10	26	57,7	63,3
giovedì 15 aprile 2021	13	10	11	58,0	62,4
venerdì 16 aprile 2021	13	9	57	58,4	61,5
sabato 17 aprile 2021	13	9	43	58,7	60,7
domenica 18 aprile 2021	13	9	30	59,1	59,9
lunedì 19 aprile 2021	13	9	17	59,4	59,0
lunedì 19 aprile 2021	**22**	**32**		**TORO**	
martedì 20 aprile 2021	13	9	4	59,8	58,2
mercoledì 21 aprile 2021	13	8	52	60,1	57,5
giovedì 22 aprile 2021	13	8	40	60,5	56,7
venerdì 23 aprile 2021	13	8	29	60,8	55,9
sabato 24 aprile 2021	13	8	18	61,1	55,2
domenica 25 aprile 2021	13	8	7	61,4	54,4
lunedì 26 aprile 2021	13	7	57	61,8	53,7
martedì 27 aprile 2021	13	7	48	62,1	53,0
mercoledì 28 aprile 2021	13	7	39	62,4	52,3
giovedì 29 aprile 2021	13	7	30	62,7	51,6
venerdì 30 aprile 2021	13	7	23	63,0	50,9
sabato 1 **maggio** 2021	13	7	15	63,3	50,3
domenica 2 maggio 2021	13	7	8	63,6	49,6
lunedì 3 maggio 2021	13	7	2	63,9	49,0
martedì 4 maggio 2021	13	6	56	64,2	48,3
mercoledì 5 maggio 2021	13	6	51	64,5	47,7
giovedì 6 maggio 2021	13	6	47	64,8	47,1
venerdì 7 maggio 2021	13	6	43	65,0	46,5
sabato 8 maggio 2021	13	6	39	65,3	46,0
domenica 9 maggio 2021	13	6	37	65,6	45,4
lunedì 10 maggio 2021	13	6	34	65,8	44,8
martedì 11 maggio 2021	13	6	33	66,1	44,3
mercoledì 12 maggio 2021	13	6	32	66,4	43,8
giovedì 13 maggio 2021	13	6	31	66,6	43,3
venerdì 14 maggio 2021	13	6	31	66,8	42,8
sabato 15 maggio 2021	13	6	32	67,1	42,3
domenica 16 maggio 2021	13	6	33	67,3	41,8
				67,5	41,4
				67,8	40,9
				68,0	40,5
				68,2	40,0
				GEMELLI	
venerdì 21 maggio 2021	13	6	47	68,4	39,6
sabato 22 maggio 2021	13	6	52	68,6	39,2
domenica 23 maggio 2021	13	6	57	68,8	38,9
lunedì 24 maggio 2021	13	7	2	69,0	38,5
martedì 25 maggio 2021	13	7	8	69,1	38,1
mercoledì 26 maggio 2021	13	7	14	69,3	37,8
giovedì 27 maggio 2021	13	7	21	69,5	37,4
venerdì 28 maggio 2021	13	7	28	69,6	37,1
sabato 29 maggio 2021	13	7	36	69,8	36,8
domenica 30 maggio 2021	13	7	44	69,9	36,5
lunedì 31 maggio 2021	13	7	53	70,1	36,2
martedì 1 **giugno** 2021	13	8	2	70,2	36,0
mercoledì 2 giugno 2021	13	8	12	70,3	35,7
giovedì 3 giugno 2021	13	8	21	70,5	35,5
venerdì 4 giugno 2021	13	8	32	70,6	35,2
sabato 5 giugno 2021	13	8	42	70,7	35,0
domenica 6 giugno 2021	13	8	53	70,8	34,8
lunedì 7 giugno 2021	13	9	4	70,9	34,6
martedì 8 giugno 2021	13	9	16	71,0	34,5
mercoledì 9 giugno 2021	13	9	28	71,1	34,3
giovedì 10 giugno 2021	13	9	40	71,1	34,3
venerdì 11 giugno 2021	13	9	52	71,2	34,0
sabato 12 giugno 2021	13	10	5	71,3	33,9
domenica 13 giugno 2021	13	10	17	71,3	33,8
lunedì 14 giugno 2021	13	10	30	71,4	33,6
martedì 15 giugno 2021	13	10	43	71,4	33,6
mercoledì 16 giugno 2021	13	10	56	71,5	33,4
giovedì 17 giugno 2021	13	11	9	71,5	33,4
venerdì 18 giugno 2021	13	11	22	71,5	33,4
sabato 19 giugno 2021	13	11	35	71,5	33,4
domenica 20 giugno 2021	13	11	48	71,5	33,4
Solstizio d'Estate 21/6	**5**	**31**		**CANCRO**	
lunedì 21 giugno 2021	13	12	1	71,5	33,4
martedì 22 giugno 2021	13	12	14	71,5	33,4
mercoledì 23 giugno 2021	13	12	27	71,5	33,4
giovedì 24 giugno 2021	13	12	40	71,5	33,4
venerdì 25 giugno 2021	13	12	52	71,5	33,4
sabato 26 giugno 2021	13	13	5	71,4	33,4
domenica 27 giugno 2021	13	13	17	71,4	33,4
lunedì 28 giugno 2021	13	13	29	71,4	33,4
[illegible]no 2021	13	13	41	71,3	33,4
[illegible]ugno 2021	13	13	53	71,2	34,4
giovedì 1 **luglio** 2021	13	14	5	71,2	34,4
venerdì 2 luglio 2021	13	14	16	71,1	34,4

SOLILOQUIO

HEIKE BARANOWSKY

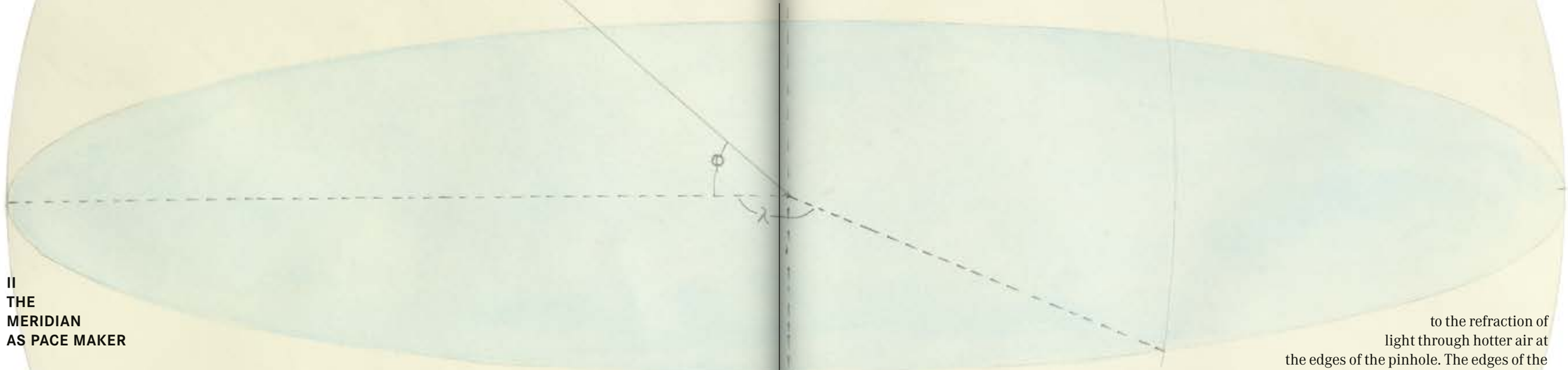
STUDIO 5

I
SOLILOQUIO

In the Basilica Santa Maria degli Angeli e dei Martiri in Rome, like in many other churches in Palermo, Naples, Florence, Bologna or Milan, there is a large meridian line. It was laid there three hundred years ago by the astronomer Francesco Bianchini for the purpose of astronomical measurements and the calculation of the dates of Easter – the highest holiday of the Catholic Church.

What is special about this meridian line is that it originates from a time when the Church's worldview still maintained that the Earth was the centre of the Universe and that the Sun revolved around it. Even though, as astronomical tools, meridian lines could prove the opposite.

These juxtaposed and antagonistic worldviews became the starting point for my research of Soliloquio.



II
THE MERIDIAN AS PACE MAKER

The Roman meridian was the pacemaker of the city until the late 19th century. However, it was laid as an astronomical measuring instrument to determine the Earth's changing angle of inclination, the circumference of the Earth, the length of a tropical year and other answers.

Even after 320 years, the meridian line is still an instrument to measure and determine universal space and time. Parts of the church floor are included in the measurements; across the meridian line there are markings on the floor that indicate the course of the Sun on certain days. These lines are marked with small bronze stars and form the shape of a hyperbola. An exception is the Equinox; this line is a straight line perpendicular to the meridian.

III
EASTER IS ON THE SUNDAY AFTER THE FIRST FULL MOON AFTER EQUINOX — THE BEGINNING OF SPRING

As profane astronomical tools, many meridian lines are placed in front of the altar. The contradiction of a scientific instrument in front of the Blessed Sacrament was due to an importance and urgency for the Catholic Church to independently predict the dates of Easter. These needed to be valid for millennia to emphasise the Church's claim to eternity. According to Catholic teaching, after the so-called ecclesiastical Equinox on March 21, the Sunday following the full Moon is Easter Sunday. This calculation is a mixed system of a solar calendar and a lunar calendar. The result is a *wandering Easter*.

Easter falls on April 25 at the latest, when there is a full Moon on the day before the Equinox and the next full Moon falls on a Sunday, 29 days later. The earliest possible date is March 22 if the previous day was a spring full Moon and Saturday. These two dates are marked *Terminus Paschae* on the meridian at Santa Maria degli Angeli.

When the skies are clear, I observe the Sun's progress in the Basilica almost daily. The wandering of the Sun along the meridian line from the winter to the summer solstice guides me through this time like a measuring instrument. I can physically experience time because of the daily change in the angle of the Sun. Every day the sunlit spot appears further along the meridian line in amazingly large leaps. The steps become smaller only in June and December because at the solstice the Sun's arc flattens. It is fascinating that this movement repeats itself year in and year out, with slight shifts that can clearly be observed over a decade.

IV
BASILICA AS CAMERA OBSCURA

The pinhole in the south facing facade is not only the entrance for the ray of light corresponding with the meridian but it also turns the church into a Camera Obscura. As soon as the Sun has risen high enough, its image appears upside down on the floor. The sunlit spot is thus not a sunlight spot but an image of the whole Sun! A trained eye can even recognise sunspots on this so-called solar image on the floor.

Over the year, its appearance changes from a large opaque oval at the winter solstice to a bright small circle at the summer solstice.

It takes a long time before I understand that the entire Sun is depicted here on the floor by the church itself becoming a camera; I observe that the image is upside down for the first time in the moving clouds. The birds flying through the image are too fast; only revealed in the single frame of a film recording. I even have a picture of an airplane flying upside down.

On my daily visits, I get into the habit of looking directly into this hole, directly into the Sun, and moving slightly back and forth until I realise: now I'm experiencing the radiation directly. It's really a great optical moment, because it radiates in all directions and you have the feeling that the light is passing through your eyes.

If I turn around and extend the line from the pinhole through my eyes to the ground, I then know where the solar image is at the present moment. That's how I look for it. Like a sundial, I play the pin or gnomon to understand where it hits. My eyes are then a gnomon just like the pinhole at 20 metres height.

V
FINDING

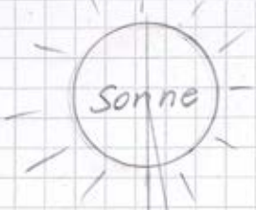
I start my regular observations just before Christmas in the winter of 2020. I see nothing on the first few visits. I sit in a pew just before noon and look toward the northern end of the line; the pinhole at my back. However, in winter the reflection is so faint that it can only be observed from the opposite side. When I finally get a look at the solar image, I am amazed at its size: a 110 cm long opaque oval. It wavers somewhat shakily in majestic stillness and then moves unexpectedly fast across the meridian line. The shakiness is due to the refraction of light through hotter air at the edges of the pinhole. The edges of the solar image are called penumbra.

Two years earlier, in the Cathedral of Palermo, I had been able to catch the sunlit spot of the meridian line on the white habit of a nun for a brief passing moment. But now I have ample time to observe it.

Around this time, I meet Costantino Sigismondi, a physicist and astronomer who has been observing the meridian for more than 20 years. With his cell phone, he films the process of passage, marking the edges of the solar image on the meridian line, stopping time and then measuring his marks. On some days, the solar image is much easier to see on his screen than on the ground.

A technical device can make something visible that is not so visible to the naked eye. This is quite common in science, but in this case I find it amazing.

I also decide to film. First Costantino at his work, then the solar image in motion. The visibility of the image is related to the angle from which you film. Ideally, if you stand exactly in the extended line of the light beam, i.e. gnomon (hole) — solar image — camera, and the camera is at the same angle as the angle of incidence, then you will see a uniformly illuminated area. If you stand a little off, that is, not in the line between the gnomic hole and solar image, then the image looks like it is not evenly illuminated, as if there was a light gradient within the area. I made this my own when filming. Volker Gläser, my cameraman and I, follow the speed of the solar image, sometimes a bit too fast or too slow, thus creating the effect of the filmed spot looking more like a three-dimensional bubble.



Erdumfang Rom = 29782 km
1 Tag = 24 h · 3600" = 86400 sek

Erddrehungsgeschwindigkeit in Rom = $\frac{29782\ km}{86400\ sek} = 345\ \frac{m}{sek}$

Es verhält sich

$$\frac{4740 \cdot 10^3\ m}{345\ m/sek} = \frac{20\ m}{a}$$

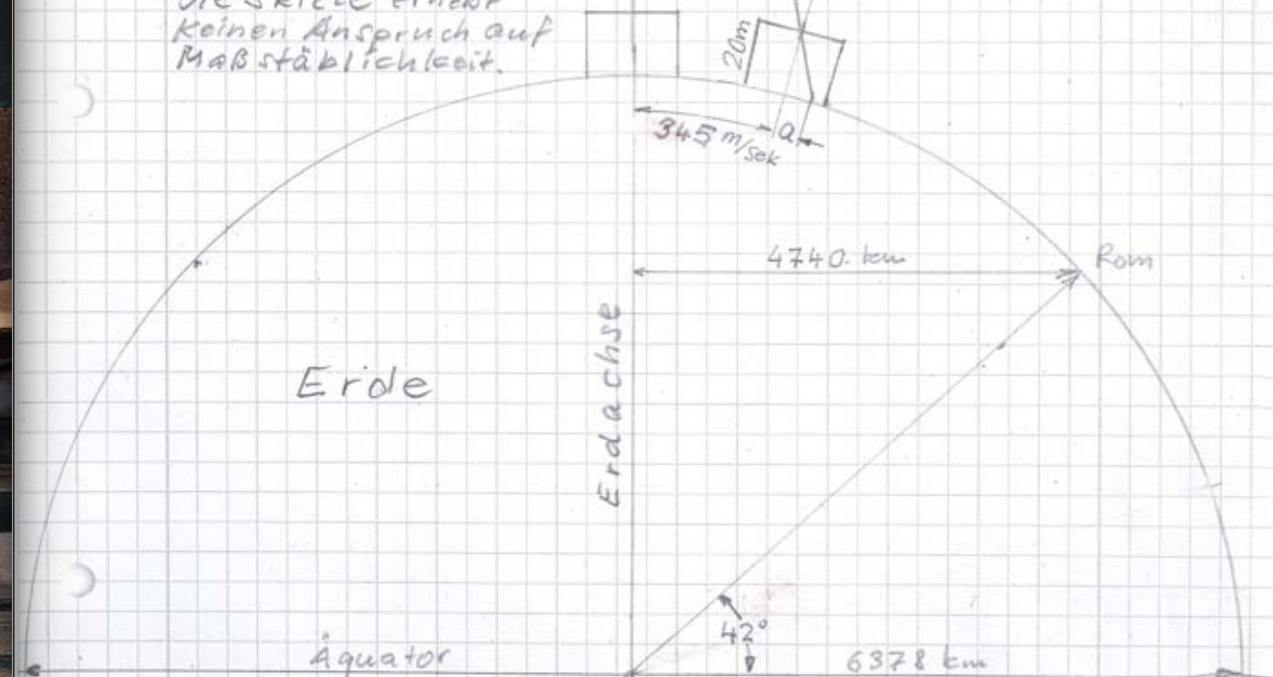
$$a = \frac{20\ m \cdot 345\ \frac{m}{sek}}{4740 \cdot 10^3\ m} = 0{,}0015\ \frac{m}{sek}$$

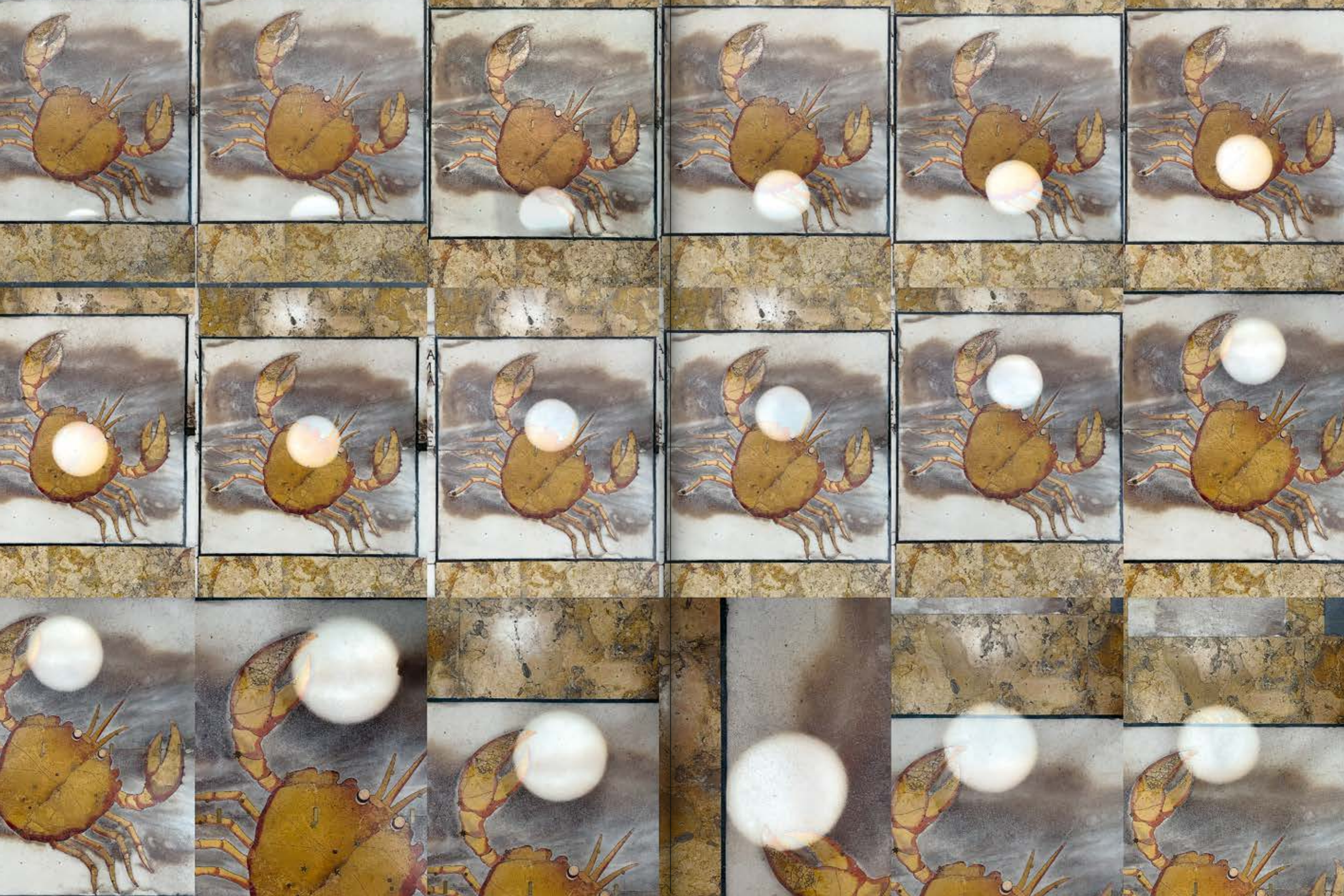
oder $a = 1{,}5\ \frac{mm}{sek}$

Während sich das Kirchengebäude aufgrund der Erddrehung mit 345 m/sek bewegt, wandert der Lichtstrahl durch das kleine Loch in der 20m hohen Decke auf dem Fußboden um 1,5 mm pro Sekunde weiter.

Der Drehwinkel der Erde pro Zeiteinheit ist an allen Orten gleich. Deshalb ist auch die Wandergeschwindigkeit des Lichtstrahles bei sonst gleichen Bedingungen an allen Orten der Erde gleich.

Die Skizze erhebt keinen Anspruch auf Maßstäblichkeit.





VI
ROTATIONAL SPEED

At the equator the Earth rotates at 1.650 km/h around its own axis. This is about 460 m/s.

The solar image in Santa Maria degli Angeli e dei Martiri moves between 2 mm and 4 mm per second depending on its location in the church. That is very fast if you are paying close attention. For me this is an existential experience: usually we are not consciously aware of the Earth's rotation. We still say the Sun is moving from East to West, but not that we are moving the other way. At the elevation of Rome, the Earth rotates at about 345 m/s. The angle of rotation of the Earth per second is the same in the church as at its latitude, only the sides of the isosceles triangle are much shorter (max. 60 m from the floor to the pinhole compared to the distance of the Earth's surface to the Sun). Thus, the base of the triangle in the church is shorter and the movement of the solar image is slower.

While filming a tracking shot parallel to the sunlit spot following its speed one to one, I soon realise that the feeling and sense of the speed is lost. I therefore decide to use stop-motion animation: one frame per second.

The film, though sped up by a factor of 25, is so much more like the actual experienced pace of watching it. Stop-motion animation makes you aware of the gap between the images.

VII
OBSERVING

Astronomy is based on observations. Mathematics can confirm this experience if its approach is correct. Observing needs time and repetition. Galilei was very conscious of his own temporality and duration. In reference to the changes in the angle of inclination of the Earth, he said: "If God grants me life for four or six more years and clear skies at solstices, I do not doubt that in that time, although short, I will see some sensible changes."

In the Gallery of Maps in the Vatican Museums there are wall-painted maps by Egnazio Danti, a cartographer, mathematician, cosmologist and astronomer. For us today, his maps are upside down. Danti built two meridian lines and in 1574 he calculated the resulting gap of 11 days between the Julian calendar and the solar year. Danti's aunt, Teodora Danti, was a painter and also astronomically literate. In the 1490's, during the time of the plague in Perugia, her father, Piervincenzo, retired to the countryside, observed the stars and translated Sacrobosco's *Sphere*. He taught this knowledge to his two children, Teodora and Giulio, during the years of quarantine. Years later Teodora taught mathematics and astronomy to her nephew Egnazio.

It was so quiet in the Corona winter of 2020/21 in the Basilica. Often, I am alone in this huge building. The church becomes my second studio, only the rope barriers interfere with my observations and recordings. In my book about meridian lines there are pictures from the 1980s without such barriers.

VIII
BIANCHINI'S MERIDIAN

In 1700, Pope Clement XI commissioned the astronomer Francesco Bianchini to lay a meridian in the Basilica of Santa Maria degli Angeli. Bianchini consulted with Giandomenico Cassini, the builder of the largest and most accurate meridian to date at San Petronio in Bologna. Cassini had, 45 years earlier, masterfully threaded his famous meridian line between two supporting columns, one outside, one inside, touching the bases.

Francesco Bianchini was a polymath of extraordinary diplomatic skill. Educated by the Jesuits in Bologna in astronomy and physics, and mathematics in Padua. He came to Rome after graduation on the recommendation of his theological teachers and worked in the library of Cardinal Ottoboni. Under Pope Clement XI he travelled as ambassador of the Holy See to France, the German lands and England. He always had with him a carriage of astronomical instruments.

As long as a question is not one hundred percent scientifically clarified, it is often a question of faith. Which worldview Bianchini represented, is not documented. The Jesuits in his time advocated the World model of Tycho Brahe, in which the planets revolve around the Sun, while the Sun revolves around the earth.

On the first detailed map of the Moon from 1651, all the important astronomers to date had a crater named after them posthumously: Ptolemy, Copernicus, Danti, Sacrobosco, Brahe, Clavius, Magini, Galilei and Kepler. However, its creator, the Jesuit Giambattista Riccioli separated the good hemisphere from the evil one. To the side of the stormy-dangerous Oceanus Procellarum are assigned the representatives of the heliocentric worldview: Galilei, Kepler and Copernicus. Giandomenico Cassini and Francesco Bianchini, the builders of the meridians of Bologna and Rome, got their craters only in 1935.

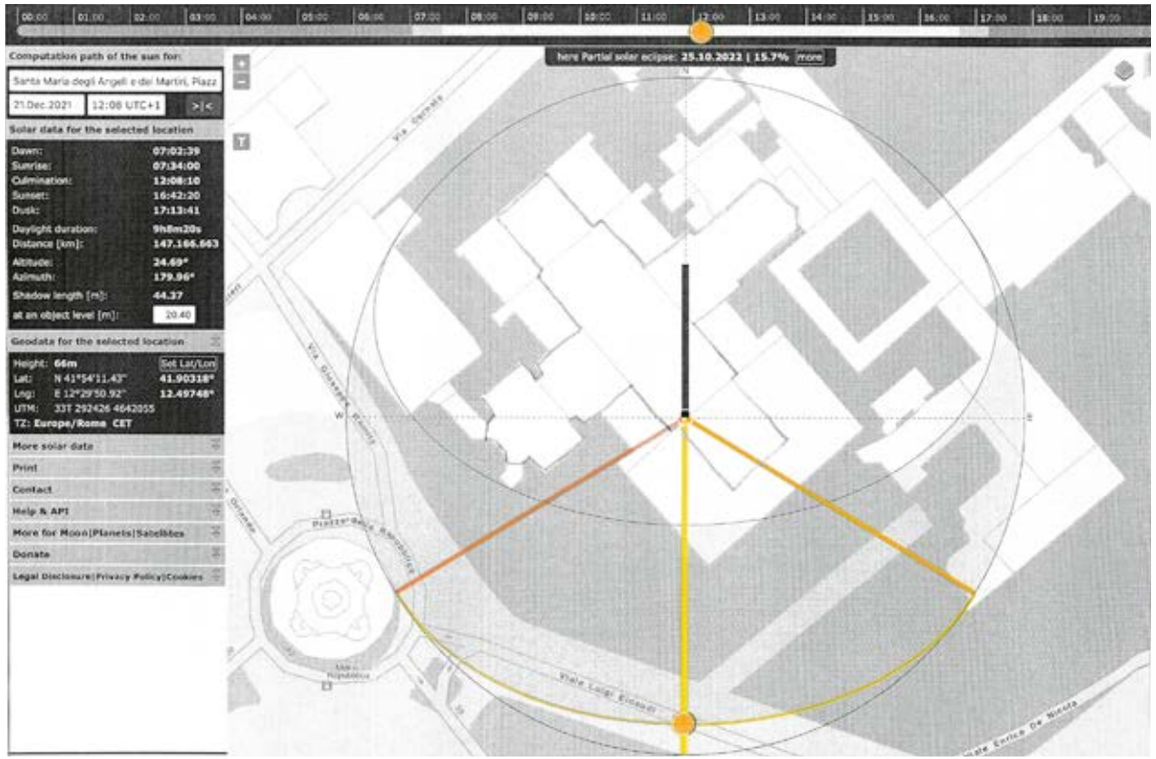
IX
BATHS: BASE AND DIRECTION

In 1562, Pope Pius IV commissioned Michelangelo to design a nave. It was to be built into the Thermae of Diocletian, which had been closed for almost a thousand years. Michelangelo drew up the plans, but because of his advanced age and the completion of St. Peter's Basilica, he was unable to execute the work himself. He died in 1564, two years before the Basilica Santa Maria degli Angeli e dei Martiri was completed.

The foundation is the most difficult component of a building; if it were ever to support a building, it has to be properly constructed. That is why many buildings, especially churches, have been built on top of with new, larger buildings. In late ancient Rome, the thermal baths formed a gigantic complex of 300 m by 360 m. In addition to a marble-lined swimming pool and three pools of varied temperatures, there were also sports fields, libraries, saunas and much more.

The Basilica of Santa Maria degli Angeli e dei Martiri is built on the former cold-water basin. The warm-water basin was located in today's Piazza della Repubblica in front of the later church portal. The orientation of the thermal baths was made in a South-West direction so that the warm-water basin was exposed to daily sunlight for as long as possible. For this reason, the basilica is not oriented East-West as usual, but follows the helio-energetic orientation of the thermal baths.

The dimensions are best understood from the former roof terrace of the thermal baths, now the roof of the Basilica. From there, the Piazza della Repubblica, enclosed by semi-circular buildings, still looks like a bustling pool fed with water from the fountain in the centre.



X
THE PLURAL OF CALENDAR

Emperor Julius Caesar introduced the Julian calendar in 45 BC. The solar calendar has 365 days and a leap year every 4 years, thus 365 1/4 days on average. But the Julian year length is 11 minutes too long compared to the solar year. The Gregorian calendar corrects every hundred years by omitting a leap year.

To correct the Julian calendar, ten days were dropped from the calendar in 1582, and October 5 was declared October 15, 1582. This proceeded quite synchronously in Italy, but in some countries, especially Protestant and Orthodox ones, it dragged on into the 20th century. If this change had been introduced before the Reformation, the use of two calendars in parallel in the 17th century would not have occurred. Dates continued to differ depending on whether one lived in a Protestant or Catholic country. For letters crossing borders the Europeans wrote, for example, January 10/20 — including both Julian and Gregorian calendar. The Kingdom of Greece did not follow the reform until 1923; the October Revolution in Russia was actually a November Revolution; and in the bi-confessional city of Augsburg, the calendar reform almost led to civil war in 1584.

XI
ARTIFICIAL SOLAR ECLIPSE

Costantino Sigismondi puts a white sheet on the floor. But the marble reflects the light ray better than the sheet of paper.

In Santa Maria degli Angeli one can see uncannily well how the traces of different epochs lie on each other, not always benefitting the overall appearance.

It is precisely the areas outside the Clementine Meridian line that are beginning to interest me. I follow daily the sunrise in the church hours before the crossing of the meridian line and also the sunset shortly after crossing the meridian line. The sunrise and sunset, and also an apparent eclipse of the Sun between April and September, are determined by the given structural conditions. In particular to the structural changes made to the church 50 years after the meridian was laid: such as a new floor, non-load-bearing columns and a huge stucco cornice. Probably this work was carried out in winter, otherwise the architect Vanvitelli would likely have noticed that the functionality of the meridian line is suspended in the summer months. From Michelangelo's design only the vault remains. The vault, which dates back to the Baths of Diocletian, is supported by eight granite columns. Added to these are another eight columns made of plaster.

One of the columns shades the meridian in February and again in November towards the end of the passage of Sirius. During the summer months, the stucco border, which was added that year in 1750, completely blocks the meridian. In the same year, Ruggero Boscovich partially restored the functionality of the meridian line with an intervention on the cornice; he cut a pie-shaped piece out of the stucco. Now the Sun reappears on the Clementine Meridian all year round. However, from April to September the solar image disappears behind the stucco shading other areas in the church nave — as a kind of artificial solar eclipse.

In 2021, the first and last days of this eclipse fall on Good Friday, April 2, and probably September 10. Unfortunately, on September 10, thick clouds are rising and I cannot follow the spectacle of the end of the artificial solar eclipse.

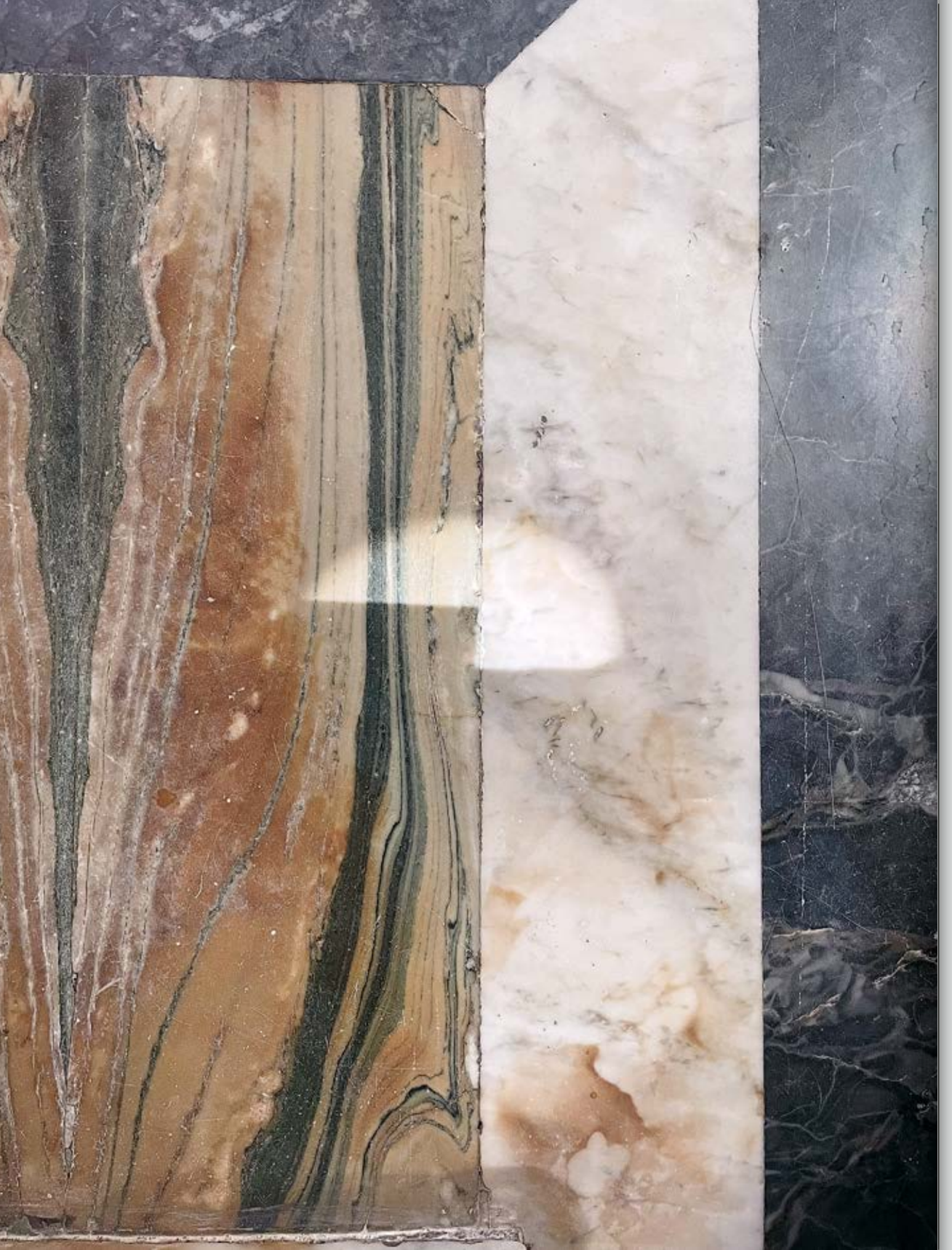
XII
END

Compared to its dimensions, we see only a tiny fraction of the universe in the basilica, but it opens our eyes to the whole. Analogously, the gap between two images created by the animation becomes significant: the experience of the rotation of the earth, the speed of the Sun's movement in space gives the speed of the camera movement. We let the sunlit spot lead us through the space. Actually, it was a dance, and the female Sun [note: in German *Sonne* is feminine] took the lead.

Costantino mentions that I also helped him to look at the meridian differently — to look further at the edges — thereby he made a scientific discovery. He emphasises again and again that I am the first woman, and the first person since the Swede Anders Celsius 300 years ago, who observes the meridian with such perseverance. He did not count himself in this, reserved as he is.

I spent almost a whole year with this solar image, and it regulated and controlled my daily routine, my journeys, my thinking and state of mind. The observing could go on and on for me.

The quotations used in the text are taken from
J. L. Heilbron: *The Sun in the Church*, 1999



SOLILOQUIO
Heike Baranowsky | Studio 5
Rompreisträgerin | *vincitrice del Premio Roma* 2020/21

Herausgeberin | *edito da*
Julia Draganović
Deutsche Akademie Rom Villa Massimo
Accademia Tedesca Roma Villa Massimo
Largo di Villa Massimo 1—2
00161 Roma
www.villamassimo.de

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von | *di* **Costantino Sigismondi**

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2	giovedì 24 dicembre 2020	12	10	9	24,7	217,2
3	venerdì 25 dicembre 2020	12	10	39	24,8	216,9
4	sabato 26 dicembre 2020	12	11	8	24,8	216,5
5	domenica 27 dicembre 2020	12	11	38	24,8	216,1
6	lunedì 28 dicembre 2020	12	12	7	24,9	215,6
7	martedì 29 dicembre 2020	12	12	36	24,9	215,0
8	mercoledì 30 dicembre 2020	12	13	5	25,0	214,4
9	giovedì 31 dicembre 2020	12	13	33	25,1	213,6
10	venerdì 1 **gennaio** 2021	12	14	1	25,2	212,9
11	sabato 2 gennaio 2021	12	14	29	25,3	212,0
12	domenica 3 gennaio 2021	12	14	57	25,4	211,1
13	lunedì 4 gennaio 2021	12	15	24	25,5	210,1
14	martedì 5 gennaio 2021	12	15	51	25,6	209,0
15	mercoledì 6 gennaio 2021	12	16	17	25,7	207,9
16	giovedì 7 gennaio 2021	12	16	43	25,8	206,7
17	venerdì 8 gennaio 2021	12	17	8	25,9	205,5
18	sabato 9 gennaio 2021	12	17	33	26,1	204,2
19	domenica 10 gennaio 2021	12	17	57	26,2	202,9
20	lunedì 11 gennaio 2021	12	18	21	26,4	201,5
21	martedì 12 gennaio 2021	12	18	44	26,6	200,1
22	mercoledì 13 gennaio 2021	12	19	7	26,7	198,6
23	giovedì 14 gennaio 2021	12	19	29	26,9	197,1
24	venerdì 15 gennaio 2021	12	19	50	27,1	195,5
25	sabato 16 gennaio 2021	12	20	10	27,3	193,9
26	domenica 17 gennaio 2021	12	20	30	27,5	192,3
27	lunedì 18 gennaio 2021	12	20	49	27,7	190,6
28	martedì 19 gennaio 2021	12	21	7	27,9	189,0
29	martedì 19 gennaio 2021	**21**	**39**		**ACQUARIO**	
30	mercoledì 20 gennaio 2021	12	21	25	28,1	187,2
31	giovedì 21 gennaio 2021	12	21	42	28,3	185,5
32	venerdì 22 gennaio 2021	12	21	58	28,6	183,7
33	sabato 23 gennaio 2021	12	22	13	28,8	182,0
34	domenica 24 gennaio 2021	12	22	28	29,0	180,2
35	lunedì 25 gennaio 2021	12	22	41	29,3	178,4
36	martedì 26 gennaio 2021	12	22	54	29,5	176,5
37	mercoledì 27 gennaio 2021	12	23	6	29,8	174,7
38	giovedì 28 gennaio 2021	12	23	17	30,0	172,9
39	venerdì 29 gennaio 2021	12	23	28	30,3	171,0
40	sabato 30 gennaio 2021	12	23	37	30,6	169,1
41	domenica 31 gennaio 2021	12	23	46	30,9	167,3
42	lunedì 1 **febbraio** 2021	12	23	54	31,2	165,4
	martedì 2 febbraio 2021	12	24	1	31,4	163,5
	mercoledì 3 febbraio 2021	12	24	7	31,7	161,7
	giovedì 4 febbraio 2021	12	24	13	32,0	159,8
	venerdì 5 febbraio 2021					
	sabato 6 febbraio 2021					

lunedì 8 febbraio 2021
martedì 9 febbraio 2021
mercoledì 10 febbraio 202
giovedì 11 febbraio 2021
venerdì 12 febbraio 2021
sabato 13 febbraio 2021
domenica 14 febbraio 202
lunedì 15 febbraio 2021
martedì 16 febbraio 2021
mercoledì 17 febbraio 202
giovedì 18 febbraio 2021
giovedì 18 febbraio 2021
venerdì 19 febbraio 2021
sabato 20 febbraio 2021
domenica 21 febbraio 2021
lunedì 22 febbraio 2021
martedì 23 febbraio 2021
mercoledì 24 febbraio 2021
giovedì 25 febbraio 2021
venerdì 26 febbraio 2021
sabato 27 febbraio 2021
domenica 28 febbraio 2021
lunedì 1 **marzo** 2021
martedì 2 marzo 2021
mercoledì 3 marzo 2021
giovedì 4 marzo 2021
venerdì 5 marzo 2021
sabato 6 marzo 2021
domenica 7 marzo 2021
lunedì 8 marzo 2021
martedì 9 marzo 2021
mercoledì 10 marzo 2021
giovedì 11 marzo 2021
venerdì 12 marzo 2021
sabato 13 marzo 2021
domenica 14 marzo 2021
lunedì 15 marzo 2021
martedì 16 marzo 2021
mercoledì 17 marzo 2021
giovedì 18 marzo 2021
venerdì 19 marzo 2021
Equinozio di Primavera 20/3
sabato 20 marzo 2021
domenica 21 marzo 2021
lunedì 22 marzo 2021
martedì 23 marzo 2021
mercoledì 24 marzo 2021
giovedì 25 marzo 2021