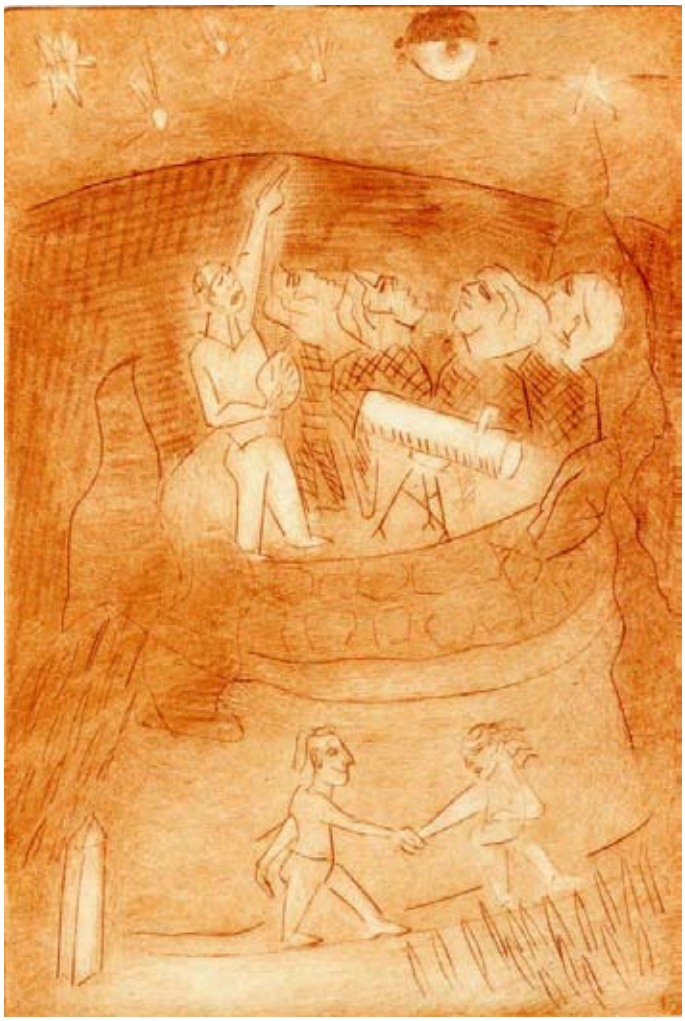
A night on the mountain,

Michel's introduction to the Universe

"The Sun is in Leo and Mercury and Venus move into the sign of the lion from the 11th, suggesting more extroverted art emerging and celebrating the more vibrant, expressive, creative forms, especially the performing arts; Leo rules the theatre."
Horoscope by Leigh Oswald from Artnet

Written by Sam Kerson, editted by Katah
August 2006

Katah and Sam in one car following Didier and Tomas in another, it is a wild and beautiful ride, through the semi desert, from Buzignargues, a bit to fast, along narrow winding roads; cresting, rolling hills, one after another, just before sun set. We are on the north shore of the Mediterranean, headed north. Every object is fat with bronze and amber, colours drenched in sun light all day and radiating a golden ambiance just before dark. After St- Hippolyte-du-Fort, the road climbs the hills of the Cevenne, during the last kilometres, the road undulates, climbs and winds curvatious, even voluptuous. Didier puts the cars through their paces, down shifting into the curves and accelerating out of them, we climb like two birds; as our speeds are the same our cars respond to the contour of the road in the same way, we list one way, lean and pitch the other as though coordinated, we decelerate as the grade increases, our back ends skid when the curve is to sharp. Centrifugal force and inertia, gears and engines, the two cars move through the landscape like a single syncopated entity. We arrive at the rendez-vous at nine pm; Col-de-Rédares, above St-Hippolyte-du-Fort in the Cévennes. August 4, 2006, it is Katah's 38th birthday.
Didier calls Michel by cell-phone to get the final directions and we edge our way along a dirt track, the last kilometre. We descend from the col onto a high shelf, with steep hills curved in a shield from east to west on the north side, and a profound valley falling away to the south. We see La Salle, in the distance, on the valley floor. Our destination is an antique stone house and two abandoned fields around a fine little knob of a hill. The forest and field are arrayed around this hill, which about 25 meters high, and which has a small, natural, oval platform on top.
We set up our tents in the lower field and climb



copper plate etching by Sam Kerson, 2007

the hill in the first darkness. There are people on top already. Three portable telescopes stand ready; first a stubby, motorized, table top model which never seems to work. The second is a motorized, tripod mounted, computer guided model, which does work, with the help of an engineer, this one reaches deep into the heavens and promises views most of us have never seen before. The third is a manually operated, hobby telescope, standing on a tripod, Michel's personal telescope which works very well and can be operated by those of us who have no experience.

People come and go, some to the house some to their tents, none the less, in the early evening there are more than twenty people on the hill top. What a sight they are. There is only moon light, a three quarter waxing moon hanging over the hills to the north. The humans are in small groups of black cut-out figures. The astronomer who invited all of us is Michel Faucherre. Michel moves from one cluster of people to another, holding a star chart against the sky with one hand and pointing out the constellations with the other, all heads are tipped up and all eyes are searching the infinite dome. This posture, standing and looking up at the heavens, is so unusual that Michel warned us to bring our air mats, so we can view from a horizontal position, so we will not suffer cricked necks. I notice, on top of his bag of personal things, a white plastic neck brace.

Jupiter is large on the horizon, the telescopes are pointing to this first object of the night. As we put our eye to the lens, the operator, a black presence on the other side of the tube, tells us how to adjust the focus. Looking through the small telescope we can see the giant Jupiter hurtling through the sky accompanied by four moons; "satellites", Michel, calls them.

copper plate etching by Sam Kerson, 2007

Moving to the larger telescope; adjusting the focus, we see the four satellites of Jupiter shining brightly and at this magnification we can see the horizontal stripes on the great planet itself!

We arrange our air mats on the ground, so we can lie, with our backs to the earth and our fronts facing the sky, Michel points out the Summer Triangle; Vega, bluish in Lyra, Altaïr in Aquila, and Deneb in Cygnus.

Starting at Polaris he names Cassiopeia, Pegasus, Ursa Major. Michel points out the zodiacal curve and the Milky Way, which he describes as our Solar System and our Galaxy seen from inside their respective planes. Sweeping his arm along the Zodiac he names Capricorn, Sagittarius, Scorpio, Libra, Virgo and just disappearing Leo. The astronomer circles and points, he speaks in French. Standing with our heads thrown back we follow his pointing finger and tour the stars. We, inexperienced star gazers, are quickly overwhelmed by the magnitude of the proposal, and rest on our mats and even talk of other things, whispering in the shadows as the inventory of the heavens advances.

A bit later both telescopes are focussed on the moon, we start looking in the manual telescope and jump back, startled by the clear, close view that lights up our eyes. Craters, crevices, and great stony plains, grey, in a white sun light, casting black shadows and throwing every elevation into relief. Michel quotes the distance to the moon as 400,000 kilometres.

The big telescope magnifies what the eye can see by a factor of 167. Does it then give us the impression that we are looking at the moon from 2400 kilometres above its surface? In this lens we can only see part of the moon at a time, one great impact crater, formed by a meteor colliding with the moon, and a slice of grey stony plain. No rabbit, no man in the moon, no green cheese, this magnification gives only the stark facts. Is anything gained by looking so close?
Following Michel's lead, we see, just above the horizon, and quite close to the moon, at dusk, very bright: Antares, which Michel calls, "a red supergiant star". When it's dark, three stars show up on a vertical line just south of the moon: Michel calls them, "the shell of Scorpio".
There are three telescope operators, they struggle with the table top model but never get it to focus. The big telescope takes two people to operate, the owner and the astronomer. The two enter coordinates and times and hope the telescope will track celestial objects. That never quite works but they do manage to move the scope from one object to another. When the little manual telescope has a celestial object in sight we neophytes line up to see what can be seen.
Both eye pieces are to high for Tomas, though he and Katah do find some rocks to make a little mound they can stand on, so they can reach the eye piece. Tomas has slipped into the shadows, along the edge of the platform, where Didier is searching the skies, sitting on the ground, using his binoculars.
I overhear a conversation between two shadows; "…the Apollo mission…" caught my ear at first, one shadow is praising the Americans while the other is saying, "My neighbours saw Apollo 11 landing on the moon in July 1969, on their TVs, they thought it was a fake; a movie made by Hollywood with super, "special effects", to this day they don't really believe it." Michel adds that the Apollo missions were a disappointment to astronomers: no water, no gold, no hidden secrets, just regolith; a very fine sand, in vast quantities.

Around midnight there is a bit of a pause with chilled Rosé, in plastic cups, and cookies. Everyone is excited and the conversation is French and lively. Didier makes his exit, saying good-bye to everyone and kissing three times all around the circle, he returns to Buzignargues, while we who are going to spend the night go down the hill to get our pillows and sleeping bags, it is just a little cool.
Tomas Luna, the Zapotec puppeteer, grew up in the shadow of Monte Alban the great Meso-American celestial observation and ritual platform at Oaxaca, Mexico. Tomas, Katah and I set up our couches, our personal observation modules, at the edge of our current observation platform. From our beds we can see the sky to the north, all three telescopes and the dwindling number of amateur observers. Together, Tomas and I, once helped create a great pageant, Sol y Luna, describing the Pre-Colombian cosmology celebrated at Monte Alban. We remember Monte Alban's great northern stair case, the two grand north/south avenues, the palace, the ball court, the observatory. We say the names of the characters; la vieja, jaguar, venado, aguila and iguana. It is quite a step from that, ritual culture of celestial observation, to this isolated personal observatory. The cult-figure who might have guided those divine observations made with the naked eye, is transformed to a scientist with his optical devices, and his objectivity.

The conversation turns to the Darwin project, it seems the Americans have stopped funding it but Europe goes on looking for other, earth like, planets that might support life somewhere in the Milky Way. Consider the Fermi Paradox; Fermi said, there can be no doubt, realizing the age of the universe and the vast number of stars, billions apparently, that there is life out there; the question is; why can't we make contact with them?
The philosophers continue to point and adjust the telescopes. Katah tells the story of Hera and Hercules and the formation of the Milky Way. A mortal lover of Zeus has given birth to a boy, and the proud sire has promised to make the baby immortal. The way to achieve this is to allow the child to suck the milk from Hera's breast. Zeus understands that Hera is not willing to nurse the infants of his secret lovers. So he slips the baby, Hercules, into her bed, while she is sleeping soundly, and the infant nuzzles the goddess's breast and sucks. Hercule's vigor disturbs Hera's sleep; as she wakes, she sees that the child suckling at her breast is not her own, she instantly realizes what Zeus is up to and flings the child from her. As the baby begins to hurtle through space the suction is broken at her teat and milk sprays through the heavens; et voilà! the Milky Way.

We doze, wake to look into the heavens, listen to the excited buzz of the figures bent over the eye pieces and in a dreamy state hear Michel advising that everyone take a nap for a couple of hours. The moon proceeds slowly towards the horizon where it will disappear after 3 am.

Lying on the hill top, with Katah and Tomas, looking up at the sky, as we fall asleep, I remember climbing up onto the roof of the garage in North Adams Mass. Putting up the ladder, making our way along the shed roof and then right to the peak of the garage roof, where we had the best of seats, my sister and brother and I, on an October night in 1957, the sky was clear and we could see Sputnik One sailing through the heavens.

copper plate etching by Sam Kerson, 2007

At three, I hear Michel coming back up the path. He is a very tall thin man; in order to look into the eye-piece; he must bend his knees deeply and hold onto the tripod for support. It is pretty dark once the moon has gone down and he appears like a silhouette, sky lighted, the tripod and the telescope are extensions of his astronomical anatomy. An adapted human his telescope is an extension of his eye. He is an ardent, active, fifty year old man, compelled by his religious faith, in science. He is moving from one telescope to the other, planning a series of observations for his guests when they return. A mad professor, a sorcerer, an astrologer with a conical cap on his head, a Copernicus, a Galileo, a man with a rich

history of astronomical experience who is very willing to introduce the rest of us to this passion of his. I am always reminded of an old German graphic image which shows everyday life under a bowl of the heavens and in the down stage left corner there is an astrologer in his long coat with the stars printed on it, he is on his knees and he has pushed his head through a hole in the celestial dome. This image was popular during the time of the psychedelic experiments as it represented the possibility of seeing another world, a new world.
Michel talks about the Doppler Effect and how Hubble applied it to the distant objects in the sky. When a train is coming toward you, you hear a high pitched sound, when it is going away from you; you hear a lower pitched sound. Hubble applied this principle to distant objects in the heavens and understood their shifting from blue to red, or shifting, in a bigger sense, to red, as indicating that these objects are moving away from us, an observation which supported his big bang theory.

"Look here!" Michel says, stepping back from the eye piece, "use this knob to focus". I see nothing, maybe a little ball of fur in the middle of the lens, just a little disorderly glow, a fur ball in the heavens glowing in a shadowy way. "That is Andromeda, M-31", Michel says, "the nearest galaxy, sometimes it can be seen with the naked eye, if you know where to look".

"Try this, move the telescope with these four buttons", he shows me, "up, down, left, right." There are stars on every side of the lens packed closely around my viewing area, I scan left, right, up and down and report; easily forty stars. "Yes, easily forty", he replies, "an open cluster, what you call, the Seven Sisters, or the Pleiades."

Thibault is with us, a young man who has been in the south picking apricots, the son of friends of Anne, who are visiting from Normandy. Thibault crosses his arms, supports his elbow with one hand and places his fist against his chin as he ponders the star-scape while Michel speaks of the great black hole, found in Cygnus, which appears to be the centre of our galaxy.

Michel is pointing to the eastern horizon, "Everything comes from there, he says, the planets and the Sun, rise from there and the constellations and stars, rise from there too." Now that he has pointed it out, it not only seems obvious, but we have a sense of the rush of the universe over the hills to our east.

Clouds have been peeping over the hills all night, Anne called to say, the clouds have covered the sky at St-Aunes. We had been watching the clouds in the afternoon, back at Buzignargues, thinking the night's observing run might be cancelled, but only now, at four in the morning, do the clouds start to interfere with our viewing. Katah and I fall back to sleep.

We wake again half an hour before sun-rise; the darkness lingers a bit in the shadows. We are observing Venus on the horizon and hoping to see Mercury. Only a few of the observers are left at this hour; Thibault's father, Jacques is here with a blanket over his shoulders and Michel's "Uncle", Pierre Casalis, our host and the owner of the large telescope, is with us.
The stars are disappearing now, as the sky turns blue and Katah, from her sleeping bag, is proposing another night of observing.

When the sky is all lighted up and we have given up on seeing Mercury, Michel is quite content, maybe a bit star drunk, we all share a certain unspoken complicity; we have spent the night together, in this ancient and mysterious endeavour. Together we feel a kind of rapture of the deep; we hear the music of the spheres. We have spent the night watching the stars, looking at the heavens, contemplating our futures, looking out from the earth all night; wondering about time and space. We see ourselves sharing the sky with diviners, and oracles, astronomers and astrologers, scientists and photographers, artists and lovers.

In this modern age I am sure many of the participants would argue that they understand themselves as scientists; hardly remembering Tycho Brahé who was an astrologer, or his student, Johanne Kepler, 1571 to 1630, whose mother was chained to the gates of Liepzig as a witch. Certainly it was simple to recall the many people, of many cultures who had stood on little knolls like this, perhaps they made the knolls themselves, or they had located natural ones like this one, to observe the heavens and to understand their lives through observation of the heavens. To name a few, the Sumerians, the Egyptians, the Inca and the Maya, built their pyramids or their ziggurats, and formed their priesthoods, among all the others.

Remember the ancient formula; As it is above, so it shall be below.

We sleep again, just at dawn, and when we wake the Normans invite us all to a very jovial breakfast on a blanket in front of their tent.

Written by Sam
Edited by Katah, Buzingarues, August '06