

# *Hysteria and Enlightenment*

## Chapter 9

### The Astronomer Royal

*"With force I have crushed the brains of the proud!"*

*-Pope Paul V*

*"8.79835±0.00039" - Leo Goldberg*

Night, (as the conversation touching on topics in music and other matters began winding down) , unclouded, deprived of moonlight, swept by winds chilly and sharp, rolled over the rooftops and spires of the Imperial city. Soon starbursts appeared spontaneously and beacons brightly from the heavens.

During her long hours of sitting in the darkened clinic Franz Anton Mesmer, anxious that her education not be neglected, had lectured Marie-Therese on scientific matters, astronomy in particular and the Newtonian revolution in physics. He, along with many 18<sup>th</sup> century thinkers, believed that the statement of law of universal gravitation and its employment in revealing the structure of the universe, was the greatest accomplishment of any one man in all recorded history.

Over dinner Mesmer had told the assembled guests something about the Astronomer Royal, the Jesuit priest, Maximillian Hell:

Hell had been directly involved in independent research programs connected to the two monumental expeditions for the observation of the transit of Venus across the face of the sun, that

of June 3, 1761, and of June 6, 1769. During the former he had remained in Vienna, observing the transit in the company of the Emperor-Regent, Joseph II himself, whose curiosity for all things scientific had been a blessing for the Viennese scientific establishment.

"That the same might be said about his mother!" Mesmer sighed. To which Vogler concurred:

"We are lucky, at least, not to live in barbarous Russia."

In 1768, in advance of the expedition of 1769, Hell had travelled to a lonely observation post on the island of Vardø, just above the northeastern intersection of Norway and Finland. He remained in Scandinavia for 2 years. His meticulous observations had earned him the admiration of the French Royal Academy, sponsors and coordinators of the vast international enterprise. Hell did not escape the spite of his detractors; few did in his era. The noted astronomer LaLande accused him of falsifying his data; a full exoneration had to wait for Simon Newcomb's investigation of the issues in the 1880's.

Coincidentally, Hell had also been the person to suggest to Mesmer in the earlier case of Fraulein Österline, that he experiment with the therapeutic use of magnets. Mesmer felt a debt of gratitude towards Hell which the latter did not appear to reciprocate.

Turning to Marie-Therese, Mesmer said: "My dear, tonight, with your permission, I'm going to show you off to Professor Hell. He'll no longer be able to deny the value of my ideas with you standing right in front of him. I can't imagine him rejecting the

consequences of his own research!"

Marie-Therese frowned before addressing the others: "The good Doctor Mesmer can never refrain from using me as a guinea pig."

Vogler chuckled: "What's wrong with that, Marie? He can't treat you worse than Leopold Mozart treats his son!"

Mariana mocked: "Oh, good ahead, Marie! No sacrifice is too great for that sacred cow, science!"

Marie-Therese nodded and smiled: "Of course, doctor; it's all right with me."

The Abbé Stadler sounded a warning note: "Be prepared for a dull evening whenever scientists get together. All shop talk, blah, blah, blah! They'll bore your ears off with their facts and figures!"

"I've got strong ears, Abbé. I can take it."

Maids and servants came out from the kitchen to clear away the dishes. The four musicians took their leave. The von Paradis couple confessed themselves tired after the long journey from their country home and retired to their rooms. Mesmer assisted Marie-Therese up from the piano bench and helped her into her coat. Over her sack dress she draped a pelisse and a fur tippet. A long scarf was wrapped about her neck, and the maid placed a simple mob cap on her plain black hair. Mesmer's valet assisted him into an English single-breasted frock coat, with a standing collar and large flat buttons of silver that were fastened from the top down to the waist. As they left by the side door he squashed a tricorne hat atop his wig. The servant reached for a lantern in which a heavy wax candle was burning. Then the three of them walked up the

stone path leading to the observatory.

They entered by the front door. Candles and torches had already been lit in anticipation of their coming, and a fire burned brightly in the Franklin stove (also known as a Pennsylvania Fireplace) imported in 1770 from the firm of Robert Grace, master of the Warwick furnace in Chester County, Pennsylvania. They continued across dark red flagstones covered with mats and carpets, to a set of long tables laden with charts, instruments and star atlases. Then the servant went back to the door, to sit and await the arrival of Professor Maximilian Hell.

"How brightly the fire burns!" Marie-Therese cried out, shielding her eyes.

"It's because of my remarkable new furnace. ", Mesmer replied, "It was invented by Benjamin Franklin, the same man that designed the glass harmonica."

Marie-Therese was impressed.

"Didn't you once suggest, Doctor, that we might play duets?"

Mesmer coughed: "Well...I've been so busy lately, there's been no time to practice. If I remember correctly, it was you who offered to compose a duo sonata for glass harmonica and piano. "

"I did. Now I remember. I will, once I can see a little better."

Mesmer remarked that there was a glass harmonica in the observatory. He took her arm and walked her over to a far corner of the room, to a location as dry as could be expected under the circumstances. Half a dozen copper wires connected it to an array of twisted metal pieces, dangling from a shelf like keys.

"Whatever is this for?" Marie-Therese asked in astonishment

and wonder: "Do you want me to play it?"

"On no, Marie; it's not to be played upon. It's central to a scientific experiment I've been engaged in these past two years."

"And what is that, pray." Mesmer's face lit up with a broad smile, compounded 90% of self-satisfaction:

"All of my life I've been fascinated by the Music of the Spheres. It's my hope that this glass harmonica will pick up and amplify the resonances coming from distant planets. Notice these.", Mesmer picked up Marie-Therese right hand and brushed it over the metal pieces, "In addition to the very faint sounds that one sometimes hears coming out of the harmonica, I'm waiting for these objects to glow, something like the keys in Franklin's lightning experiment."

Marie-Therese turned her young adolescent face towards him, suffused with admiration : "Have you told Mr. Franklin about this?"

"In fact I have. After he arrived in Paris at the beginning of this year, I wrote him a letter praising the glass harmonica. He replied; I can show you the letter. It's in English: Dr. Ingenhouze relaxed his inflexible enmity towards me long enough to kindly supply a translation of it.

"Franklin, my dear, has a gigantic imagination. His ambition is to detect the music of the sphere through sending a glass harmonica into space."

"Into *space*? Oh my!"

"Yes. He envisages a colossal instrument. Something as long as the whole city of Vienna. He calls it the VLGH."

"V.L.G.H... What does that mean?"

"It's English for Very Long Glass Harmonica..."

Marie-Therese translated, word by word "Sehr Lange ..."

"The only problem is that neither he nor I have any idea of how to lift such an object into space, somewhere between the earth and the moon. But Franklin thinks that perhaps the experiments of the Montgolfier brothers with hot air balloons will lead us in that direction."

Mesmer found himself quite carried away in extolling the praises of Franklin:

" Franklin! What a man! What an original mind!", he went on, " What I would not do to persuade him to come to Vienna!"

" Well doctor, someday you too will become famous and you'll have a chance to meet him."

"Anything is possible, child."<sup>1</sup>

The room was cluttered though not disordered, conveying an atmosphere of intellectual restlessness. Star atlases and charts lay open on the center table. Next to a blackboard covered with chalk calculations stood a wooden globe, suspended on an iron armature that branched out into a pair of griffon's legs terminating in claws touching the stone floor. Three walls of the octagonal room's eight were covered from floor to ceiling with glass panels. These could be opened either as entire units, or by their individual panes. A book case climbing the height of the wall on their left was filled with a single item: the many volumes of Flamsteed's star catalogue

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<sup>1</sup> Under circumstances that were unpropitious, to say the least

of 1725. Maximilian Hell had been instrumental in finding an edition for his friend, as well as in the purchase of the Short telescope with its 30-inch aperture installed at the furthest window to the right.

*"Sit over here, my dear."*

Marie-Therese was seated near the stove. This gave her a clear view of the heavens through the tall windows. Mesmer asked his servant to walk about the room and extinguish all the candles and torches.

" My child, it will require a few minutes for your eyes to become adjusted to the dark. Then I want you to tell me what you see."

It was a miscalculation: among the problems associated with her developing visual faculties were those created by persistent after-images, because of which she lived in a perpetual fog of confusion. The few minutes of which he spoke amounted to around a quarter of an hour. As they waited, Mesmer continued the rambling narrative through the history of astronomy he'd begun back at the clinic. After recapitulating all that the Greeks had done, he went on to the great advances since the Renaissance. Then he began to speak about very recent ideas that were gaining currency in cosmology:

" There is a certain philosophy instructor living in Königsberg ; that's in Prussia to the north. His name is Immanuel Kant. In 1755, that is to say about 20 years ago, he wrote up his ideas about cosmology in a book. This in itself was rather unusual, as I've since learned that Kant believes that cosmology is not a fit

subject for philosophers. His theories have also been propounded by Buffon, the great French naturalist.

"His thesis is clever. Kant asks us to imagine a vast nebular cloud (which could well be the stuff of the magnetic flux) that, eons in the past, condensed into our solar system. When he wrote this it was generally believed that this contained all the stars. Now we have some doubts, because more recently William Herschel in England, a good musician by the way.."

Marie-Therese cried out as a heady mix of strong emotions, fear, astonishment and delight broke through her pitifully ravaged features:

" I hope, Doctor, that there is not a great fire somewhere!"

" What makes you say that, child?"

" Because the entire sky has suddenly filled with sparks and smoke!"

" Tell me what you see". As she spoke, Mesmer rapidly transcribed her words into his journal in a convenient shorthand:

" The sparks are very bright - very bright - like diamonds on a necklace, or ..like the sparkling jewels you've been using to test my pain threshold to light. They grow, first large, then small... then large again ... but they don't really move...."

" What do you mean, Marie, by 'don't really move' ?"

" I don't know, doctor. Whenever I see things in motion, either because I am walking or they are moving around me, my mind becomes filled with turmoil and confusion. I feel very lost, nauseous, even physically sick. Then also...there are the headaches, the pains, like needles, in my eye sockets..."



" And now?"

" The effects are not like that; no, not at all. All I feel is peace, a great flooding wave, an inundation of peace! Serenity, tranquillity, final rest, such as I thought never to know again to the end of my days.

"I imagine myself at a concert, as one might hear at St. Stephen's cathedral – a solemn mass, a union of cosmic lullaby and celestial song – yet one that comes pouring down from the heavens on every side. Such security, such peace, such happiness! I don't know why they have this effect on me, doctor. What are these sparks?"

" Those are the stars, my dear." Marie-Therese gasped; her hands covered her mouth.

" The stars? So, that's what they look like! Dear doctor, I have a confession to make to you: until this moment nothing whatever of all the things you've been telling me made the least bit of sense! All this talk about Kant and Galileo and Ptolemy, just so many meaningless names! Now, I'm afraid, you're going to have to start all over again."

And she began crying. In a few minutes she lifted up her head again: "It's all right. I'm fine. Really..."

" Tell me again, Marie-Therese, what you feel when you look at them. "

"As I've told you doctor, a boundless, an infinite peace. It's not at all like sunlight, which causes me such pain. I could gaze at these stars forever and never tire. I very much prefer the night-time to the daylight. How happy I would be, if I could live somewhere

that forever combines the day's warmth with the night's peace!"

" I'll bring you back here as often as you like."

" Please do. Doctor, this is amazing! I'm almost able to tell one star from another. Do any of them have names?"

Mesmer poured her out a glass of cider and took one for himself. Striding to the windows, he picked up a long wooden pointer and directed its shining metal tip to various objects in the sky:

" It's important that you should know this star. Navigators use it to guide them across the oceans. It's called the North Star or Pole Star and is often placed at the center of our maps of the heavens. At this time of the year you'll find it high in the northeast."

Marie-Therese gazed without comprehension:

" How can I recognize it apart from the others?"

" It certainly won't be easy for you at this stage. You'll have to learn to recognize the constellations, and that will certainly take a long time."

" I don't care , doctor. I must come back here every single night until I learn the names of all the stars in the heavens!"

Mesmer laughed, scratched his wig as if the request perplexed him:" That won't be easy, Marie. There are literally thousands of them, you see." He went on,

" Further down you ought to be able to see a bright orange dot - that's Arcturus, another star important to navigators."

Marie-Therese started up in fear. Her hands rose to her temples:

" I don't remember what orange looks like!"

" Think of the fruit you ate this morning. It's called an orange and has the same color."

Marie-Therese clutched her head in her hands and tried to recall:

"No.. that was blue! Maybe black. And I thought it was the size of my head until I began putting pieces of it into my mouth!.... It's no use, doctor. My memory for colors is still too weak. You must bring me an orange for comparison."

Mesmer moved the pointer over the arc of the sky to a spot in the northwest. Marie-Therese's head and body swivelled in synchronization, like an automaton's :

"That's Cassiopeia: a familiar constellation. It's there almost every night. There's Draco...Cepheus ...over there to the south sits Orion, another familiar constellation..."

" So now I'm learning astronomy! Doctor, I enjoy this more than piano playing. Has there ever been a blind astronomer?"

" It is said that Galileo's eyesight failed him at the end of his life. But You're *not* going to *remain* blind, child! Your passion for the stars is shared by Wolfgang Amadeus Mozart. His father told me that when Mozart was a little boy, he covered the walls of his room with astronomical calculations and pictures of the Zodiac."

The conversation was interrupted by a sharp knock at the door.

"That should be him now". Mesmer's servant stood up and re-ignited the candles. Then, picking up the lantern he went to the door to admit the celebrated astronomer.

Herr Doktor Professor Father Maximilian Hell, S.J.<sup>2</sup>, the Astronomer Royal for the (self-designated), eastern rendition of the Holy Roman Empire, and director of the Vienna Observatory<sup>3</sup>, came tripping- or was it stumbling – with urgency through the doorway, as if a gnome hidden in the hedges had reached out and stroked him. He pulled off his mittens to eagerly shake Franz Anton Mesmer's hand; then he hurried over to a little bench by the fireplace. The therapeutic rekindling of the blood through a slow re-heating was (possibly) helped through a burlesque accompaniment of vibrant foot-stompings, gesticulations, coughs, and, all told, a great deal of what must be deemed superfluous activity. Most of the more bizarre gesticulations of this solo dance had been acquired during those two years in the Far North and the months of isolation at the station on Vardø .

All three of his public roles, as Jesuit, scientist and legendary eccentric, were evidenced by his manner of dress: priestly in its pretentious simplicity, functional in the best scientific tradition, and as random as you like. He first removed the fur cap he'd acquired in Lapland, with long floppy ears and a deerskin string that tied below the chin hat. Engaging the servant's assistance, he sat down on a bench and struggled with him to pull off his tall peasant's boots. These were placed by the stove; he then turned to address Franz Anton Mesmer:

" So Franz! How's the flux? Still waving your magnets over the heads of lost souls? Though I shouldn't call them *your* magnets.

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<sup>2</sup> initials which, since 1773, could no longer be used on official occasions

<sup>3</sup> which, though warning against the unsuitableness of the location, he had allowed to be constructed.

They're *my* magnets and good riddance. You can have them!" Mesmer smiled and said nothing. Hell handed his cloak to the servant, while Mesmer helped to relieve him of his frock-coat. His shirt was loose-fitting and fell over his breeches; these were a few sizes too large and secured with a bit of rope. Clearly this was a man with no interest, understanding of, nor money available for the high fashion that was the delight and curse of the social class of Mesmer and his young patient.

" All right, Franz:", Hell inquired with a raucous, disparaging laugh, " Where's your latest novelty? You told me you wanted me to meet her."

Mesmer took Marie-Therese by the hand and walked her over to him; he'd warned her to expect a rather gruff individual, nor to mind his salty wit, which was not always becoming to a priest.

As is often the case with the blind, she could sense the actual character of the person before her quite apart from his manner. She approached him eagerly:

" How do you do, Father Hell? I'm your lost soul."

Hell stood up and walked about her in a wide circle, observing her with curiosity and unfeigned surprise.

" Praises be to heaven! This is the famous Marie-Therese von Paradis! She's grown up I see. I hardly recognize her! Only a few years ago she was in the clutches of that ignorant imbecile, Anton van Stoerck. And now! just look at her! She's beautiful - she's healthy - and she can see! . Though she still has problems, obviously. As for me, I'm going blind with all those years of staring through telescopes. When did all this come about?"

Mesmer's dry cough was about as close to modesty as he was ever likely to get. He put down the star catalogue he'd been perusing and explained:

"Go ahead, Max. Take a look. As I've tried to tell you, she's the confirmation of all our speculations, the beneficiary of a prolonged magnetic therapy. She's living evidence that our ideas work."

"Pig's shit, Franz! That's damnable pride! Damnable, and I know a few things about damnation! Your ludicrous *opera buffa* didn't have a thing to do with it. She's just gotten better on her own, that's all. What arrogance! You might just as well tell me she's been eating the fibers from the noose taken from around the neck of a hanged criminal, or drinking frog's blood - good old-fashioned 13th century therapies - no worse than yours, I suspect."

Mesmer sat down as if he'd been given a slap in the face. This obstinate unwillingness to recognize the least merit in his work had been going on for years.

"Max! Will nothing ever convince you that my methods are sound? Herr Hell : when Franzl, my daughter-in-law, was undergoing her cure I demonstrated the existence of the magnetic fluid right before your very eyes! I also showed you how it could be controlled, how it coursed through the body and how it could be expelled. I can give you dozens of witnesses to testify to the miraculous progress of Marie-Therese since she began treatment with me."

"Rubbish! It's always people like you that think we should get our morals from pagan savages; all that rabble who get their

ideas from Jean-Jacques Rousseau, and rail like stinking skunks against us men of the cloth! Mind you, Franz, I'm the first to admit there aren't many pissing saints among us; but your intellectual pride exceeds the fanaticism of the most ignorant bigot in holy orders!"

Maximilian Hell stood up, greatly agitated, strutting about the room in large strides as he warmed to his subject:

" The magnetic flux! In the beginning was the magnetic flux! On the 5th day God blurted it out like diarrhoea - perhaps God is the magnetic flux! Or perhaps He so loved the world that he sent his only beloved Franz Anton Mesmer so that ye may all know the magnetic flux!" He spat on the floor,

" Look , my good man: here's Christ. He has a dilemma. He's worried: the gullible multitudes need a miracle, fast! So he thinks, "It's time I raised somebody from the dead. Like my dearly departed friend, Lazarus! ". So! He writes to Galvani, or Franklin, or Volta , orders himself a monster-sized magnet, twists it in the form of a heathen fertility goddess , and strokes the man's putrefying cadavre until he comes back to life! "

He sat down again, delivering a volley of forced laughter, beaming with malicious righteousness, " Your magnetic treatments Franz, aren't worth one healthy gob of my Jesuitical spit! "

As if to illustrate his point, Hell aimed a rich sample of same into the blazing fire of the Franklin stove.

Though blushing with embarrassment, Marie-Therese was not upset. Despite his manner, she'd sized him up as a jolly, comic individual. She was also rather inclined to approve of anyone who

dared check her doctor's disproportionate ego. Still she felt obligated to defend him.

" Oh but you know, Father . . . the wise doctor Mesmer did indeed restore my vision to me. I can assure you of that."

Hell sat down again, his agitation dissipating. From the upper left pocket of his shirt he procured a pipe and a pouch of tobacco. Lighting it from the stove with a twist of paper, he settled back, his indignation mitigated by a genuine perplexity and confusion. Marie-Therese got up and wandered about the room while Hell and Mesmer discussed astronomical matters. Clearly Hell's mind was still pre-occupied with matters connected with the magnetic therapy. When he once again broached the subject his voice was quiet and subdued:

" Franz, these claims of yours are just not possible. They offend both morality and reason. No mortal dare arrogate to himself healing powers that belong to God alone. That's heresy!" Hell puffed on his pipe, sending off a thick cloud of reeking smoke that dissipated quickly in the cold, moist air:

" I know, I know .... you think I'm droning on about religion again. In point of fact I'm speaking to you as from one scientist to another. There is a special prayer which I recite every morning at Lauds in which I thank God that I was born after the Age of Superstition. You, too, Franz, ought to be grateful..." he shook his pipe stem at him as if lecturing a wayward student, dropping his voice to a whisper: "Less than 50 years ago you would have been burned at the stake for your outrageous claims!" He leaned against the table in a meditative pose: "You'd better watch out from your



colleague, Anton van Haen; another one of those ignorant butchers. He still believes in witches and wizards...." After a pause he continued:

"There's no easier way to fall into heresy than attributing your personal beliefs to science. Look at Galileo, a much greater man than either you or me. But! that loathsome intellectual pride! Of course the Church was wrong about the Copernican system, and he was right. I could hardly claim otherwise and consider myself an astronomer. Not everyone agreed with the verdict on him; some of the Jesuit astronomers were as shocked as the rest of the scientific community. And frightened, too; they knew that they could well be next.

" But Galileo was rightly warned by Pope Paul V and justly punished by Urban VIII for his outrageous conceit!"

Hell stood up and delivered what was evidently for him one of his favorite aphorisms:

*"With force have I crushed the brains of the proud!"*

" This ringing statement was uttered by Cardinal Bellarmino, Pope Paul V of blessed memory, when he delivered the heresiarch Giordano Bruno to the stake! We live in a gentler age, Franz, but beware lest you set yourself up against the Almighty! Observe that I fell into the same error and led you along the path of darkness. Forgive me."

Hell's uplifted face wore the expression it habitually conveyed in the presence of his Father Confessor!

Mesmer gaped in astonishment, which quickly gave way to amusement. He assumed a tone of mocking indulgence:

"Well, Max, so you're luckier than Galileo and me. Why don't you tell us how you were save from the snares of the Devil?"

Ignoring, or more likely uncognizant of the sarcasm in his words, Hell continued:

" It was the Transit of Venus enterprise that humbled me, Franz. It taught me the difference between the kind of science that God wishes us to pursue, so that we may rejoice in the glory of His creation, and the kinds of science which, like alchemy, or 'Animal Magnetism', or even my own early magnetic experiments which, like the flesh of the apple from the Tree of Knowledge, He forbids beyond all appeal.

"Marie-Therese might like to learn something about the greatest scientific adventure of this century, the expeditions undertaken in 1761 and 1769 to observe the transit of Venus across the face of the sun." He looked around for her, but she was off in another part of the observatory, cautiously feeling the telescopes. He returned to Mesmer:

" The details are very technical, though I could easily explain them to you in a leisurely hour or so. These observations give us a figure, within a narrow range, for the sun's angular parallax. That's very useful, for not only can one calculate the distance of the Earth from the Sun, one can then use this distance as a kind of basic measuring rod for mapping out the shape of the entire Solar System.

"I'm virtually alone in the scientific world for maintaining that the correct amount is 8.70 seconds. I've even been accused of plagiarism! Worse than that, a certain Lalande, in Paris, has been

going around saying that I cooked up all my data in Vienna without ever spending a day in the Far North! It's the times, Franz, it's the times! According to the Empress I don't even exist! That's right, I vanished from the surface of the earth when the Jesuit Orders were dissolved in 1773!" Hell directed another gob of tobacco saturated spit into the fireplace. Then he stood up, raised his gaunt, hairy arms to the sky, and roared:

"If I don't exist, how can I commit plagiarism?"

He sat down again, commenting sadly, "My position at the University of Vienna is secure, but many of my brethren are suffering grievously." He rubbed his eyes as if close to tears: "How can our rulers call themselves enlightened when they spit in the faces of the teachers of God's Word?" He paused for a moment before resuming the account of his work in Vardø:

" 8.69 seconds , 8.70 seconds ... It's merely a bit of data. I wish it *had* been plagiarism! No man save perhaps Kepler ever worked so hard in grinding out numbers, day after day. Stationed up there for so long, I used to watch the mice leaving their trails of excrement across the floor. This led me to reflect on how several dozens of Europe's greatest scientific minds were busily engaged in shoveling up a single piece of ratshit, just a single one of those droppings."

They both laughed, relieving the tension somewhat.

" I can assure you of one thing, Franz: Nature is a miser! We scientists - I'm not saying you're not one of us, Franz. I don't agree with those colleagues why try to brand you as a charlatan - we're like suckling babes at the teats of a withered sow. A century of toil

may wrest one drop of milk from her! That humbles the proud, Franz! I could spin an endless tale of all the fortunes consumed, the extremities of hardship, the loss of life that has gone into the silly little number - 8.70 arcseconds! Had you been part of that venture, Franz, you too would bow your head before the awesome majesty of God's creation!

"But Franz! You somehow imagine that by waving a wand and playing around with a few bits of bent metal, you can imitate Christ's miracles! That's the kind of accusation the Protestants hurl at our heads. To be honest, Franz, we're rank amateurs in mumbo-jumbo compared to you.

"You're hardly alone, Franz. My fellow astronomers, most of them, stumble along in the same blind error. Your problem is that you don't understand the role of science - as a human activity - in God's plan. The truth of the matter is that God doesn't need to have Man understand his creation. Why should He? He is only concerned that we learn to follow the Way to Salvation, which is why He sent His Son.", he wrung hands in supplication," His only begotten Son! How dare we ask more of Him; is not that sacrifice enough?" He paused, lowered his head, then continued:" The one reason we are brought into this world, Franz, is to *humble* us, to break out spirit, to belittle our petty intellects!

" But God instills the thirst of curiosity in us. He gives all of us an innate aptitude for science, the better to lead us to the Light! Therefore He, in His infinite wisdom, has allowed some of us to turn the pursuit of science itself into the road to salvation."

A strong wind rattled the windowpanes and the servant stood

up to close them. There would be rainfall by the time Hell took his leave. Mesmer could not restrain a smile:

" Those are curious ideas , Max. My work isn't easy; I've had many setbacks. In actuality my work is quite strenuous; ask Marie-Therese if I'm not telling the truth. People have gotten the wrong impression, that I'm a charlatan, that I'm out to dazzle the public with tricks.

"But the validity of a discovery bears no relationship to the amount of work invested in making it. The story is that Isaac Newton developed the essentials of universal gravitation in a single summer, 1666, while war and plague were ravaging England. Galileo merely had to glance through his telescope to see the moons of Jupiter! The results are always there, for those who have eyes to see them. "

Enraged , Hell banged the table with the flat of his hand and turned on him a look of fury:

" That's the most abominable blasphemy! The results! Who cares about the results? The results don't matter at all! Why should God care if we've correctly calculate the sun's parallax angle? To do science just to gratify idle speculation? Without labor? It's ...well, it's like claiming that women shouldn't have to suffer in childbirth, which is supported by the highest scriptural authority in the Bible!..."

Embarrassed and in some confusion, Mesmer looked down at the floor and around the room:

" I can't respond to arguments like that, Max. I don't know what the Bible says about good medical practice. I'm a doctor, not a

theologian."

Hell's eyes beamed. He lay a friendly, if chastening, hand on Mesmer's shoulder:

" My opinion exactly, Franz. Christ indeed has nothing to do with your works. He was the Great Healer, and yet you admit that you know nothing of Him. And in spite of that you dare set up a twisted piece of magnetized metal in the place of the Holy Ghost! Even as René Descartes imagined he could 'explain' the divine mystery of the Eucharist with the 'atoms' of Lucretius! Why, what need have we of religion, I ask you? Every ailment can be cured with wands, and magnets, and fixed stares!"

Hell stood up and did a sprightly dance about the observatory, waving his hands as if a quivering magnet were supported by them:

" Try my magnetic cure! Forget about Original Sin, or Grace, or Salvation, or the sacrifice of Our Lord on Holy Calvary, or the blessed miracle of the Immaculate Conception!" He sat down again, coughing, exhausted, and laughing in a forced manner.

Mesmer regarded him with some exasperation:

" Max, I don't know if you realize it, but just a minute ago you were scolding me for being a fly-by-night dilettante, satisfied with easy explanations. All of a sudden you want me to swallow dozens of hypotheses based on arbitrary authority and contrary to all the evidences of the senses..."

Hell relit his pipe and sighed. His gaze went sympathetically around the room, as if in pity for his friend. His voice fell to a low rasp:

" ...If I can only get you to understand, Franz, that God intends Man to *suffer* ! I know you don't believe in the doctrines of the Church. Speaking frankly, I don't believe half of them myself. But I do believe, and am sworn to uphold, to the death if necessary, the dogma of salvation through Christ's sacrifice! And I must condemn your childish notions of "cure" through – what? – wands, magnets, hand passes – why, that's not even witchcraft! "

Hell's gaze fell on Marie-Therese. She continued to roam about the observatory, touching and inspecting all of its curious objects, workspaces and instruments. The two men conversed in low whispers so that she could not hear what they were saying:

" Look at that young lady over there.", Hell raised a hand to forestall commentary, " Let's grant that your labors may in fact have had some small part in bringing back her vision. Has it never occurred to you, Franz, that all of your vain art is being performed in dire peril of her eternal soul?"

Mesmer's face dropped. For the first time that evening his manner turned nasty:

" What is that supposed to mean?"

Hell gazed at him with a look of something like triumph. From the deep trenched furrows on his face there emerged a smile warm with understanding , mixing sadness, and deep patience (or was it forgiveness?). Evidently he was about to reveal what had been on his mind from the beginning:

" I never equivocate, Franz... Look at it from the viewpoint of the Church... A middle aged man, estranged from his wife, who is known to be spending many hours at a time in a dark room ....

alone with a talented young lady.... ?"

" It is better to not even begin to answer such slanders."

" Yes, of course. Mind you, Franz, I don't say that I believe such things. But there has been talk."

" I refer you then to Herr von Paradis, who has been with us at numerous sessions, and who has written up an account of her progress for the German newspapers."

This statement elicited an outburst from Hell, the intensity of which must have caught him himself by surprise:

" What does newspaper rubbish have to do with *lust* ? Or *virginal seduction*? Or *fornication*?!! "

Hell was shouting, his eyes twisting out of their sockets like loose buttons on threads. Mesmer warned him to control his tone and language in the vicinity of the young lady in question. Hell apologized and again lowered his voice:

" I do not say that you are guilty of any of these things. Personally I do not believe so. But to me, it is sin enough that you have cast upon her soul the sinister and perfidious snares of seduction, that you sully her mind with unclean thoughts and desires, that in exchange for the adoration of an unspoiled maiden's heart you offer up to her the absurd and impossible hope of a cure for blindness!"

Mesmer stood up abruptly : "It's time for you to leave."

" Gladly, Franz. Not for one minute more would I stay in the citadel of sin." Hell rose, still talking, while re-arranging his clothes preparatory to departure :

" I ought to let you know, Franz, that I've come here to



warn you as a friend. There is indeed much talk: in the churches, at the medical faculty, at court. I advise you, even though I know that you will ignore me, to release this young woman from the grasp of the Arch-Fiend, and return her to the bosom of her loving family."

Mesmer and his servant helped Hell to get back into his frock coat and button it up. The cape was thrown over his shoulders and adjusted. Then he made his way to the front door. He and Mesmer shook hands at the door as he stepped out into the rain.

After he was gone Mesmer went back to get Marie-Therese. She'd fallen asleep by the telescope. By every appearance, whatever images, blind or sighted, were displayed in her dreams, they were happy ones. Mesmer shook her gently by the shoulders:

"What's happening?" she asked, not fully awake. She rubbed her eyes, stood up and looked about the room:

"Nothing very much." Mesmer chuckled, "It doesn't take much to get these wolves out of their sheep's clothing."

He helped her with her coat, closed up the observatory and walked her back to the clinic. The rain had turned into a downpour and they had to hurry along. In the antechamber on the ground floor they found the maids; they'd been sitting there for some time, awaiting her return. They accompanied her to her bedroom. Everything was laid out in preparation for her return and they helped her into bed.

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