

Our Lady, Queen of Undecidable Propositions

Hugh C. Culik

None

Follow this and additional works at: <https://scholarship.claremont.edu/jhm>

 Part of the [Creative Writing Commons](#), and the [Intellectual History Commons](#)

Recommended Citation

Culik, H. C. "Our Lady, Queen of Undecidable Propositions," *Journal of Humanistic Mathematics*, Volume 6 Issue 2 (July 2016), pages 230-240. DOI: 10.5642/jhumath.201602.21 . Available at: <https://scholarship.claremont.edu/jhm/vol6/iss2/21>

©2016 by the authors. This work is licensed under a Creative Commons License.

JHM is an open access bi-annual journal sponsored by the Claremont Center for the Mathematical

Sciences and published by the Claremont Colleges Library | ISSN 2159-8118 | <http://scholarship.claremont.edu/jhm/>

Our Lady, Queen of Undecidable Propositions

Hugh C. Culik

`hugh@culik.com`

Father McMann's knotted old hands clasped Nora's elbow and helped her to her feet. They stood together, crammed into the narrow bathroom stall in the men's room across the hall from his office. Generations of male students had sat in this small cell, words flowing from their fingers into the dark wooden walls. Their carved messages crawled across the old oaken partitions, messages from graduates long since dead, each signed and dated. Father McMann warily eyed her left hand as it held back her long brown hair when she leaned forward to flush. Together, they watched the yellow vomit twist and swirl away, and he thought of the spiral of seashells, the winding stairsteps of the parastichies on bristlecone pines, and of the Fibonacci sequences that described them all.

Nora stood up, steadied by his hand on her elbow, and took a deep breath. "I'm okay," she said. "Really."

Father McMann looked closely at her pale face, at the damp perspiration that bathed her forehead. "You had better sit down," he announced. He closed the toilet's lid and helped her sit down in the crowded stall. He watched her close her eyes and listened to her take a deep breath. "You're sick," he said uselessly, "but you'll feel better."

She looked up at him and wiped the corner of her mouth with the back of her hand. "Thanks," she said. She laughed a muffled laugh. "I'll keep the distinction in mind," and then she backed them both out of the stall where lunch had escaped her.

Father McMann led her over to the sink and dampened a paper towel. He wadded the paper into a small sphere and carefully wiped Nora's forehead. "Now drink a little water," he told her. "I think there are some crackers in my office." He looked at the old oak frame of the mirror and saw the word "föetus" carved along its edge.

She saw him color slightly, and looked at the word. "Relax," she said. "It's a literary joke. The umlaut gives it a literary flair." She hesitated, "It's from *The Portrait*. It's no big deal. In this other book I read, the guy takes the other F-word

and turns the 'F' into a 'B' and the 'u' and 'c' into circles. The transformation makes it sub-liminal."

Father McMann tried to ignore her, but he thought of the word "föetus" and of other Irish books with forbidden words. "Feeling better?" he asked.

Sunlight came through two windows set high in the lavatory wall. It was October, and they were propped open to look out into the top of a dogwood tree. He realized that her book bag was still in his office, and that he would have to bring her back to his office so she could retrieve it. Whether she would stay and resume their conversation or flee in embarrassment was something that he could not predict. He watched her cup her hands to take a small drink of water, and then she turned quickly and scurried out the door and disappeared into the hall.

When Father McMann went into the hall, Nora was gone, but he found her sitting in his office, in the same straight-backed chair where she had gagged before running to the lavatory. He could not recall exactly what had disturbed her, but he felt the need for a mental list of incommensurables: youth/age; female/male; parabola/limit; rational/surd, and all the other 88 asynchronies that plagued his dreams like a badly tuned piano. He began to believe that her question had not really been mathematical, but rather about the gap that lurks in human time between the word and world. These were his torments, and his spiritual test was to live without ever reconciling anything. He did remember that she had called his work a "symptom" of some unnameable problem.

Nora looked up when he entered. "Like a bad penny," she apologized. "I just keep coming back... a recursive formula." The office windows were closed tightly; the small metal handles that would have cranked them open sat in a cup on the desk. Each time she looked at them, her tears began anew.

Father McMann watched the tears run down her face. They crept out of the corners of her eyes, slid down the slope of her nose, and then followed the line of her upper lip before falling to the floor. He did not interfere.

The shadows had not yet moved when Nora finally spoke again, "What am I supposed to do... cry forever?"

Because her face was not flat, he told himself, the formula for representing the track of the tear would be elaborate. He hesitated, but the alcohol from his lunch overcame his habitual restraint. "Your tears," he said, "traverse a volume of space." He imagined that her tears felt like small mercurial insects slipping across the surface of her skin.

She did not wipe her face. “You’re a big help.”

Father McMann spread his fingers and ran them down his forehead and across his face. “I can’t help it. That’s what I was thinking. I saw your tears, and that is what I saw...small liquid insects tracing a curved track through space.”

Nora wiped her face with the back of her hand and shook her head in disbelief. “I come in here and cry,” she said, “and you talk to me in some code.” She spread her own fingers and ran them down her own forehead. “Okay, try this,” she said. “Two-dimensional equations,” she said, “simply have the third axis as a zero.” She folded her hands in her lap. “I’m okay,” she said flatly. She had no idea why she had said such a pointless statement.

Father McMann looked at the radium tipped hands of his watch and laughed at Nora. “A Protestant Irishman—a writer, I think—once said that nothing is funnier than human suffering.” His fingers traced the curve of his collar. “I do not mean that I am indifferent to your suffering,” he added hastily.

She made a small spitting noise. “I guess I should be grateful” was her answer. She looked over his shoulder and out the window before looking down at her own digital watch. “It’s been a minute and a half,” she told him. She took her arm from the back of the chair and kicked at her book bag. “I knew a man who cried for two weeks.”

Father McMann pulled his chair closer to the desk and opened one of its wooden drawers. The varnish had turned a dark yellow and the handle was nearly black with grime, but a small box of tissue sat at the drawer’s bottom. Beside it rested two bottles. An empty bottle of Glenfiddich and another one less rare that was fractionally full, fractionally empty. “Here,” he said, plucking a tissue from the box. “Use this.”

“Two weeks,” Nora repeated. She took the tissue.

“A fortnight,” he said. “No doubt it felt eternal, but it was finite. . . constrained by human time.”

“I’m pretty sure that’s the record.”

He agreed and touched the edge of his collar again, this time letting his finger trace around to the back of his neck. He felt the scar, and remembered how the surgeon had looked down upon him before reaching into his body and pulling a knot of tissue out of his neck. The surgeon had lifted it out with gloved hands and had held it up to the light. A microphone hung above the surgery table, and the doctor had intoned, “The tumor’s margins are well defined, an oblate spheroid the

size of a duck's egg." Father McMann had meant to ask for a more exact form of measurement, something numerical and specific, but then he had realized that a duck's egg had a heft that no number could ever attain.

Nora sat up in her wooden chair and resumed. "He cried for two weeks. That's impressive, but I can beat it." She seemed to consider for a moment, "Well, as long as I don't have to do it constantly, like when I'm sleeping and everything, and if I can stop long enough to eat breakfast and watch Family Feud."

Father McMann looked up sharply. "I don't own a television," he curtly informed her.

"Gosh," she said, batting her eyes at him and cocking her head to the side in mockery, "and you still use Roman numerals?"

Father McMann shook a finger at her. "It's true," he said, "and I don't expect I'll change."

"That," she informed him right back, "is an error."

He shrugged, but gestured for her to continue.

"I love *Family Feud*. It's all about popularity. Once, the question was 'name a character in *Tom Sawyer*,' and the number four answer was 'the dog.' Two people said it, and..."

"The dog," he repeated, his voice baffled. He thought of the crossed blades of the surgeon's scissors and made the sign of the cross over her head.

Nora held up a finger for him to be still. "I've read that book a couple of times, and I don't remember any dog, but on *Family Feud* it doesn't matter. What matters is what people say, not necessarily what's true. Two people must have never read the book or heard of it and just figured a story about a boy would have a dog in it. The thing is, if someone like that was on the show and they said 'dog,' they'd be right, and they'd even be smarter than the people who said 'Becky Thatcher,' or 'Aunt Polly.'"

He watched her mouth making so many words, and he felt old and tired. "What's going through your mind?" he asked. His impulse was to tell her to leave, to go away, to find someone else to talk to. He attributed his discomfort to the alcohol or perhaps to her blue eyes, but he was too old for that, he tried to assure himself. "What is your question?"

"I don't know," she said. "You make me feel as if I should be able to tell what I'm thinking about in a word or two, like 'world peace,' or 'yellow,' or 'surd quantities.'"

At the word “surd” he cringed and covered his face with his hand. “Surd, absurd, silent, whatever.” He knew that his voice wavered, and tried to find the old tone, the old formal tone that came naturally in the classroom. “I am not questioning your intelligence. I only ask what you are thinking.”

“I was thinking that I’m done crying now.”

Something thick and tumorous pressed against Father McMann’s heart. “No,” he said, “You’re not.” He tried to stop himself, but he heard his voice say to her, “I will tell you something, and then you can cry for me too.”

“For you?”

He recognized the ambiguity. “Yes. Your tears in place of mine, and also tears about me. You may cry ‘for’ me in any nonnumerical sense of the word.”

The radiator began to hiss and sputter. The pipes were old and filled with scaly lime deposits, and he thought of them as the building’s arteries, old and sclerotic like his own. Some day they would be plugged completely and be torn out. They would pull his files out into the hallway to make room for the workers, and if he died while they worked on the building, the files would be trundled down to the storage room in the basement. A young man would take his place, perhaps a young woman even, and he would never have to grade examinations again.

“Please,” he said to Nora, “sit in the comfortable chair.” He gestured to the sunken leather chair where he liked to sit and read. A green plaid blanket lay draped across the back of the chair. “Please,” he asked her, “. . . for me.”

Nora stood up, stepped forward, turned, and sat down. Now she was in the leather chair.

“It’s a small office,” Father McMann apologized. Nora looked at his collar and then at the crucifix above the door. She hesitated.

“The room,” Father McMann said. “I mean this room is small.”

“You said you’d tell me a story.”

“I was distracted. Perhaps I’ve lost my train of thought.”

Nora settled back into the chair and drew the plaid blanket around her shoulders. “Okay,” she said. “Let me help you out.”

“Please,” he said. “Help me out.”

“Okay,” she said. “Let’s try this one.” She crossed her ankles and looked at his worn face, hesitated, and then began. “At the risk of another puking spell, how

can there be the same number of elements in the set one, two, three, dot-dot-dot, as in the set three, four, five, dot-dot-dot?" With her hands, she shaped an hourglass figure with perverse extended angles at the waist to indicate the imaginary brackets that enclosed her sets. "Wouldn't there be two less?"

"Bracket one, two, three . . ." Father McMann said.

"Notational systems," she gently agreed, "are crucial."

Father McMann looked again at the cross and took a deep breath. He thought of taking notes, but he didn't know whether he would represent her words as numbers or the curved letters that reached after the musical tones of her voice. "First," he said exhaling, "you must stop thinking of infinity as a number. Rather, both sets represent the same magnitude of infinity." His office was cold again today, he thought, and he pulled the sleeves of his worn blue cardigan over his hands.

The young woman sank farther back in the chair. "I know," she said with quiet exasperation. "They're both countably infinite sets."

"Then I don't understand the question," he said. "Why is it a problem if you already know the answer?" He thought that she might think that countably infinite sets were easier to understand than those that were uncountable.

"The issue is time," she said. She leaned over and opened her backpack. He caught a glimpse of secret womanish things, white and cylindrical, of a book by Rotman, and then she triumphantly extracted a pack of cigarettes. "Do you mind?" she asked. She pulled a pair of cigarettes from the pack and held them between her thumb and forefinger.

"It doesn't matter," he responded. Nora set one of the cigarettes behind her ear, produced a lighter and held the flame flickering before him. "Mind over matter," she said as she lit her cigarette. She inhaled, and then offered the pack to Father McMann.

"No, thanks," he said. "It's against the doctor's orders."

"Or against the Order's doctor," she laughed.

"Both," he agreed. "And they agree."

"Look," Nora said. "Anybody can handle the idea that there are things so big that they can't be counted. Like, who's going to worry about that? It's a dead issue."

Father McMann shrugged and picked up her pack of cigarettes from the desk. He put one in his mouth and leaned forward for her to light it. "They'll kill you," she reminded him.

"I have the life everlasting," he said, and sucked in a great swirl of smoke.

"Suit yourself," Nora said. "But getting back to this infinity thing. Knowing that something is countable and yet infinite, that seems a different problem." She looked at the glowing tip of her cigarette before inhaling.

Father McMann hoped that she would not ask him about the inhuman time, the eternity of nonhuman time that underlies the calculus: the blasphemous annexation of the divine privilege of all things infinite. A small twitch in his hands suggested that he had once crossed himself at such moments. He wanted to awaken in the dark, pull on his old robe, and go down the hall to Father Frank's room. He wanted to waken him, and then together they would descend to the kitchen and wait for the dawn. He wanted to sit in the blackness and hear another person's voice coming out of the dark. He and Father Frank would talk about the geometry of English gardens.

Father McMann blew a twisting ring of smoke toward the ceiling so that she could look away and not have to see the gaping pores of his nose, the wavering grid of lines that crumbled toward the knot at the center of his forehead.

"How do you handle it?" she asked.

"How do I handle what?" He tried to pretend that he did not understand. He would not—would never—blur the line between the priesthoods of his life. The boundary was absolute. Once crossed, there was only chaos.

"Screw you," she said. "You know what I mean."

"Perhaps," he admitted. "But I cannot afford to answer in the words you want. . . in simple words like 'world peace,' or 'yellow,' or. . ." He could not remember the third term that she had used.

"Surds," she said softly. "Surds."

Neither could help smiling. Each leaned back. Each inhaled, inspired by hope.

McMann could not make sense of her. The ones who came and wept because they would never get into medical school because of their "C" in calculus, the ones simply weaseling a higher grade, the ones who came to change their major from (and sometimes to) mathematics never perplexed him. The arithmetic of their needs was a closed system, a system both complete and consistent. They posed no threat to

the small universe he inhabited, the simulacrum whose order he found emblematic of a larger one, one that might bespeak the existence of the deity. But she was his personal Gödel, an unpleasant reminder of something darker, something so dark that his own fears shone forth against its blackness: the relative brightness of the self that listed the axioms on which he stepped to cross the river, the axioms that meant he never stepped twice into the same river. The eternal gap between the outstretched fingers of Adam and his creator. The blasphemy of integration; the sacrament of differentiation. Or perhaps it was the other way 'round.

She took out another cigarette, set it on his desk and rolled it toward him. He thought of the tobacco as a body rolled in a shroud, and then he surrendered. "Okay," Father McMann said. "Let me tell you the story."

"The one that will make me cry?" Nora wanted to know.

"The very one," Father McMann promised.

She gestured for him to begin.

He cleared his throat, the same gurgling rasp she had heard in the dozens of days she had spent in the advanced classes he taught. "First," he said, "the emblematic story: once upon a time, angry mathematicians drowned Hypasos in a mud puddle for telling a secret." He paused, and pulled open the drawer to his desk, reached in and removed the bottle of Scotch. "Care for some?" he asked her.

She nodded.

He took out his small cup and filled it almost to the brim, and then began looking for another cup. He panicked slightly, but then saw the cup with the window cranks. He dumped them on his desk and filled it for her, passing the trembling cup.

"C'mon," she said. "Make me cry."

When she took a sip, he began again. "Hypasos' sin? He blabbed too much, and told everybody that there are points on the number line that can't be expressed as ratios of whole numbers. To us, this murder seems..."

"Pointless," Nora suggested.

He ignored her. "These are the points we now call 'irrationals,' for example..." He found himself thinking of his own behavior, of his own inexplicable afternoon spent watching a young woman vomit and how he had endured her questions.

"Pi," she said.

“Pi,” he said, holding up two fingers and passing his other hand over them in a wave. They both smiled.

She did not feel sick. He did not feel alone.

“So,” he resumed, “Hypasos the Akousmatic – a deviant Pythagorean – was murdered for revealing the incommensurability of side and diagonal, for revealing that the lengths of the sides of a right triangle suggest a relationship unnamable in the vocabulary of rational numbers. He watched her nod at him. “So why, you ask, did that revelation deserve death? Well, to the Greeks—to the Pythagoreans at least—the world was number, so irrational numbers were their dirty little secret, a secret that suggested that the world was much more complex than they imagined. The idea that there could be a hole in the number line for which there was no name suggested that there was a huge discontinuity the world. . . that nature was defective or incomplete or somehow not unified. Their tidy little system of ‘rationals’ came crashing down in the face of this new type of number.”

He paused to take a sip and look at Nora. This, he knew, was all old news to her.

“How many marriages have you performed?” she asked.

Father McMann flinched. He had been asked only once, but the surgery on his neck had prevented him. Other Jesuits complained about the abrupt intrusions of strangers who wanted their relationship sanctified, but his own priesthood held no such complaints. He returned to his story without answering her. “Year after year, I go through this story about Hypasos with my introductory classes to suggest that ‘naming’ embodies lots of beliefs and aspirations. That naming can be mathematical, regular languages, or whatever. In any case, naming has consequences. I have always been interested in the consequences of how we name the world.”

She pretended to dab at her eyes and then examined the tissue. “My eyes remain dry,” she said. “You’ll have to do better than this to make me weep.”

“The asymptote of my sorrow,” Father McMann said evenly, “is the loss of a friend whom I cannot touch again in this life.” He drank down the rest of the liquor and refilled the cup.

Nora sat upright, and listened carefully to the sound of his words cascading across his lips.

“Of course, each time I gave his little spiel, I had to have the categories of number clear in my head. This is easy. The issue of naming is not. So on the

morning of this lecture, I always drank another cup of... coffee, and trudged down to the basement to see my old professor...

“Father Frank?” she asked. “Who was your...”

He held a finger to his lips. “... Father Frank.”

He drank again from the trembling cup. “The last time I saw him, he was reading a book about Kurt Gödel, but he set it aside just as he had always set aside time for me, even when I was his student. The routine was simple: I would claim not to remember the names. He would say, ‘It is simple,’ and he would write words on a long yellow sheet of legal paper: ‘wholes, reals, rationals, and irrationals.’ I would pretend to think that he was done, and then...” Father McMann could not go on. He remembered being young, and how, on the day that the theorem bearing his name came squalling into the world, he had called Father Frank to ask for his blessing. Now, there were no more blessings, only silence. No voice from the empty garage of his soul.

Nora spoke softly. “And then he would say, ‘And the imaginaries, you know, roots of negatives and other odd cases.’”

Father McMann was not able to speak; he kept himself in check by tracing small geometric shapes on the surface of his desk.

“Perhaps,” Nora continued for him, “you would say to him—after you screwed up your courage—‘but there is something that perplexes me most. There is something that I don’t understand.’ Perhaps you would say, ‘I don’t understand how to graph the imaginaries. It seems as if there is no place to do it.’”

Father McMann looked up at her, and twisted himself back into the voice that could tell the story. “And Father Frank would laugh, and say, ‘because it is not here that you graph them.’ He would gesture around the room at the desk and the cold dead eye of the abandoned telephone dial. He would laugh tolerantly, and he would say, ‘It is on the Argand Plane.’ And now he is dead, buried as we bury our own, quickly and with a low Mass.”

Nora reached down into her book bag and extracted a small cellophane package. The crackers were cracked, but she tore the wrapper and handed a piece to Father McMann.

He placed it in his mouth, closed his eyes, and swallowed. “Nobody has to do something impossible in the plane of our flat little lives,” he said. “There is another one, one dedicated to the imaginary numbers, to the roots of the negative.” He drew the sign of the abscissa and ordinate above her head.

“World without end,” she prophesied.

“Yes,” he said. “Someday I will write a story about a character who walks out on the Argon Plain.”

“It will involve a misspelling,” she reminded him.

“A notational problem,” he said. “The unresolvable notational problem that insists on showing the hand of the writer.” He thought for a moment and then brightened. “I shall disguise it again by speaking it in the homily.”

“And Father Frank?” she asked.

“No longer of this world. The surd, the diagonal of my two priesthoods. A voice dying by halves in my memory.”

“And this is why you followed me into the bathroom? Why you held me up when I was sick?” Her voice was a cascade of spherical notes, platonic and pure.

He could not answer her. He only knew that the way back to safety lay through the same dangerous thicket. “Father Frank is dead,” he said. “My mentor, my confessor has disappeared. He doesn’t walk among the Cartesian coordinates of our city streets or inhabit the stony calculi measuring the volumes of the library. But I suppose that now he lives in luxuriant fields of numbers, trimming back the irrationals, spading up the reals, and throwing them into great mounds of wholes. It must make him happy.”

“Let me show you something,” Nora said. She leaned forward and picked the priest’s hands from the desk. “Cross your wrists over each other and bring your psalms together.”

“Psalms?” Nora colored slightly. “Palms,” she said. “I meant palms.” She steadied herself. “Now, interlock your fingers and rotate your clasped hands toward your chest.”

He did, and when she pointed at his ring finger and asked him to move it, he moved the finger on the wrong hand. “It’s an old trick,” Nora said. “You think you know yourself, but you don’t.”

“We were talking about infinite sets,” he reminded her.

She looked down at the tangled nest of fingers clasped before Father McMann’s breast.

“Yes,” she agreed. “We are.”