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Three Hearings on the Existence of Snakes in the Human Bloodstream.  
Asimov's Science Fiction, Feb 1997  
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<i>1. Concerning an Arrangement of Lenses, So Fashioned  
as to Magnify the View of Divers Animacules, Too Tiny to be Seen with  
the Unaided Eye:</i>

His Holiness, Supreme Patriarch Septus XXIV, was an expert on chains. By holy law, chains were required on every defendant brought to the Court Immaculate. However, my Lord the Jailer could exercise great latitude in choosing which chains went on which prisoners. A man possessed of a healthy fortune might buy his way into nothing more than a gold link necklace looped loosely around his throat; a beautiful woman might visit the Jailer privately in his chambers and emerge with thin and glittering silver bracelets -- chains, yes, but as delicate as thread. If, on the other hand, the accused could offer neither riches nor position nor generous physical charms... well then, the prison had an ample supply of leg-irons, manacles, and other such fetters, designed to show these vermin the grim weight of God's Justice.

The man currently standing before Patriarch Septus occupied a seldom-seen middle ground in the quantity of restraints: two solid handcuffs joined by an iron chain of business-lute gauge, strong enough that the prisoner had no chance of breaking free, but not so heavy as to strain the man's shoulders to the point of pain. Clearly, my Lord the Jailer had decided on a cautious approach to this particular case; and Septus wondered what that meant. Perhaps the accused was nobody himself but had sufficient connections to rule out unwarranted indignities... a sculptor or musician, for example, who had won favor with a few great households in the city. The man certainly had an artistic look -- fierce eyes in an impractical face, the sort of high-strung temperament who could express passion but not use it.

"Be it known to the court," cried the First Attendant, "here stands one Anton Leeuwenhoek, a natural philosopher who is accused of heresy against God and Our Lady, the Unbetombed Virgin. Kneel, Supplicant, and pray with his Holiness, that this day shall see justice."

Septus waited to see what Leeuwenhoek would do. When thieves and murderers came before the court, they dropped to their knees immediately, making gaudy show of begging God to prove their innocence. A heretic, however, might spit defiance or hurl curses at the Patriarchal throne -- not a good way to win mercy, but then, many heretics came to this chamber intent on their own martyrdom. Leeuwenhoek had the eyes of such a fanatic, but apparently not the convictions; without so much as a grimace, he got to his knees and hewed his head. The Patriarch quickly closed his own eyes and intoned the words he had recited five times previously this morning: "God grant me the wisdom to perceive the truth. Blessed Virgin, grant me the judgment to serve out meet justice. Let us all act this day to the greater glory of Thy Divine Union. Amen."

Amens sounded around the chamber: attendants and advocates following the form. Septus glanced sideways toward Satan's Watchboy, an ominous title for a cheerfully freckle-faced youth, the one person here excused from closing his eyes during the prayer. The Watchboy nodded twice, indicating that Leeuwenhoek had maintained a proper attitude of prayer and said Amen with everyone else. Good -- this had just become a valid trial, and anything that happened from this point on had the strength of heavenly authority.

"My Lord Prosecutor," Septus said, "state the charges."

The prosecutor bowed as deeply as his well-rounded girth allowed,

perspiration already heading on his powdered forehead. It was not a hot day, early spring, nothing more... but Prosecutor ben Jacob was a man famous for the quantity of his sweat, a trait that usually bothered his legal adversaries more than himself. Many an opposing counsel had been distracted by the copious flow streaming down ben Jacob's face, thereby overlooking flaws in the prosecutor's arguments. One could always find flaws in ben Jacob's arguments, Septus knew -- dear old Abraham was not overly clever. He was, however, honest, and could not conceive of winning personal advancement at the expense of those he prosecuted; therefore, the Patriarch had never dismissed the man from his position.

'Your Holiness,' ben Jacob said, "this case concerns claims against the Doctrine of the, uhh... Sleeping Snake."

"Ah." Septus glanced over at Leeuwenhoek. "My son, do you truly deny God's doctrine?"

The man shrugged. "I have disproved the doctrine. Therefore, it can hardly be God's."

Several attendants gasped loudly. They perceived it as part of their job to show horror at every sacrilege. The same attendants tended to whisper and make jokes during the descriptions of true horrors: murders, rapes, maimings. "The spectators will remain silent," Septus said wearily. He had recited those words five times this morning too. "My Lord Prosecutor, will you please read the text?"

"Ummm... the text, yes, the text."

Septus maintained his composure while ben Jacob shuffled through papers and parchments looking for what he needed. It was, of course, standard procedure to read any passages of scripture that a heretic denied, just to make sure there was no misunderstanding. It was also standard procedure for ben Jacob to misplace his copy of the relevant text in a pile of other documents. With any other prosecutor, this might be some kind of strategy; with ben Jacob, it was simply disorganization.

"Here we are, yes, here we are," he said at last, producing a dog-eared page with a smear of grease clearly visible along one edge. "Gospel of Susannah, chapter twenty-three, first verse." Ben Jacob paused while the two Verification Attendants found the passage in their own scripture books. They would follow silently as he read the text aloud, ready to catch any slips of the tongue that deviated from the holy word. When the attendants were ready, ben Jacob cleared his throat and read:

*<i>After the procession ended, they withdrew to a garden outside the walls of Jerusalem. And in the evening, it happened that Matthias beheld a serpent there, hidden by weeds. He therefore took up a stone that he might crush the beast; but Mary stayed his hand, saying, "There is no danger, for look, the beast sleeps."*

*"Teacher," Matthias answered, "it will not sleep forever."*

*"Verily," said Mary, "I promise it will sleep till dawn; and when the dawn comes, we will leave this place and all the serpents that it holds."*

*Yet still, Matthias kept hold of the stone and gazed upon the serpent with fear.*

*"O ye of little faith, " said Mary to Matthias, "why do you concern yourself with the sleeping creature before you, when you are blind to the serpents in your own heart? For I tell you, each drop of your blood courses with a legion of serpents, and so it is for every Child of Dust. You are all poisoned with black venoms, poisoned unto death. But if you believe in me, I will sing those serpents to sleep; then will they slumber in peace until you leave this flesh behind, entering into the dawn of God's new day."*

Ben Jacob lowered his page and looked to the Verifiers for their confirmation. The Patriarch turned in their direction too, but he didn't need their nods to tell him the scripture had been read correctly. Septus knew the passage by heart; it was one of the fundamental texts of Mother Church, the

Virgin's promise of salvation. It was also one of the most popular texts for heretics to challenge. The presumption of original sin, of damnation being inherent in human flesh... that was anathema to many a fiery young soul. <i>What kind of God,</i> they asked, <i>would damn an infant to hell merely for being born?</i> It was a good question, its answer still the subject of much subtle debate; but the Virgin's words were unequivocal, whether or not theologians had reasoned out all the implications.

"Anton Leeuwenhoek," Septus said, "you have heard the verified word of scripture. Do you deny its truth?"

Leeuwenhoek stayed directly back. "I must," he answered. "I have examined human blood in meticulous detail. It contains no serpents."

The toadies in the courtroom had their mouths open, ready to 'gasp again at sacrilege; but even they could hear the man was not speaking in deliberate blasphemy. He seemed to be stating... a fact.

How odd.

Septus straightened slightly in the Patriarchal throne. This had the prospect of more interest than the usual heresy trial. "You understand," he said to Leeuwenhoek, this passage is about original sin. The Blessed Virgin states that all human beings are poisoned with sin and can only be redeemed through her."

"On the contrary, Your Holiness." Leeuwenhoek's voice was sharp. "The passage states there are snakes in human blood. I know there are not."

"The snakes are merely..." Septus stopped himself in time. He had been on the verge of saying the snakes were merely a metaphor; but this was a public trial, and any pronouncements he made would have the force of law. To declare that any part of scripture was not the literal truth ... no Patriarch had ever done so in open forum, and Septus did not intend to be the first.

"Let us be clear on this point," Septus said to Leeuwenhoek. "Do you deny the Doctrine of Original Sin?"

"No. I could never make heads or tails of theology. What I understand is blood; and there are no snakes in it."

One of the toadies ventured a small gasp of horror, but even a deaf mall could have told the sound was forced.

Prosecutor ben Jacob, trying to be helpful, said, "You must appreciate that the snakes would be very, very small."

"That's just it," Leeuwenhoek answered with sudden enthusiasm. "I have created a device that makes it possible to view tiny things as if they were much larger." He turned quickly toward Septus. "Your Holiness is familiar with the telescope? The device for viewing objects at long distances?"

The Patriarch nodded in spite of himself.

"My device," Leeuwenhoek said, "functions on a similar principle -- an arrangement of lenses that amplify one's vision to reveal things too small to see with the naked eye. I have examined blood in every particular; and while it contains numerous minute animalcules I cannot identify, I swear to the court there are no snakes. Sleeping or otherwise."

"Mm." Septus took a moment to fold his hands on the bench in front of him. When he spoke, he did not meet the prisoner's eyes. "It is well-known that snakes are adept at hiding, are they not? Surely it is possible that a snake could be concealed behind... behind these other minute animalcules you mention."

"A legion of serpents," Leeuwenhoek said stubbornly. "That's what the text said. A legion of serpents in every drop of blood. Surely they couldn't <i>all</i> find a place to hide; and I have spent hundreds of hours searching, Your Holiness. Days and weeks and months."

"Mm."

Troublesome to admit, Septus didn't doubt the man. The Patriarch had scanned the skies with an excellent telescope, and had seen a universe of unexpected wonders -- mountains on the moon, hair on the sun, rings around the planet Cronus. He could well believe Leeuwenhoek's magnifier would reveal similar surprises... even if it didn't show serpents in the bloodstream. The

serpents were merely a parable anyway; who could doubt it? Blessed Mary often spoke in poetic language that every educated person recognized as symbolic rather than factual.

Unfortunately, the church was not composed of educated persons. No matter how sophisticated the clergy might be, parishioners came from humbler stock. Snakes in the blood? If that's what Mary said, it must be true; and heaven help a Patriarch who took a less dogmatic stance. The bedrock of the church was Authority: ecclesiastic authority, scriptural authority. If Septus publicly allowed that some doctrines could be interpreted as mere symbolism -- that a fundamental teaching was metaphor, not literal fact -- well, all it took was a single hole in a wineskin for everything to leak out.

On the other hand, truth was truth. If there were no snakes, there were no snakes. God made the world and all the people in it; if the Creator chose to fashion human lifeblood a certain way, it was the duty of Mother Church to accept and praise Him for it. Clinging to a lie in order to preserve one's authority was worse than mere cowardice; it was the most damning blasphemy.

Septus looked at Leeuwenhoek, standing handcuffed in the dock. A living man with a living soul; and with one word, Septus could have him executed as a purveyor of falsehood. But where did the falsehood truly lie?

"This case cannot be decided today," Septus announced. "Mother Church will investigate the claims of the accused to the fullest extent of her strength. We will build magnifier devices of our own, properly blessed to protect against Satan's interference." Septus fought back a smile at that; there were still some stuffy inquisitors who believed the devil distorted what one saw through any lens. "We shall see what is there and what is not."

Attendants nodded in agreement around the courtroom, just as they would nod if the sentence had been immediate acquittal or death. But ben Jacob said, "Your Holiness -- perhaps it would be best if the court were to... to issue instructions that no other person build a magnification device until the church has ruled in this matter."

"On the contrary," Septus replied. "I think the church should make magnifiers available to all persons who ask. Let them see for themselves."

The Patriarch smiled, wondering if ben Jacob understood. A decree suppressing magnifiers would simply encourage dissidents to build them in secret; on the other hand, providing free access to such devices would bring the curious *into* the church, not drive them away. Anyway, the question would only interest the leisured class, those with time and energy to wonder about esoteric issues. The great bulk of the laity, farmers and miners and ostlers, would never hear of the offer. Even if they did, they would hardly care. Minute animalcules might be amusing curiosities, but they had nothing to do with a peasant's life.

Another pause for prayer and then Leeuwenhoek was escorted away to instruct church scholars in how to build his magnification device. The man seemed happy with the outcome -- more than escaping a death sentence, he would now have the chance to show others what he'd seen. Septus had met many men like that: grown-up children, looking for colorful shells on the beach and touchingly grateful when someone else took an interest in their sandy little collections.

As for Leeuwenhoek's original magnifier -- Septus had the device brought to his chambers when the court recessed at noon. Blood was easy to come by: one sharp jab from a pin and the Patriarch had his sample to examine. Eagerly he peered through the viewing lens, adjusting the focus in the same way as a telescope.

Animalcules. How remarkable.

Tiny, tiny animalcules... countless schools of them, swimming in his own blood. What wonders God had made! Creatures of different shapes and sizes, perhaps predators and prey, like the fishes that swam in the ocean.

And were there snakes? The question was almost irrelevant. And yet ... very faintly, so close to invisible that it might be a trick of the eye, something as thin as a hair seemed to flit momentarily across the view.

Then it was gone.

<b><i>2. The Origin of Serpentine Analogues in the Blood of Papist Peoples:</b></i>

Her Britannic Majesty, Anne VI, rather liked the Star Chamber. True, its power had been monstrosly abused at times in the past five centuries -- secret trials leading to secret executions of people who were probably more innocent than the monarchs sitting on the judgment seat -- but even in the glorious Empire, there was a place for this kind of hearing. The queen on this side of the table, one other subjects on the other... it had the air of a private chat between friends: a time when difficulties could get sorted out, one way or another.

"Well, Mr. Darwin," she said after the tea had been poured, "it seems you've stirred up quite a hornet's nest. Have you not?"

The fiercely bearded man across the table did not answer immediately. He laid a finger on the handle of his cup as if to drink or not to drink was some momentous decision; then he said, "I have simply spoken the truth, ma'am...as I see it."

"Yes; but different people see different truths, don't they? And a great many are upset by the things you say are true. You are aware there has been... unpleasantness?"

"I know about the riots, ma'am. Several times they have come uncomfortably close to me. And of course, there have been threats on my life."

"Indeed." Anne lifted a tiny slice of buttered bread and took what she hoped would seem a thoughtful nibble. For some reason, she always enjoyed eating in front of the accused here in the Star Chamber; they themselves never had any appetite at all. "The threats are one reason We invited you here today. Scotland Yard is growing rather weary of protecting you; and Sir Oswald has long pondered whether your life is worth it."

That got the expected reaction -- Darwin's finger froze on the cup handle, the color draining away from his face. "I had not realized...." His eyes narrowed. "I perceive, ma'am, that someone will soon make a decision on this issue."

"Exactly," the queen said. "Sir Oswald has turned to the crown for guidance, and now We turn to you." She took another tiny bite of the bread. "It would be good of you to explain your theories -- to lay out the train of reasoning that led to your... unsettling public statements."

"It's all laid out in my book, ma'am."

"But your book is for scientists, not queens." Anne set down the bread and allowed herself a small sip of tea. She took her time doing so, but Darwin remained silent. "Please," she said at last. "We wish to make an informed decision."

Darwin grunted... or perhaps it was a hollow chuckle of cynicism. An ill-bred sound in either case. "Very well. Your Majesty," he nodded. "It is simply a matter of history."

"History is seldom simple, Mr. Darwin; but proceed."

"In... 1430-something, I forget the exact year, Anton Leeuwenhoek appeared before Supreme Patriarch Septus to discuss the absence of snakes in the bloodstream. You are familiar with that, ma'am?"

"Certainly. It was the pivotal event in the Schism between Our church and the Papists."

"Just so."

Anne could see Darwin itching to leap off his chair and begin prowling about the room, like a professor lecturing to a class of dull-lidded schoolboys. His strained impetuosity amused her; but she hoped he would keep his impulses in check.

"Pray continue, Mr. Darwin."

"It is common knowledge that the Patriarch's decision led to a... a deluge, shall we say, of people peering at their own blood through a

microscope. Only the upper classes at first, but soon enough it spread to the lower levels of society too. Since the church allowed anyone to look into a microscope without cost, I suppose it was a free source of amusement for the peasantry."

"An opiate for the masses," Anne offered. She rather liked the phrase -- Mr. Marx had used it when *he* had his little visit to the Star Chamber.

"I suppose that must be it," Darwin agreed. "At any rate, the phenomenon far outstripped anything Septus could have foreseen; and even worse for the Patriarchy, it soon divided the church into two camps -- those who claimed to see snakes in their blood and those who did not."

"Mr. Darwin, we are well aware of the fundamental difference between Papists and the Redeemed."

"Begging your pardon, ma'am, but I believe the usual historical interpretation is... flawed. It confuses cause and effect."

"How can there be confusion?" Anne asked. "Papists have serpents in their blood; that is apparent to any child looking into a microscope. We Redeemed have no such contaminants; again, that is simple observational fact. The obvious conclusion, Mr. Darwin, is that Christ Himself marked the Papists with Her curse, to show one and all the error of their ways."

"According to the Papists," Darwin reminded her, "the snakes are a sign of God's blessing: a sleeping snake means sin laid to rest."

"Is that what you think, Mr. Darwin?"

"I think it more practical to examine the facts before making any judgment."

"That is why we are here today," Anne said with a pointed glance. "Facts... and judgment. If you could direct yourself to the heart of the matter, Mr. Darwin?"

"The heart of the matter," he repeated. "Of course. I agree that today any microscope will show that Papists have snakes in their bloodstream... or as scientists prefer to call them, serpentine analogues, since it is highly unlikely the observed phenomena are actual reptiles--"

"Let us not bandy nomenclature," Anne interrupted. "We accept that the entities in Papist blood are unrelated to cobras and puff adders; but they have been called snakes for centuries, and the name is adequate. Proceed to your point, Mr. Darwin."

"You have just made my point for me, ma'am. Five centuries have passed since the original controversy arose. What we see *now* may not be what people saw *then*." He took a deep breath. "If you read the literature of that long-ago time, you find there was great doubt about the snakes, even among the Papists. Serpentine analogues were extremely rare and difficult to discern... unlike the very obvious entities seen today."

"Surely that can be blamed on the equipment," Anne said. "Microscopes of that day were crude contrivances compared to our fine modern instruments."

"That is the usual argument," Darwin nodded, "but I believe there is a different explanation."

"Yes?"

"My argument, ma'am, is based on my observations of pigeons."

Anne blinked. "Pigeons, Mr. Darwin?" She blinked again. "The birds?" She bit her lip. "The filthy things that perch on statues?"

"Not wild pigeons, Your Majesty, domestic ones. Bred for show. For example, some centuries ago, a squire in Sussex took it into his head to breed a black pigeon from his stock of gray ones."

"Why ever would he want a black pigeon?"

"That remains a mystery to me too, ma'am; but the historical records are clear. He set about the task by selecting pigeons of the darkest gray he could find, and breeding them together. Over many generations, their color grew darker and darker until today, the squire's descendants boast of pigeons as black as coal."

"They boast of that?"

"Incessantly."

Darwin seized up a piece of bread and virtually stuffed it into his mouth. The man had apparently become so engrossed in talking, he had forgotten who sat across the table. <i>Good</i>, Anne thought; he would be less guarded.

"We understand the principles of animal husbandry," Anne said. "We do not, however, see how this pertains to the Papists."

"For the past five centuries. Your Majesty, the Papists have been going through exactly the same process... as have the Redeemed, for that matter. Think, ma'am. In any population, there are numerous chance differences between individuals; the squire's pigeons, for example, had varying shades of gray. If some process of selection chooses to emphasize a particular trait as desirable, excluding other traits as undesirable -- if you restrict darker birds to breeding with one another and prevent lighter ones from contributing to the bloodline -- the selected characteristic will tend to become more pronounced with each generation."

"You are still talking about pigeons, Mr. Darwin."

"No, ma'am," he said triumphantly, "I am talking about Papists and the Redeemed. Let us suppose that in the times of Patriarch Septus, some people had almost imperceptible serpentine analogues in their bloodstream -- a chance occurrence, just as some people may have curls in their hair while others do not."

Anne opened her mouth to say that curls were frequently not a Chance occurrence at all; but she decided to remain silent.

"Now," Darwin continued, "what happened among the people of that day? Some saw those tiny, almost invisible snakes; others did not. Those who saw them proclaimed, <i>This proves the unshakable word of Mother Church</i>. Those who saw nothing said, <i>The scriptures cannot be taken literally -- believers must find the truth in their own hearts</i>. And so the Schism split the world, pitting one camp against another."

"Yes, Mr. Darwin, We know all that."

"So, ma'am, you must also know what happened in subsequent generations. The rift in belief created a similar rift in the population. Papists only married Papists. The Redeemed only married the Redeemed."

"Of course."

"Consequently," Darwin stressed the word, "those who could see so-called snakes in their blood only married those of similar condition. Those who saw nothing married others who saw nothing. Is it any wonder that, generation by generation, snakes became more and more visible in Papist blood? And less and less likely to be seen in the Redeemed? It is simply a matter of selective breeding, ma'am. The Papists are not different from us because the Virgin put her mark on them; they are different because they selected to <i>make</i> themselves different. To <i>emphasize</i> the difference. And the Redeemed have no snakes in their blood for the same reason -- simply a side effect of our ancestors' marital prejudice."

"Mr. Darwin!" Anne said, aghast. "Such claims! No wonder you have angered the Papists as much as your own countrymen. To suggest that God's sacred sign is a mere barnyard accident...." The Queen caught her breath. "Sir, where is your decency?"

"I have something better than decency," he answered in a calm voice. "I have proof."

"Proof? How could you prove such a thing?"

"Some years ago, ma'am," he said, "I took passage on a ship sailing the South Seas; and during that voyage, I saw things that completely opened my eyes."

"More pigeons, Mr. Darwin?"

He waved his hand dismissively. "The birds of the Pacific Islands are hardly fit study for a scientist. What I observed were the efforts of missionaries, ma'am; both Papists and the Redeemed, preaching to the natives who lived in those isles. Have you heard of such missions?"

"We sponsor several of those missions personally, Mr. Darwin."

"And the results, ma'am?"

"Mixed," Anne confessed. "Some tribes are open to Redemption, while others..." she shrugged. "The Papists do no better."

"Just so. Your Majesty. As an example, I visited one island where the Papists had been established for thirty years, yet the local priest claimed to have made no <i>true</i> converts. Mark that word, <i>true</i>. Many of the natives espoused Papist beliefs, took part in Papist worship, and so on... but the priest could find no snakes in their blood, so he told himself they had not truly embraced Mother Church."

"You would argue with the priest's conclusion?"

"Certainly," Darwin replied. "In my eyes, the island tribe was simply a closed population that for reasons of chance never developed serpentine analogues in their blood. If you interbreed only white pigeons, you will never develop a black."

Anne said, "But--" then stopped stone-still, as the words of a recent mission report rose in her mind. <i>We are continually frustrated in our work on this island; although the people bow before God's altar, their blood continues to show the serpent-stain of the Unclean</i>...

"Mr. Darwin," Anne murmured, "could there possibly be islands where all the people had snakes in their blood, regardless of their beliefs?"

"There are indeed, ma'am," Darwin nodded. "Almost all the island populations are isolated and homogeneous. I found some tribes with snakes, some without -- no matter which missionaries ministered there. When the Papists land among a people who already have analogues in their bloodstream, they soon declare that they have converted the tribe and hold great celebrations. However, when they land among a people whose blood is clear... well, they can preach all they want, but they won't change the effects of generations of breeding. Usually, they just give up and move on to another island where the people are more receptive... which is to say, where they have the right blood to begin with."

"Ah."

Anne lowered her eyes. Darwin had been speaking about the Papists, but she knew the same was true of Redeemed missionaries. They tended to stay a year in one place, do a few blood tests, then move on if they could not show results -- because results were exclusively measured in blood rather than what the people professed. If missionaries, her own missionaries, had been abandoning sincere believers because they didn't believe the conversions were "true"... what would God think of that?

But Darwin hadn't stopped talking. "Our voyage visited many islands, Your Majesty, a few of which had never received missionaries of any kind. Some of those tribes had serpentine analogues in their blood, while some did not... and each island was homogeneous. I hypothesize that the potential for analogues might have been distributed evenly through humankind millennia ago; but as populations grew isolated, geographically or socially--"

"Yes, Mr. Darwin, We see your point." Anne found she was tapping her finger on the edge of the table. She stopped herself and stood up. "This matter deserves further study. We shall instruct the police to find a place where you can continue your work without disturbance from outside sources."

Darwin's face fell. "Would that be a jail, ma'am?"

"A comfortable place of sanctuary," she replied. "You will be supplied with anything you need -- books, paper, all of that."

"Will I be able to publish?" he asked.

"You will have at least one avid reader for whatever you write." She favored him with the slightest bow of her head. "You have given Us much to think about."

"Then let me give you one more thought. Your Majesty." He took a deep breath, as if he was trying to decide if his next words would be offensive beyond the pale. Then, Anne supposed, he decided he had nothing to lose. "Papists and the Redeemed have been selectively breeding within their own populations for five hundred years. There may come a time when they are too far removed from each other to be... cross-fertile. Already there are rumors



of an unusually high mortality rate for children with one Papist parent and one Redeemed. In time -- millennia perhaps, but in time -- I believe the two populations may split into separate species."

"Separate species? Of humans?"

"It may happen, Your Majesty. At this very moment, we may be witnessing the origin of two new species."

Queen Anne pursed her lips in distaste. "The origin of species, Mr. Darwin? If that is a joke, We are not amused."

**<b><i>3. The Efficacy of Trisulphozymase for Preventing SA Incompatibility Reactions in Births of Mixed-Blood Parentage:</b></i>**

The hearing was held behind closed doors -- a bad sign. Julia Grant had asked some other colleagues what to expect and they all said, *Show trial, Show trial*. Senator McCarthy loved to get his name in the papers. And yet the reporters were locked out today; just Julia and the Committee.

A very bad sign.

"Good afternoon, Dr. Grant," McCarthy said after she had sworn to tell the truth, the whole truth, and nothing but the truth. His voice had a smarmy quality to it; an unpleasant man's attempt at charm. "I suppose you know why you're here?"

"No, senator."

"Come now, doctor," he chided, as if speaking to a five-year-old. "Surely you must know the purpose of this Committee? And it therefore follows that we would take great interest in your work."

"My work is medical research," she replied tightly. "I have no political interests at all." She forced herself to stare McCarthy in the eye. "I heal the sick."

"There's sickness and there's sickness," the senator shrugged. "We can all understand doctors who deal with sniffles and sneezes and heart attacks... but that's not your field, is it?"

"No," she answered. "I'm a hematologist, specializing in SA compatibility problems."

"Could you explain that for the Committee?"

The doctor suspected that every man on the Committee -- and they were all men -- had already been briefed on her research. If nothing else, they read the newspapers. Still, why not humor them?

"All human blood," she began, "is either SA-positive or SA-negative--"

"SA stands for Serpentine Analogue?" McCarthy interrupted.

"Yes. The name comes from the outdated belief--"

"That some people have snakes in their bloodstream," McCarthy interrupted again.

"That's correct."

"*Do* some people have snakes in their bloodstream?" McCarthy asked.

"Snake-like entities," another senator corrected... probably a Democrat.

"Serpentine analogues are not present in anyone's bloodstream," Julia said. "They don't appear until blood is exposed to air. It's a specialized clotting mechanism, triggered by an enzyme that encourages microscopic threads to form at the site of an injury--"

"In other words," McCarthy said, "SA-positive blood works differently from SA-negative. Correct?"

"In this one regard, yes," Julia nodded.

"Do you think SA-positive blood is *better* than SA-negative?"

"It provides slightly more effective clotting at wounds--"

"Do you *admire* SA-positive blood, doctor?"

Julia stared at him. Mentally, she counted to ten. "I am fascinated by all types of blood," she answered at last. "SA-positive clots faster... which is useful to stop bleeding but gives a slightly greater risk of stroke. Overall, I'd say the good points and the bad even out. If they didn't,

evolution would soon skew the population strongly one way or the other."

McCarthy folded his hands on the table in front of him. "So you believe in evolution, Dr. Grant?"

"I'm a scientist. I also believe in gravity, thermodynamics, and the universal gas equation."

Not a man on the Committee so much as smiled.

"Doctor," McCarthy said quietly, "what blood type are you?"

She gritted her teeth. "The Supreme Court ruled that no one has to answer that question."

In sudden fury, McCarthy slammed his fist onto the table. "Do you see the Supreme Court in here with us? Do you? Because if you do, show me those black-robed faggots and I'll boot their pope-loving asses straight out the window." He settled back in his chair. "I don't think you appreciate the seriousness of your situation, Dr. Grant."

"What situation?" she demanded. "I am a medical researcher--"

"And you've developed a new drug, haven't you?" McCarthy snapped. "A new *drug*. That you want to loose on the public. I wonder if the person who invented heroin called herself a medical researcher too?"

"Mr. McCarthy, trisulphozymase is not a narcotic. It is a carefully developed pharmaceutical--"

"Which encourages miscegenation between Papists and the Redeemed," McCarthy finished. "That's what it does, doesn't it, doctor?"

"No!" She took a deep breath. "Trisulphozymase combats certain medical problems that occur when an SA-positive father and an SA-negative mother--"

"When a Papist man sires his filthy whelp on a Redeemed woman," McCarthy interrupted. "When a Papist *fucks* one of the Saved! *That's* what you want to encourage, doctor? That's how you'll make the world a better place?"

Julia said nothing. She felt her cheeks burn like a child caught in some forbidden act; and she was infuriated that her reaction was guilt rather than outrage at what McCarthy was saying.

Yes, she wanted to say, *it* will *make* the world a better place to stop separating humanity into hostile camps. Most people on the planet had no comprehension of either Papist or Redeemed theology; but somehow, the poisonous idea of blood discrimination had spread to every country of the globe, regardless of religious faith. Insanity! And millions recognized it to be so. Yet the McCarthys of the world found it a convenient ladder on which they could climb to power, and who was stopping them? Look at Germany. Look at Ireland. Look at India and Pakistan.

Ridiculous... and deadly, time and again throughout history. Perhaps she should set aside SA compatibility and work on a cure for the drive to demonize those who were different.

"A doctor deals with lives, not lifestyles," she said stiffly. "If I were confronted with a patient whose heart had stopped beating, I would attempt to start it again, whether the victim were an innocent child, a convicted murderer, or even a senator." She leaned forward. "Has anyone here ever seen an SA incompatibility reaction? How a newborn infant dies? How the mother goes into spasm and usually dies too? Real people, gentlemen; real screams of pain! Only a monster could witness such things and still rant about ideology."

A few Committee members had the grace to look uncomfortable, turning away from her gaze; but McCarthy was not one of them. "You think this is all just ideology, doctor? A lofty discussion of philosophical doctrine?" He shook his head in unconvincing sorrow. "I wish it were... I truly wish it were. I wish the Papists weren't trying to rip down everything this country stands for, obeying the orders of their foreign masters to corrupt the spirit of liberty itself. Why should I care about a screaming woman, when she's whored herself to the likes of them? *She* made her decision; now she has to face the consequences. No one in this room invented SA incompatibility, doctor. *God* did... and I think we should take the hint, don't you?"

The sharp catch of bile rose in Julia's throat. For a moment, she couldn't find the strength to fight it; but she couldn't be sick, not in front of these men. Swallowing hard, she forced herself to breathe evenly until the moment passed. "Senators," she said at last, "do you actually intend to suppress trisulphozymase? To withhold life-saving treatment from those who need it?"

"Some might say it's a sign," McCarthy answered, "that a Redeemed man can father a child on a Papist without complications, but it doesn't work the other way around. Doesn't that sound like a sign to you?"

"Senators," she said, ignoring McCarthy, "does this Committee intend to suppress trisulphozymase?"

Silence. Then McCarthy gave a little smile. "How does trisulphozymase work, doctor?"

Julia stared at him, wondering where this new question was going. Warily, she replied, "The drug dismantles the SA factor enzyme into basic amino acids. This prevents a more dangerous response from the mother's immune system, which might otherwise produce antibodies to the enzyme. The antibodies are the real problem, because they may attack the baby's--"

"So what you're saying," McCarthy interrupted, "is that this drug can destroy the snakes in a Papist's bloodstream?"

"I told you, there *are* no snakes! Trisulphozymase temporarily eliminates the extra clotting enzyme that comes from SA-positive blood."

"It's only temporary?"

"That's all that's needed. One injection shortly before the moment of birth--"

"But what about repeated doses?" McCarthy interrupted. "Or a massive dose? Could you *permanently* wipe out the SA factor in a person's blood?"

"You don't administer trisulphozymase to an SA-positive person," Julia said. "It's given to an SA-negative mother to prevent--"

"But suppose you *did* give it to a Papist. A *big* dose. *Lots* of doses. Could it destroy the SA factor forever?" He leaned forward eagerly. "Could it make them like us?"

And now Julia saw it: what this hearing was all about. Because the Committee couldn't really suppress the treatment, could they? Her results were known in the research community. Even if the drug were banned here, other countries would use it; and there would eventually be enough public pressure to force re-evaluation. This wasn't about the lives of babies and mothers; this was about clipping the devil's horns.

Keeping her voice steady, she said, "It would be unconscionable to administer this drug or any other to a person whose health did not require it. Large doses or long-term use of trisulphozymase would have side effects I could not venture to guess." The faces in front of her showed no expression. "Gentlemen," she tried again, "in an SA-positive person, the enzyme is *natural*. A natural component of blood. To interfere with a body's natural functioning when there is no medical justification..." she threw up her hands. "Do no harm, gentlemen. The heart of the Hippocratic Oath. At the very least, doctors must *do* harm."

"Does that mean," McCarthy asked, "that you would refuse to head a research project into this matter?"

"Me?"

"You're the top expert in your field," McCarthy shrugged. "If anybody can get rid of the snakes once and for all, it's you."

"Senator," Julia said, "have you no shame? Have you no shame at all? You want to endanger lives over this... triviality? A meaningless difference you can only detect with a microscope--"

"Which means they can walk among us, doctor! Papists can walk *among* us. Them with their special blood, their snakes, their damned inbreeding -- they're the ones who care about what you call a triviality! They're the ones who flaunt it in our faces. They say they're God's Chosen.

With God's Mark of Blessing. Well, I intend to <i>erase</i> that mark, with or without your help."

"Without," Julia told him. "Definitely without."

McCarthy's gaze was on her. He did not look like a man who had just received an absolute no. With an expression far too smug, he said, "Let me tell you a secret, doctor. From our agents in the enemy camp. Even as we speak, the Papists are planning to contaminate our water supply with their damned SA enzyme. Poison us or make us like <i>them</i>... one way or the other. We <i>need</i> your drug to fight that pollution; to remove the enzyme from our blood before it can destroy us! What about <i>that</i>, Dr. Grant? Will your precious medical ethic? let you work on a treatment to keep us safe from their damned Papist toxins?"

Julia grimaced. "You know nothing about the human metabolism. People couldn't 'catch' the SA factor from drinking water; the enzyme would just break down in your stomach acid. I suppose it might be possible to produce a methylated version that would eventually work its way into the bloodstream..." She stopped herself. "Anyway, I can't believe the Papists would be so insane as to--"

"Right now," McCarthy interrupted, "sitting in a committee room of some Papist hideaway, there are a group of men who are just as crazy as we are. Believe that, doctor. Whatever <i>we</i> are willing to do to them, they are willing to do to <i>us</i>; the only question is, who'll do it <i>first</i>." McCarthy settled back and cradled his hands on his stomach. "Snakes all 'round, Dr. Grant. You can make a difference in who gets bitten."

It was, perhaps, the only true flung McCarthy had said since the hearing had begun. Julia tried to doubt it, but couldn't. SA-positive or negative, you could still be a ruthless bastard. She said nothing.

McCarthy stared at her a few moments more, then glanced at the men on both sides of him. "Let's consider this hearing adjourned, all right? Give Dr. Grant a little time to think this over." He turned to look straight at her. "A <i>little</i> time. We'll contact you in a few days... find out who scares you more, us or them."

He had the nerve to wink before he turned away. The other senators filed from the room, almost bumping into each other in the hurry to leave. Complicitous men... weak men, for all their power. Julia remained in the uncomfortable "Witness Chair," giving them ample time to scurry away; she didn't want to lay eyes on them again when she finally went out into the corridor.

Using trisulphozymase on an SA-positive person... what would be the effect? Predictions were almost worthless in biochemistry -- medical science was a vast ocean of ignorance dotted with researchers trying to stay afloat in makeshift canoes. The only prediction you could safely make was that a large enough dose of <i>any</i> drug would kill the patient.

On the other hand, better to inject trisulphozymase into SA-positive people than SA-negative. The chemical reactions that broke down the SA enzyme also broke down the trisulphozymase -- mutual assured destruction. If you didn't have the SA enzyme in your blood, the trisulphozymase would build up to lethal levels much faster, simply because there was nothing to stop it. SA-positive people could certainly tolerate dosages that would kill a...

Julia felt a chill wash through her. She had created a drug that would poison SA-negatives but not SA-positives... that could selectively massacre the Redeemed while leaving the Papists standing. And her research was a matter of public record. How long would it take before someone on the Papist side made the connection? One of those men McCarthy had talked about, just as ruthless and crazy as the senator himself.

How long would it take before they used her drug to slaughter half the world?

There was only one way out: put all the snakes to sleep. If Julia could somehow wave her hands and make every SA-positive person SA-negative, then the playing field would be level again. No, not the playing field -- the killing

field.

Insanity... but what choice did she have? Sign up with McCarthy; get rid of the snakes before they began to bite; pray the side effects could be treated. Perhaps, if saner minds prevailed, the process would never be deployed. Perhaps the threat would be enough to force some kind of bilateral enzyme disarmament.

Feeling twenty years older, Dr. Julia Grant left the hearing room. The corridor was empty; through the great glass entryway at the front of the building, she could see late afternoon sunlight slanting across the marble steps. A single protester stood on the sidewalk, mutely holding a sign aloft -- no doubt what McCarthy would call a Papist sympathizer, traitorously opposing a duly appointed congressional committee.

The protester's sign read, *"Why do you concern yourself with the sleeping creature before you, when you are blind to the serpents in your own heart?"*

Julia turned away, hoping the building had a back door.