

ZERO INFINITY

by Jerry McLain

"That's impossible!" John Allen, senior student in mathematics, threw the graph paper down onto the floor of his Monte Carlo in disgust. He frowned as he stared down at the graph. It showed a number line marked with dozens of points and figures. John's attention focused on the center of the line, on a large point marked '0'. "Why can't you work out?" John asked the paper. "The negative side follows the formula, and so does the positive. Why do I get a fourth-dimensional infinity at zero?"

"Hey, are you going to talk to the math problems or open the door for me?"

John's frown turned quickly to a smile as he looked through the open window at the beautiful, auburn-haired girl standing outside in the crisp autumn afternoon.

"Hi, honey," he said cheerfully, then reached over and opened the door for her,

Joan Archer tossed in a tennis racquet, a pile of books, and a small suitcase into the back seat of the car, then flopped onto the seat beside him. After their customary kiss, she said, "Wow, what a day! I thought I was lost in that Western Civilization history test, but Dr. McKown took mercy on me and I made an A, and I think I might have even passed my lab test In French. Then, to top it all off, my tennis partner turned her ankle during practice and I had to play single against the other team until the end of the game."

John reached over and pushed a bit of Joan's ruffled hair out of her brown eyes. He said with mock seriousness, "Well, why didn't you just forfeit the match? That was kinda dumb to play single like that."

Joan returned his mock frown. "It was not, and besides, I beat them by eight points!"

John smiled as he reached over to start the car. It was just like Joan. She was the undisputed best female athlete at Southwest State University, and maybe the best in New Mexico, but she was too modest to admit it. She was also an honor student, and her interests ranged from analyzing the strategy of historical battles to engaging in long debates on the subject of Divine Guidance. But, most of all, she was his girl and he knew he would go with her anywhere, just like this spur-of-the-moment trip they were making to her parent's home in Albuquerque, because she had decided last night they wanted to see her.

"Look at John." exclaimed Joan, interrupting his thoughts". "He's still wondering how I talked him into this trip all of a sudden."

"Now that you mention it," said John, as he drove them out of the parking lot, "just how did you con me into this?"

"I really don't know honey," answered Joan, as she reached for his arm. "I just feel this need to go to Albuquerque this weekend. Can you understand that?"

"No," answered John. "But, since it's you, I'll accept it anyway."

In answer, she purred softly into his ear and they settled down for the long ride.

About three hours later, the Monte Carlo carrying the two students reached the entrance to Tijeras Canyon, outside the destination of Albuquerque. John sat at the steering wheel, humming softly to the music of the radio while Joan napped on his shoulder.

Then, it happened.

The road directly in front of the car suddenly began to glow in the evening dusk. The road and all the space around it seemed to vaporize and leave nothing but a black, whirling pit. John's quick reflexes hit the brake, but the car skidded on toward the blackness. "Hang on!" he screamed to Joan, but she didn't say a word, she only stared with wide eyes as the car plunged into the abyss and disappeared.

Softness, Beauty, Warmth. John awoke. He looked around him but could see only a pale greenish-blue glow all over.

"You are all right," a voice said gently.

John looked up and saw what must be an angel standing over him. She was dressed in a soft, loose gown, and had beautiful blonde hair and brown eyes.

"My name is Catherine," she said. "You are in the Port New Mexico rest chamber." She looked into his wondering eyes and answered, "No, John, you are not dead. You are very much alive. We found you lying by the side of the Marsport access road this morning. You were brought here and we ran your identity through the Master Computer Center in Old Kansas City. John, this is the year 2529. Somehow you must have entered a space-time warp and here you are. Just rest and we'll have you on your feet in no time."

John stared at her from his bed. No, it just can't be, he thought. Then he remembered last night, five hundred and forty-six years ago. The black hole, the way it glowed, this place here - Joan!

"Joan! Joan?" His exclamation became a plea.

"There is no Joan," said Catherine. "You were the only one there, John."

"Where is she? Where is my Joan?" John cried out the words, then fell back sobbing.

"Easy, John," Catherine softly said. "I'm sure your friend is still alive. Remember John, you went through some kind of a time warp. Your friend must have gone through in the other direction. She is probably back in the past."

"Oh, no!" sobbed John. "We're lost and I won't ever see her again."

Catherine reached across his trembling body with a small cylinder, a twenty-sixth century hypodermic needle. "This will make you feel much better," she said as a beam of light came out of the cylinder into John's nervous system and caused his body to relax in a blissful, unknowing sleep.

When John again awoke, he was much better. The highly advanced psychological drug had taken its effect on him. He was able to put aside the loss of Joan and explore the new world that awaited him.

Catherine became John's guide and he discovered the Earth as it would be in 2530. She told him that all war had been abolished and the world was finally united. She explained to him how life had been discovered on other planets and that Earth had become the way-station of the galaxy. They walked together through the crystal cities and soft green fields of old New Mexico, which was now a gigantic space port, with glistening silver ships from a hundred different planets coming and going all the time. John was at first simply amazed as she told him about the prosperity the world was enjoying, but he soon began to like the New Earth, and he liked Catherine more. His old love for Joan was still there, but he was beginning to feel a new love for Catherine. Somehow, it didn't seem wrong. Catherine seemed so much like Joan. She talked like Joan, thought like Joan, and John often forgot that she wasn't Joan when he listened to her declare her religion and her love of history and sports to him. Finally, one day John found out why Catherine was so much like the girl he had known so long ago.

It started because John, with his interest in mathematics, wanted to learn about the fantastic computer system set up to provide Earth with any information needed for any task.

After studying and practicing for weeks, he decided to show Catherine how well he could run the computer system.

He said, "Catherine, I'm going to run your lineage through the computer and find out who your ancestors were in my time, in 1975."

He programmed the sequence through, then the printer rolled out a family tree back twelve generations. Catherine smiled as she picked up the end of the paper, then her smile turned into a gasp of shock as she read the writing.

"What is it?" asked John, and took the paper from her trembling hands. He looked at the paper and exclaimed, "No! It just can't be!"

On the paper was printed, "Lineage trace complete in the year 1975 A.D. Sister of computed subject - Joan Archer - born 1955 A.D."

"I'm your Joan's descendant, said Catherine slowly. Had I been born in that time, we would be sisters."

John, shaken from his shock, replied, "But, how? Why does your lineage end with Joan? Why doesn't the computer go back further? Joan had parents, and your ancestry should trace back, but it doesn't. It's as though your life began with Joan."

For days afterwards, John and Catherine programmed the computer over and over, searching for a clue to Catherine's ancestry and for what happened to Joan, but their search was fruitless. Joan could not be traced and Catherine's ancestry went nowhere, except for a vague clue the computer provided suggesting they search for another woman in history named Catherine - who would be the 2529 Catherine's namesake.

Meanwhile, John and Catherine took hovercraft rides out to the ancient Tijeras road every day at sunset. Catherine didn't particularly want to go, but John kept telling her he just felt a need to go.

And then one day, it all paid off.

They were riding the hovercraft right over the area John and Joan had been driving in centuries ago, when it appeared again. The sight of the whirling, glowing vapor and the black pit brought back all his memories.

John stopped the craft and stepped out, Catherine with him. He walked toward the pit, then Catherine caught his arm.

"I have to do it," said John. "I have to know what happened to her."

"I know," said Catherine gently. "I hope you find her, John. Good-bye."

John smiled at Catherine. He thought of a time, long ago, when he had left Southwest State to go to a mathematics convention. Joan hadn't wanted him to go to that either, but she had held back her tears and simply said good-bye. Yes, Catherine and Joan could have been sisters, if they hadn't been five centuries apart.

He reached out and kissed Catherine and said, "If it were only another place and time..."

"I know," Catherine said again. "We had a good time together, and I'll remember you until the end of time."

"Somehow," John said, as he choked back tears. "I think you'll find out what happens to me."

"I'll search the computer and hunt through history books," Catherine whispered, resting on his shoulder. "I'll find you somehow."

"If I find Joan, I'll tell her all about you," John answered. "She'll be happy that she was your ancestor."

He kissed Catherine once more, then left her on her knees crying and waving goodbye through her tears, as he walked into the abyss and disappeared.

Silence, Coolness, Light. John looked up, with the setting New Mexico sun shining in his eye--through the window of the parked Monte Carlo. He impulsively reached to his right, but Joan wasn't there. Could it all have been a bad dream? No, if it was, Joan would be sitting by his side, laughing and chiding him for being so sleepy. It was not a bad dream, and Joan was still lost in time. He had a replacement for her in 2529, but he had given Catherine up and lost them both.

As the feeling of hopelessness he had felt in that rest chamber began to engulf him again, he looked at the floor of the car. His eyes rested on a piece of graph paper. He picked it up, wonderingly, as the calculation he had made that afternoon suddenly came alive. Of course! The number line represented consciousness. The plus side was the future, the minus side was the past and zero--that was now, the present. But still, why was zero a four-dimensional infinity? The calculations had to be correct. He absent-mindedly worked them again before the full impact of Joan's loss struck him again. It didn't matter what zero was, Joan was still lost in time.

Tearfully, he reached to the back of the car, just to hold something that had belonged to her. He picked up the History of Western Civilization book she had studied that morning for the test and opened it randomly. The tears ran down his cheeks and fell on the page. He reached down to brush the drops off the page, then, his eyes cleared as he read the writing.

...little is known about the particulars of the early life of Joan of Arc. It is an agreed fact that she had one sister named Catherine. It is also generally agreed among historians that she must have been quite athletic in order to lead the armies of France against the English. She was also possessed of a tremendous religious belief, and legend says that she seemed to be especially concerned with the future in all her thinking.

The sudden realization of what he had read struck John.

He stared again at the number line. Of course, 1975 minus five hundred forty-four was 1429, the year Joan of Arc began her fight to save France. Also, if the time warp was congruently dimensional, it would deposit one person at the place in space where it had picked him up-and in the future. The other would be deposited in the past, at a point halfway around the world-a point roughly in France, judging from the logarithmic curve of the time differential. Then John thought of Joan of Arc's sister. The reason the 2529 Catherine's lineage ended in 1975 was because that was when Joan Archer's lineage ended and Joan of Arc's lineage began. Catherine was a namesake of her ancestor in 1429, but the computer couldn't calculate a time warp like that. All it could give was that vague hint to look in another time period.

It all worked out, according to the number line. The past and future existed as curves of separate entities, linked together by the present-the zero. The zero was four-dimensional-a time warp. It not only linked but affected the past and future at the same time.

John's tears turned to pride. Yeah, Joan was a fine girl. She hadn't grieved for him like he had for her. She had accepted her predicament and made the best of it-she had saved France.

John's mind wandered. How did she know the language?

He turned to the back of the car and noted the advanced French book she had tossed there that afternoon. Why had she wanted to go to Albuquerque anyway? Maybe there was something to that Divine Guidance, after all. But how could she forget about him and fight the English and even burn at the stake? Together, he knew they could do anything, but he couldn't see any way she would die willingly if there was any hope he was still alive. He turned back to the history book, trying to read the article and see if it gave any clue to Joan of Arc's motivation, but he dropped the book without reading another word, when his eye caught the now-familiar glow.

John stepped out of the car, as if in a trance. As he walked forward into the whirling black pit, he whispered, "I get one more chance, and I'll do it right this time. Here I come, darling..."

The pit turned back to a glow, then disappeared. A final gust of wind blew over the parked Monte Carlo, and turned a page in a textbook in the front seat. The words printed on the page revealed a mute testimony of a soon-to-occur past.

It would be read by many, but only one person, searching history books five centuries in the future, would fully realize its meaning.

Joan of Arc was shown to be true to Charles VI, King of France, by questioning in the presence of one Jean, Duc d'Alencon, who showed himself well-disposed toward her.

Joan and Alencon were at Sainte Denis on the northern outskirts of Paris on August 26, 1430, when the Parisiens organized their defenses against the English. An attack was launched on September 8, a little less than a year after Joan's emergence as leader, and she was wounded encouraging the soldiers. She and Alencon were forced to abandon the attack, but declared their allegiance to Charles, the army, and each other, and vowed to continue the fight.

Alecon was apparently killed shortly thereafter in a retreat. Joan was captured a few weeks later.

She gave up peacefully, saying she had fought as best she could, and was ultimately burned at the stake for trumped-up charges of heresy.

Historians agree that Joan and Alencon were well ahead of their times by their actions and abilities. Alencon organized the troops with mathematical precision, and both he and Joan seemed to be guided by a deeper sense of purpose. They seemed to be assured of some final destiny. It is said that both died praising Divine Purpose.

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