

❖ **The Boulevard Montmartre at Night : By Camille Pissarro**



❖ **Fermat's last theorem: How Andrew Wiles (a Professor at Princeton) solved the most challenging mathematical problem of all times**

<http://video.google.com/videoplay?docid=8269328330690408516#>

(Big disclaimer first: I am not a big fan of high level mathematics – but this story is not just about the mathematics but also about the grand beauty of human mind and endeavor. Please do see the video above for this most amazing real life story.

Fermat's Last Theorem states that no three positive integers a , b , and c can satisfy the equation ' $a^n + b^n = c^n$ ' for any integer value of n greater than two. We all know the Pythagorean triplets (3, 4, 5 and 5,12,13 etc. which satisfy the above equation for $n = 2$. Fermat's theorem states that there are no three positive integers a , b and c for which the above equation can hold true for any value of n higher than 2. In other words, 2 is the only n for which there exist positive integers a , b and c for which the above equation is true.)

This theorem was first stated by a French mathematician Pierre de Fermat in the margin of a copy of a mathematics book – he had also scribbled that he had the proof for this theorem but it was too long to fit in the margins of the book. And this is where the 358 year old story of Fermat's theorem starts – many mathematicians in the following centuries tried presenting the proof of this theorem without any success. From 19th century itself, Fermat's Last Theorem was considered one of the most difficult unsolved problems in theoretical mathematics. So much so that scholars all over the world had almost given up the hope that it will be solved one day. The video above shows the inspiring story of Andrew Wiles' heroic and almost solitary effort that took almost a decade to finally present the general proof of this theorem. PLEASE DO NOT MISS THE LAST 5-6 MINUTES OF THE VIDEO.

❖ An excerpt from 'The Fountainhead' – A Novel by Ayn Rand

The leaves streamed down, trembling in the sun. They were not green; only a few, scattered through the torrent, stood out in single drops of a green so bright and pure that it hurt the eyes; the rest were not a color, but a light, the substance of fire on metal, living sparks without edges. And it looked as if the forest were a spread of light boiling slowly to produce this color, this green rising in small bubbles, the condensed essence of spring. The trees met, bending over the road, and the spots of sun on the ground moved with the shifting of the branches, like a conscious caress. The young man hoped he would not have to die.

Not if the earth could look like this, he thought. Not if he could hear the hope and promise like a voice, with leaves, tree trunks and rocks instead of words. But he knew that the earth looked like this only because he had seen no sign of men for hours; he was alone, riding his bicycle down a forgotten trail through the hills of Pennsylvania where he had never been before, where he could feel the fresh wonder of an untouched world.

He was a very young man. He had just graduated from college — in this spring of the year 1935 — **and he wanted to decide whether life was worth living.** He did not know that this was the question in his mind. He did not think of dying. **He thought only that he wished to find joy and reason and meaning in life — and that none had been offered to him anywhere.**

He had not liked the things taught to him in college. He had been taught a great deal about social responsibility, about a life of service and self-sacrifice. Everybody had said it was beautiful and inspiring. Only he had not felt inspired. He had felt nothing at all.

He could not name the thing he wanted of life. He felt it here, in this wild loneliness. But he did not face nature with the joy of a healthy animal — as a proper and final setting; he faced it with the joy of a healthy man — as a challenge; as tools, means and material. So he felt anger that he should find exultation only in the wilderness, that this great sense of hope had to be lost when he would return to men and men's work. He thought that this was not right; that man's work should be a higher step, an improvement on nature, not a degradation. He did not want to despise men; he wanted to love and admire them. But he dreaded the sight of the first house, poolroom and movie poster he would encounter on his way.

He had always wanted to write music, and he could give no other identity to the thing he sought. If you want to know what it is, he told himself, listen to the first phrases of Tchaikovsky's First Concerto — or the last movement of Rachmaninoff's Second. Men have not found the words for it nor the deed nor the thought, but they have found the music. Let me see that in one single act of man on earth. Let me see it made real. **Let me see the answer to the promise of that music. Not servants nor those served; not altars and immolations; but the final, the fulfilled, innocent of pain. Don't help me or serve me, but let me see it once, because I need it. Don't work for my happiness, my brothers — show me yours — show me that it is possible — show me your achievement — and the knowledge will give me courage for mine.**

He saw a blue hole ahead, where the road ended on the crest of a ridge. The blue looked cool and clean like a film of water stretched in the frame of green branches. It would be funny, he thought, if I came to the edge and found nothing but that blue beyond; nothing but the sky ahead, above and below. He closed his eyes and went on, suspending the possible for a moment, granting himself a

dream, a few instants of believing that he would reach the crest, open his eyes and see the blue radiance of sky below.

His foot touched the ground, breaking his motion; he stopped and opened his eyes. He stood still.

In the broad valley, far below him, in the first sunlight of early morning, he saw a town. Only it was not a town. Towns did not look like that. He had to suspend the possible for a while longer, to seek no questions or explanations, only to look.

There were small houses on the ledges of the hill before him, flowing down to the bottom. He knew that the ledges had not been touched, that no artifice had altered the unplanned beauty of the graded steps. Yet some power had known how to build on these ledges in such a way that the houses became inevitable, and one could no longer imagine the hills as beautiful without them — as if the centuries and the series of chances that produced these ledges in the struggle of great blind forces had waited for their final expression, had been only a road to a goal — and the goal was these buildings, part of the hills, shaped by the hills, yet ruling them by giving them meaning.

The houses were plain field stone — like the rocks jutting from the green hillsides — **and of glass, great sheets of glass used as if the sun were invited to complete the structures, sunlight becoming part of the masonry.** There were many houses, they were small, they were cut off from one another, and no two of them were alike. But they were like the variations on a single theme, like a symphony played by an inexhaustible imagination, and one could still hear the laughter of the force that had been let loose on them, as if that force had run, unrestrained, challenging itself to be spent, but had never reached its end. Music, he thought, the promise of the music he had invoked, the sense of it made real — there it was before his eyes — he did not see it — he heard it in chords — he thought that there was a common language of thought, sight and sound — was it mathematics? — the discipline of reason — music was mathematics — and architecture was music in stone — he knew he was dizzy because this place below him could not be real.

He saw trees, lawns, walks twisting up the hillsides, steps cut in stone, he saw fountains, swimming pools, tennis courts — and not a sign of life. The place was uninhabited.

It did not shock him, not as the sight of it had shocked him. In a way, it seemed proper; this was not part of known existence. For the moment he had no desire to know what it was.

After a long time he glanced about him — and then he saw that he was not alone. Some steps away from him a man sat on a boulder, looking down at the valley. The man seemed absorbed in the sight and had not heard his approach. The man was tall and gaunt and had orange hair.

He walked straight to the man, who turned his eyes to him; the eyes were gray and calm; the boy knew suddenly that they felt the same thing, and he could speak as he would not speak to a stranger anywhere else.

"That isn't real, is it?" the boy asked, pointing down.

"Why, yes, it is, now," the man answered.

"It's not a movie set or a trick of some kind?"

"No. It's a summer resort. It's just been completed. It will be opened in a few weeks."

"Who built it?"

"I did."

"What's your name?"

"Howard Roark."

"Thank you," said the boy. He knew that the steady eyes looking at him understood everything these two words had to cover. Howard Roark inclined his head, in acknowledgement.

Wheeling his bicycle by his side, the boy took the narrow path down the slope of the hill to the valley and the houses below. Roark looked after him. He had never seen that boy before and he would never see him again. He did not know that he had given someone the courage to face a lifetime.



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About 'Treasures'

It's a compilation that I put together every once in a while, of things that I have found to be beautiful and meaningful.

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