

## The Fox 16

Chapter 16, The Devil's Advocate - (2)

"At least for now, I haven't found any mathematical issues. His mathematical tools are quite impressive," Laplace said. "It's just that explaining light with waves still has some unexplained phenomena, like what properties the ether must possess to transmit waves as fast as light. And if he interprets light as a transverse wave, why aren't there longitudinal waves in the ether?"

"Ah, my friend, you have too many questions, and I don't think we'll see answers to any of them in our lifetime, or even hope for it," Lavosier said. "It's indeed a significant problem in the wave theory. Ether is such a unique thing, almost as mysterious as God. It can transmit light at incredible speeds if light is indeed a wave. This means it's incredibly rigid, harder than diamond by many orders of magnitude. It fills the entire universe, yet it's so rigid, but it doesn't obstruct anything in the universe. It doesn't impede even the tiniest speck of dust's movement indeed, we can't find any resistance coming from the 'ether.' It's a real puzzle... Ah, my friend, I suggest we don't think about that cursed 'ether' problem for now. Our knowledge and means are too far from it. Studying it now is like a kitten that just weaned, trying to catch a whale."

"Mr. Lavosier, a whale is not a fish," Laplace chuckled.

"I know that, of course," Lavosier also chuckled, "but... but the kitten doesn't know."

"Yes, the kitten doesn't know," Laplace said. "In fact, aren't we all kittens? We don't know either."

"So, I've always believed that experiments come first. All theories ultimately need to be tested with experiments. At least his calculations work quite well with the 'Babinet's shadow.' As for the 'ether,' or whether there are other interpretations from a particle perspective, that's up to others to decide," Lavosier said. "But even in this matter, even if he is ultimately wrong, the error itself has value."

"I agree with that," Laplace said. He then lowered his head to look at the paper and added, "I'll come up with a new explanation. But for now, please allow me to finish my calculations on this paper. Then we can take this paper to show it to Mr. Monge, Coulomb, and Mr. Condorcet..."

However, things took a different turn when they reached Monge and Coulomb.

"To be honest, those mathematical tools in this paper are interesting, and there are even more interesting things later on. It would have been a great paper if it stuck to discussing mathematics," Monge frowned, "but he uses it to prove such absurd views; it's just..."

"If he's willing to revise this paper, it would be better," Coulomb also said.

"We should invite him for a discussion and have him modify the paper; then we can give him the prize," Laplace suggested, glancing at Lavosier, and added, "After all, just those few mathematical tools are worth six hundred francs."

"It's not about six hundred francs," Monge said, "it's about his incredibly strange claim saying that light is a wave, the ether that transmits it should have crushed us to dust a long time ago! If something as absurd as this can win an award, we'd become a laughingstock! Unless he revises the paper, I'm against awarding him the prize."

"I think awarding the prize right now is not prudent. After all, this is not a definitive piece of evidence; I mean, there should be other, better explanations for those two experiments. I believe we should be more cautious in this matter..." Coulomb said.

"Enough, Coulomb! Do you have a better explanation? Have you found flaws in his argument?" Condorcet asked, wide-eyed. "The wave theory certainly has many unresolved issues, like the ether problem you mentioned. But does the particle theory have no problems? Let's not forget how particle theory explains the double-slit interference and 'Babinet's shadow.' One of the meanings of science is discovering the unknown, posing questions. Posing questions, especially valuable ones, is sometimes more important than reaching conclusions! Since the birth of science, we've seen how many times old ideas and beliefs were overturned. Can we say that those now-overturned ideas and beliefs were worthless? Even if the views in this paper are proven completely false in the end, even if tomorrow morning Coulomb, you provide a new explanation that completely overturns his views, the error itself can still inspire thought, reveal the truth. So, even if it's an error, it's still valuable. Moreover, it's not necessarily an error! Is Sir Isaac Newton beyond doubt? Is this the spirit of science? If such a paper can't even win an award, it would be a disgrace to the Academy!"

When it came to eloquence, there were few in the Academy who could match Condorcet, and Coulomb was certainly not an exception. Knowing that he couldn't win against Condorcet in an argument, Coulomb simply stayed silent.

Seeing Coulomb's silence, Condorcet turned to Monge. "Monge, what do you think?"

Monge had less influence in the Academy than Condorcet and was not as articulate. However, he was quite stubborn. Hearing Condorcet's question, he replied, "I can't agree to award him the prize until I've talked to him in person."

He then fell silent, and Condorcet knew Monge's personality. This was the most significant concession he could make.

Condorcet looked around and then said, "Very well, let's invite Mr. Bonaparte here. We'll talk to him, and then we can award him the prize."

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Although the Academy was in the heart of Paris, the postal service's efficiency was quite low at this time. It wasn't until three days later that Joseph received the invitation. In fact, he had received the news from Armand two days ago.

Now that he had the invitation, Joseph made preparations and dressed in formal attire that he hadn't worn in a year, taking a public carriage (mainly to avoid getting dust on his shoes). He headed toward the Louvre.

The Louvre was located on the north bank of the Seine River, dating back to the 12th century, making it one of France's oldest royal palaces. During the reign of Louis XIII, Richelieu established the Royal Academy of Sciences and placed it within the Louvre. Later, during the latter part of Louis XIV's rule, the palace was expanded, and the king moved to Versailles. From that point on, the French kings no longer resided in the Louvre, but the Academy of Sciences remained.

Arriving at the Louvre's entrance, Joseph got out of the carriage, straightened his clothes, and approached the grand entrance. In this era, the modern glass pyramid at the Louvre did not exist. Instead, the entrance was a conventional door.

Joseph reached the entrance and presented his invitation to the gatekeeper. The gatekeeper, peering through his reading glasses, inspected the invitation, didn't raise his head, but glanced at Joseph through the gap in the glasses' frame. He then said, "Mr. Bonaparte, please wait here briefly. I need to verify the situation."

Joseph nodded and waited outside for a moment until a liveried servant, wearing a red coat and a wig, approached. He opened the door and gestured for Joseph to enter.

Joseph followed the servant inside the Louvre. The servant led him through one hall after another until they finally reached a small reception room.

"Mr. Bonaparte," the servant turned around and, with a slight bow, said, "Mr. Condorcet, Mr. Laplace, and Mr. Monge are waiting for you inside."

With that, he opened the door, which was covered in calf leather, indicating that Joseph could enter on his own.

Joseph walked in and found three people already sitting in the room. As he entered, they stood up. One of them, a lean middle-aged man with a high forehead, spoke, "Is this Mr. Joseph Bonaparte? I am Laplace. This is my friend, Mr. Condorcet, a member of the Academy, and this is my friend, Laplace."

Joseph exchanged greetings with each of the men. Condorcet was stockier than Laplace and had a broader face, appearing to have a gentler temperament. Laplace, the younger of the three, had a slightly hawkish nose and was the mathematician who had terrified Joseph in his previous