

Florence Bascom

Disclaimer: This is a fictional story about a real scientist. All the science and historical dates are accurate. However, the events and some of the characters are entirely fictional.

“Flor, Flor... It is time for supper, dear. Please, come out of that dusty and cluttered room. Flor, dear,” shouted Ada. “Oh, this girl only cares about those bloody stones,” muttered Ada to herself, walking towards the shed. “I do not understand how Mr. Bascom allows this to continue. This girl spends her entire time inside, looking at stones. Stones, from anything else, why someone will be interested in looking at stones all day? He should get her married and have children, soon she will be too old and then what, she will need to work all her life. It's such a shame. And I, oh poor me, need to fetch her every day. I am too old for such things, walking on the field. Oh, I do not like this old building, full of dust and smelly stones”.

“Florence Bascom, it is supper time. Your parents are already home and everyone is getting ready for dinner,” authoritatively said Ada, opening the door to the shed.

Florence was on the floor. She sat with her legs placed towards one side. Her brown gown was placed under her with her angles exposed to the air. Her head was a few centimetres away from a light-grey stone, illuminated by a candle.

“Ai girl, get out of the floor. Look what you have done with your skirt,” cried the maid.

“Oh, Ada,” distractedly said Florence. “I am glad you are here. Help me place this ammonite sample on the table, please”.

“Girl, you have lost your mind sitting in the dark here. I am not touching this dirty stone. Come, it is time for dinner and the supper will be soon on the table”.

“This is not a stone. This sample is composed of dozens of ammonite fossils. See here; these beautiful spirals of the shell resemble a coiled snail shell. This animal was swimming in the ocean more than 65 million years ago. This species was small and could grow only a few centimetres. Compared with some of their cousins, some could grow a shell over 2 meters in diameter. I know these do not look very pretty, but these fossils can be found in various colours, including shades of brown, grey, white, and even iridescent blues and greens. Ammonites are important for understanding the evolution of life on Earth and providing insight into our planet's geological history.”.

“It is just a rock, dear, now get up and come.”

“Ada, fossils and rocks are not the same thing,” passionately said Florence, getting on her feet. “Rocks are a naturally occurring solid substance or aggregate of one or more minerals or organic matter. They are formed through geological processes such as sedimentation, erosion or magma/lava solidification. We can distinguish them based on their composition, chemistry and texture. We use the rocks for the construction of roads and buildings”.

“Fossils are a completely different thing. They are preserved remains or impressions of organisms that lived in the past. Sometimes, it is the actual remains of the organism, such as bones, as we saw in The American Museum of Natural History in New York. Remember the dinosaur? Long ago, the dinosaur was buried and exposed to fossilisation processes. Occasionally, the dinosaurs left a footprint that was preserved and that one is also called a fossil. A variety of ways, such as permineralisation, petrification, and carbonisation, can form the fossils. If you go outside on a rainy day and step in the mud, you will also leave a footprint, and if no one touches it and it is preserved, humans can use it for millions of years to study our day-to-day life”.

“From what I heard, they are both made of stone, so they are the same”.

“Hum, it is like saying that rye flour and bread are the same thing. One of the components in the bread is flour, but it also contains water, salt and yeast. Also, some breads are made with rye flour, but others are made with weed flour or even corn flour”.

“And why should an old maid like me know such a thing? Why should I know if it does not help me place the dinner on the table or make a new skirt? Even more, why does a girl like you need to know it? Leave the science to the men. My father always said education is wasted on women. A woman needs a good marriage and a bunch of kids.’.

“Oh, do not say that, Ada. Knowledge is the most important thing. Where society will be without knowledge, we will still live in caves and eat half-cooked meats. And if it is not we, the women, the primary caretakers of the future generation educated, how can we be sure that the kids are well educated and teach them to think critically? How one can be sure that someone is intelligent if we do not possess the same or higher level of intelligence.”

“But dear, a woman's intelligence is in the letters, music and art. You, of all people, should know that. Did not your professors in your Art and Letters degree teach you that? A well-written letter or played song on the piano is such a virtue for a girl. You should have stopped there. I still can not understand why your father allowed you to continue studying and get this Bachelor of Science. ”

“It was 1884 when I got that one, Ada, so long ago. If you do not like my Bachelor of Science degree, the Master of Science and especially the PhD in Geology from Johns Hopkins University that I got not long ago, you must be distressed. You should not worry your weak heart with such things.”

“Sweet, sweet girl. I just want you to be happy and married. And I know that the higher the education of a woman is, the more difficult it is to get a potential partner”.

“Let’s not worry about those things today. It is such a beautiful evening. I am getting hungry and would like to hear what Father has to say about the new concord of students that started this year”. While saying this, Florence took her maid’s hand and led her out of the shed towards the house.

It was a typical evening in Bascom’s house. John Bascom, a professor at Williams College, University of Wisconsin, was working on his next book. Mrs Emma Custis Bascom was in the drawing room writing a letter. Jean and George Bascom were sitting in the dining room discussing politics. Everyone was enjoying the last peaceful minutes before dinner. Entering the dining room, Florence felt tired and hungry. She had spent all afternoon cataloguing and packing her rock and fossil samples. Everything would be packed and ready to send to her new home in a few more days.

“Where is Mother?” asked Florence to her siblings.

“In the drawing room, she wanted to finish a correspondence with the Women’s Cristian Temperance Union secretary. Something about the new ideas on how to lobby politicians about women voting. Once a suffragist, always a suffragist. She is so optimistic that women will be able to vote in her lifetime. I just hope she will live and see that day,” Jean continued. “I think she will do something whimsical this election. She mentioned Susan B. Anthony’s name the other day”.

“From where do I recognise that name?” asked Florence, raising her eyebrows.

“Oh, in 1872, she voted in the presidential election in New York. Later on, she was convicted for that act and sentenced to pay \$100,” informed George.

“Fine that she never paid,” laughed Jean.

The food was served minutes later, so the conversation was forgotten, at least for that evening.

The supper consisted of cold beef with boiled potatoes, eggs, cornbread, butter, and fruits. The family enjoyed coffee and liquor after it. The conversation that night was about the new students' arrival and the prospects of the new semester.

"I am hopeful about this year's cohort of new students," cheerfully said John Bascom. "They are polite and enthusiastic. It will be a great year".

"You always say this," playfully answered Emma.

"And tell me when I was wrong, my dear wife," beamingly responded John.

"Hum, never, I must say".

"Oh, I must come to the campus tomorrow. I miss seeing the excited students. It is such a great atmosphere at the beginning of the semester. I miss those days," said Florence, joining the conversation.

"Talking about the university, you can not guess whom I met today leaving my office, Florence," said John, changing the subject

"Someone pleasant, I hope".

"Very indeed. I met Elizabeth Irving, the late Professor Roland Irving's sister. Such a polite young lady. I was not expecting to see her here. She is visiting and she inquired about you. She requested for you to visit her for tea before you leave".

"Ohh, I was not expecting Elizabeth to return after her brother passed away. I will write her a letter tomorrow. It will be nice to have a word with her".

"Florence, from where do I know this name?" asked her brother.

"Professor Irving was helping me with my master's thesis, remember?"

"Vaguely," shamefully responder George.

"He was one of the best teachers this university had, of course, not counting on you, Father." A huge smile appeared on Florence's face while saying this. "He was the only professor who did not care about gender in his classes. I sat in the corners for most lectures, hidden by a screen not to disturb the male students. We were sitting in alphabetical order in his classes. He believed that education is for everyone and that a woman can do field work as well as any man. It is such a pity that we lost him so young".

"That is true. He was a delight to be around," agreed her father. "The university lost a great scientist and man".

While drinking their coffee, the party split into two groups. Emma, George and Jean went to play cards and discuss politics and activism, while Florence and her father discussed university matters.

"How is your book going?" asked Florence.

"Very good, today I picked the name: Social Theory. I know that is a simple one, but we need to stay truthful to the content," cheerfully said John and continued, "Almost done, few more corrections, and I am sending it to the publisher".

"That is great, one more for the history".

"To be honest, I do not know if publishing them is even worth it. I pay more money to publish them than what I make from them," was his reply.

“Oh, come on. You love writing them. You enjoy the research and all the process. And if one person finds it useful, it is worth it,” Florence encouraged him.

“You are right. I should not pity myself. I am healthy and with my widths. What an intellectual should want more. You know, I will deeply miss you when you are gone”.

“I will be here for some time still. Let us not get anxious for something that has not happened yet”.

“That is right, let us talk about more cheerful things tonight,” replied John.

“You know, I wanted to talk about something with you,” thoughtfully said Florence.

“I am all ears.”

“While preparing my samples to ship them to Ohio,” started Florence.

“And I thought that we would not talk about that.”

“It is not directly related to that. It is about my work.” Florence started to defend herself.

“Go on, child.”

“As I was saying, while I was packing my samples, I was checking all of them to see if they match my cataloguing, as I always do, I have noticed something interesting,” continued Florence. “Some of the samples I collected from one specific place in the Appalachian Mountains do not match what all scientists agree nowadays”.

“Hum, what is the problem?” asked her father in a teacher’s voice.

“Nowadays, scientists agree that 2 to 3 discontinuities exist in that region. But I”

“You need to refresh my memory on what discontinuities are, child, I studied natural science a long time ago,” interrupted her John.

“Of course, I often forget that you are not all-knowing,” smiled Florence. “Discontinuity is a boundary between two rock formations that, due to their nature, could not be next to each other without that boundary. When rocks form in certain areas, they will be exposed to the geological conditions of that area and have similar characteristics. There is discontinuity when two or more rocks from different origins are next to each other. Sometimes, the discontinuity happens in rocks from the same origin. For example, in a sedimentary rock, which has its layers formed horizontally,” said Florence, putting one hand on the top of the other with palms facing the ground, “a fault or a joint can cause some of the layers to shift and become vertical” displacing her top hand, pointing her fingers to the sealing and touching her palm to the fingers which are still on horizontal position. “This is called a structural discontinuity,” continuing with her lecture. “Sometimes, the environment will change, and there was a sea, there is no more. So, the rocks created on the bottom of that sea and protected by the water will be exposed to sun, wind and rain and start to wear the rocks, taking small pieces each time. Making holes in the well-defined layers. We can see it when the environment changes, and new rocks form above the broken ones. This is called stratigraphic discontinuity”.

“My memory is refreshed, thank you, darling. So, what you said about the Appalachian Mountains and the discontinuities”.

“Well, papers on the region say that there are 2 to 3 discontinuities, but I think that there are more than 5 of them. I contacted one of the authors, but he, unfortunately, said that this is nonsense”.

“Hum, and what is your next move?” asked her father.

“To be honest, I am unsure if it is worth doing anything. I will need to prove the authors wrong”.

“Oh, come on now. The facts are facts, and facts are true. If they did not read the facts correctly, someone owns to show the truth”.

“Yes, you are right, thank you, father”.

“So, what is the plan?” insisted John.

She took her time to answer. “I will talk with a colleague in Ohio. Maybe I can convince him to go with me for an extended field trip. We can map and study the area and collect some samples,” finally said Florence.

“See, everything is better with a plan in your head,” smiled John, picking up a book and putting an end to the conversation. Florence started thinking about the search for truth in science, so she decided to put her thoughts in writing. When the party of three had enough of their card games, they joined the father and daughter, each of them lost in their activities.

“See Florence, you are going to miss such pleasant nightly activities when you leave,” muttered Jean.

“Oh, I bet you that she will have much more exciting evenings where she is going. Discussing science with much more interesting people than us,” answered George, not giving time to Florence to respond.

“Talk about yourself, boy, I consider myself an interesting and knowledgeable person,” briskly said John with a huge smile on his face.

“Yes, that is true, but you are getting old and grumpy,” playfully answered Emma. “Come on, old man, it is late, and you have early classes tomorrow. Time to go to bed,” continued Emma.

“See, now you are making sense. I know I married you for a reason,” responded John while getting up from the chair.

“I will excuse myself, too,” said George. “I have early errands tomorrow morning. No, I am not going to forget to buy the flowers, Mother, do not worry yourself,” quickly continued George, when he saw his mother’s face.

“Thank you, my dear boy,” said Emma, taking his hand and walking out of the room after her husband.

When the two sisters were alone, Jean asked.

“You are going to write to me at least once a week, promise me that. I want to know everything about your life. I do not want to miss even the tinier details. You hear me”.

“I will, I promise. I am not leaving forever, I will come back for the summer holidays, I promise,” reinsured her Florence.

“I know my desire is to come with you, but I can not leave Mother and Father right now”.

“I know,” said Florence, taking her sister's hand.

The two girls stayed like this for some time when suddenly Jean asked, “What were you writing so late at night”?

“Oh, nothing too important. It was just a thought about truth and science”.

“Would you give me the honour to share your thoughts with me?” asked Jean

“It will be a pleasure,” said Florence and started reading from her diary.

“The fascination of any search after truth lies not in the attainment, which at best is found to be very relative, but in the pursuit, where all the powers of the mind and

character are brought into play and are absorbed in the task. One feels oneself in contact with something that is infinite and one finds a joy that is beyond expression in 'sounding the abyss of science.'