

Naturally Obsessed: the making of a scientist

SYNOPSIS

Prelude | Curiosity: asking questions about how nature works

An intense animated sequence by Academy Award winning animators, Frank and Caroline Mouris transports the viewer into the special and rarely seen realm of a working molecular biology laboratory. Over scenes of hands-on research shot by Academy Award nominated cinematographer Buddy Squires, three student scientists describe the passion that propels them: Rob, 'There's this itch or this anxiety that you have that can only be supplied by knowing'; Gabrielle, 'Maybe today I'll have the answer to this question and then I'll have more questions that I'll be able to ask'; Kilpatrick, 'You're just driven to find out how things work'. Larry, the lab head, sets the tone for the endeavor: 'You become obsessed with the problem and can't stop working on it until you get to your answer.'

Act 1 | Apprenticeship: mastering protein chemistry

An evocative close-up montage of laboratory equipment and procedures, scenes of young scientists doing experiments and dream-like sequences from a video diary that Rob has been making for several years establish the young scientists' attempt to unlock one of nature's most profound secrets -- the molecular switch that controls whether the body stores or burns fat. To achieve success each student must first overcome a personal challenge: Rob, to manage the rebelliousness that got him kicked out of his former lab; Kilpatrick, to temper the arrogance that steers him towards bad choices; Gabrielle, to reconcile herself to the realities of a competitive world. A young professor, Larry keenly feels the personal demands of mentoring, describing his failed relationship to his father, his search for the approval of fellow Columbia University professors and his care of his students as if they were members of his own family.

The students are being tested in a high risk, high pressure situation. Even after 4 or 5 years of intense effort, the problem that each is working on may prove to be intractable. And if they don't beat the competition, their efforts may be worthless. They struggle to master a series of technological difficulties, continually seeking reassurance from Larry, a hard taskmaster who insists that students can learn more from failure than success. Kil has set his sights high, but pressured by his fiancée he tries an easy way out, and fails in a critical experiment. Gabe is also feeling failure's hard knocks, daunted by Larry's view that students must learn to work independently. Deeply emotional, Rob shows Larry some promising results -- 'You've seen scientists look down in their dishes and yell 'Eureka'. Well, I've had my Eureka moment!' But the results don't pan out. Rob defiantly turns to his own mounted camera: 'There you have it, ladies and gentlemen, all the excitement we've generated is just a prelude to another 2 ½ years of silent misery.'

Act 2 | Discovery: revealing the atoms of the protein

Over scenes of graduate students, technicians and postdoctoral fellows working together, Kil describes how the collegial, collaborative atmosphere of Larry's lab supports the students through the hard times. Larry coaches Kil towards a better way of evaluating his research path. Gabe analyzes her situation, recognizing that she hasn't been aggressive enough in getting help from Larry. Rob drops out for three months, thinks of quitting, but returns to the lab. 'Like they say, no matter where I go, there I am.' A lively conversation among Gabe, Kil and Rob reveals how failure is helping each of them to develop strength: Gabe, 'You can decide not to go to grad school and that's a legitimate decision'; Kil is torn by the demands of his fiancée and his

desire to push on in science: "You want the respect of your mentor, it's like you need the applause or something"; Rob, 'I want to be Larry some day, I want to have a lab, I want to have students.'

Rob has faced finally his inner demons and pushed them back. He now understands that he has to submit the requirements that are imposed on him. He says, 'I'm going straight for this thing, I'm not gonna act like a child anymore.' Over a dreamlike sequence from his video diary, Rob credits Larry's support. 'He does believe in us.' Rob does a breakthrough experiment which provides promising material. Tension is high as he tests it in a giant x-ray microscope. 'Check it out, daddy-o!' Rob has gotten the data he was after. Applauding, and then jumping high from their seats at the computer monitor, Rob and Larry bump bellies in triumph!

Act 3 | Publication: opening the path to drug discovery

Rob has tasted success, but now he faces the danger of getting scooped before he analyzes his data and gets it published. Preparing himself for the final effort he must make, Rob takes Claire rock-climbing. 'I'm one pitch from the summit,' he hopes. Larry encourages him on, and they discover the critical molecular switch they have been searching for. 'I'm the only one on earth who knows this!' Rob exclaims in wonder. "We have these moments when we understand something really eternal that nobody else has understood before,' declares Larry. Their article appears in the prestigious journal, Science. Rob and Larry have beaten worldwide competition.

Kil's engagement ends and he reassesses his career. Larry encourages Kil's decision to look for a job in industry after he gets his PhD in a few months' time. Gabe leaves the lab, taking a job in the biotech industry. 'My cheeks hurt from smiling,' she squeals.

In a packed auditorium, Rob presents his thesis. A rooftop party scene follows, where Rob's friends and colleagues await his return from his thesis defense. 'I'm a doctor now!' Rob announces, also breaking the news that he's soon to become a father. "I'll always credit the time that I was in Larry's lab as the period when I really became a scientist," he says." And it feels really good.'