

# Online-Material zu: Biologie bilingual: Die Perspektive der Unterrichtspraxis

*Matthias Bohn & Sabine Doff*

## "Quirky's Adventures": A scientific fantasy story

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*Close your eyes and listen to the sounds of our solar system. At a distance of more than 150 million kilometres someone is talking to you ... Can you hear it?*

**Quirky:** Hello you, who are you? My name is Quirky. I am a little hydrogen atom. I live on the surface of the sun and it is nice and warm up here. I have been told by my teachers in the hydrogen school that you come from a planet called earth. Is this true? I am very upset because yesterday I took the hydrogen exam. Our teachers who are proper, grown-up helium atoms told us that we will be fused today, and tomorrow we will also be helium atoms. But I am afraid because sometimes things go wrong and then some of us get emitted. Oh dear, I can already feel it ... It is getting hot. They are beginning to fuse us, four hydrogens at a time. But watch it, they want to throw me out ... Help!!! Help!!! ... I am getting emitted ...!?! But I want to stay at the surface of the sun! I don't want to be sent out into the universe ... It is so dark and cold out there ... help me!!! I don't want to get emitted ...

*Something must have gone terribly wrong and Quirky really got emitted from the sun. But after a few seconds he learns to enjoy himself out there in the universe and he meets exciting people.*

**Quirky:** Hey you, it's really exciting out here. I have made friends with two other light waves. They travel at a similar speed and we talk to each other every second. One is called Red Wavy because of his colour and the smaller one is Greeny. The two of them always make fun of me, because my wavelength is so much shorter than theirs. And they say I'm blue. But honestly, I think they just envy me, because I am more energetic. Once in a while I get tired, but the funny thing is that this doesn't matter because I keep surfing across the universe, even if I fall asleep for a second or two ... (... snores ...)

**Greeny:** Quirky, wake up! Wake up quickly! We are approaching the blue and green planet and the radio waves have told me that we will be transformed or converted.

**Quirky:** Buh ... ahhh ..., who in the universe is shouting at me? Can't I just sleep for a second or two? Greeny, why are you so excited? You should not believe everything these radio waves tell us. You know they are very long and clumsy, and I am convinced that they get confused easily.

**Greeny:** But watch it! We are rapidly approaching a blue and green planet ahead of us. And one of the radio waves told me that it is inhabited by green monsters and they trap little waves of visible light like us.

**Quirky:** Oh my dear, I doubt what you say! How should this relate to the fact that we are meant to be transformed or converted?

**Greeny:** They say we will be absorbed and then those green monsters convert us into chemical energy and food ...

**Quirky:** Oh Greeny, who in this whole solar-powered universe should need such a thing like chemical energy or food? What I really lack is the heat of our good old sun ( ... sighs ...). It is terribly cold out here, and I certainly feel homesick when I think back to my home on the surface of the sun and the cosy 6000 °C ... But watch this, we are indeed approaching the surface of this blue and green planet. Therefore let us try to investigate what it is like ...

*But suddenly Quirky is encircled by huge creatures which appear green. It's green wherever he looks and he can see his friend Greeny bumping into one of them.*

**Quirky (shouts):** Hey Greeny, watch out! You are bumping into one of these monsters! They are going to trap you!! Greeny, why did you change directions?

**Greeny (shouts):** Hey Quirky, the radio waves are liars! The green monsters did neither trap me nor did they transform me. They just reflect us, and then we can fly back into the universe. Don't be afraid. I'll see you in a minute.

**Quirky:** Oh, I am glad to hear this, Greeny, because right in front of me I am facing one of these green monsters, and I don't want to be converted into chemical energy ... (... puff ... )

*Poor little Quirky!*

*Unlike his fortunate friend Greeny who had been reflected, the green monsters trapped him. Inside of them it suddenly got dark and he was facing a molecular*

*giant called Mr. Chlorophyll and his short life was about to come to a sudden end as it suddenly got very hot and Mr. Chlorophyll became very excited. Quirky took his chance. He jumped as high as he possibly could, took hold of one of the outer electrons of Mr. Chlorophyll and together they escaped on an escalator.*

**Quirky:** Thank you dear little electron for saving me from the hands of Mr. Chlorophyll!!!

**The electron:** Oh thank you Quirky. You can't imagine how glad I am to get away from Mr. Chlorophyll. He is a terrible person, and he also steals electrons. But do you happen to know where this escalator is taking us?

**Quirky:** Oh my dear little electron! I have no idea where we are going, but we are surrounded by proteins and it seems as if this escalator keeps moving downwards endlessly.

**The electron:** No Quirky, it's not. Can't you see the sign at the end of the escalator? It is still very far off but let me try to read it: Ph ... Pho... Photo... Photosys.... PHOTOSYSTEM! Oh Quirky, we are at a place which is either called Photosystem I or Photosystem II.

*Suddenly a flash of light appeared and this was the last thing we ever heard of Quirky and the electron. The radio waves had been telling the truth and finally Quirky the little extraterrestrial light wave (or should we rather say the former hydrogen atom?) had been transformed (or should we say converted?) into something which is very important for life on our planet. Can you guess what it is?*