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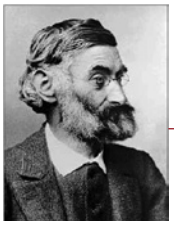

DearAbbe

Dear Abbe,

I have an odd problem. I am studying predator-prey interactions between free-living amoebae and their prey microzoans, but it appears that how I look at the culture dishes affects my results (this seems disturbingly quantum). If I use differential-interference contrast, the amoebae successfully "stalk" and capture their prey, but if I use amoebae that express GFP, then the prey micro-critters seem to detect them and flee. Nothing else is different. What could be going on?

Baffled in Bismarck

Dear Baffled,

I sympathize with you. I also have many odd problems. Most can be solved with a good Schnapps or just avoiding the relatives, though. Your problem is different, but really, the answer is right under your nosepiece. I am sorry to say you do not have a Nobel Prize coming for your discovery of a new, biological quantum mechanical effect. Instead, you have obviously forgotten that many micro-critters have photoreceptors—eyespots, sometimes even almost eyes. When you are watching your GFP-labeled amoebae, the prey critters can clearly see the glowing amoebae approaching and run away. I know I do when I see large, glowing masses approaching me. Usually after the Schnapps. The answer really is simple: quit using GFP and use CamFP, camouflage fluorescent protein. Keep in mind that there is ambient light in the natural environment of both your amoeboid predators and their prey. By using GFP, you make the amoebae stand out to any prey with micro-eyes. If you instead use CamFP, the amoebae will blend in with their surroundings and once again be able to "stalk" their prey, although, ja, there will be certain difficulties imaging them. I'm surprised you haven't heard of CamFP. Many people doing confocal and multi-photon microscopy are using it. At least, I hope they are, given the claims made about the images they present.

If you are stumped and need a new paradigm, contact Herr Abbe for random thoughts about your problem. Contact is made through his faithful assistant at jpshield@uga.edu.

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