Volume 17 Number 2 April 2011

Microscopy AND Microanalysis

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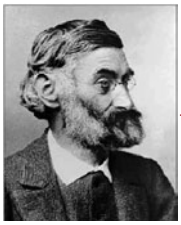

Dear Abbe

Dear Abbe,

There has been discussion in our core imaging facility about the final lens in the scanning electron microscope being called the "objective lens." Some are arguing that it isn't a proper lens per se, and some are using location as a means of defining the lens. We would very much appreciate your opinion on the matter. We have a bet on it for who buys donuts at the next lab meeting.

Hoping for Sprinkles in St. Louis

Dear Sprinkler,

This reminds me of the heated discussion I once had with Otto Schott over my sinus condition. Otto was always hard of hearing and thought I said "sine condition," thereby sparking the idea of condenser lenses for the microscopes. I was really hoping for less distress and condensation in my schnabel! As for objective lenses, I have always felt that lenses were inherently objective. They see things as they really are. Of course, some may argue for subjective lenses, but I think they are difficult to manufacture and definitely would be less reliable. Subjective lenses would be fraught with all sorts of aberrations and could possibly make your life more difficult. They might dawdle with your wife or borrow the wagen without asking! If some unscrupulous scientist from say, Bakersfield, were to produce really bad aberrations, we might end up with a "Frankenlens"! I shudder at the possibilities.

Dear Abbe,

We are trying to grow a bacterial biofilm in a flow cell inside an incubator enclosure that is mounted on a confocal microscope and kept at 30°C. We are trying to do long-term imaging, to watch the growth of this biofilm over several days. We are having lots of difficulties with bubbles forming in the flow cell and destroying the biofilm. We have tried all the tricks we can think of, but nothing seems to get rid of the bubbles. Do you have any ideas for preventing these bubbles?

Gaseous in Glasgow

Dear Gassy,

I believe that the bubbles are being produced by bacterial flatulence. This can be a common problem if there is too much Bohnen Eintopf in the growth medium. Destroying the biofilm should be the least of your worries. Under contained conditions, this can produce excess amounts of methane, which when brought in contact with a hot Hg bulb can have disastrous results—not to mention the nasal distress caused by inhalation if the chamber is breached. Abbe recommends adding a small amount of Beano to the medium. The folks there at the University of Gas have studied these kinds of interactions for years . . . http://www.beanogas.com/UofGas.aspx

Herr Abbe tackles posers that make Jung and Freud think twice. Send your dilemmas to Abbe's personal assistant at jpshield@uga.edu.

https://doi.org/10.1017/S1551929511000174 Published online by Cambridge University Press