

## CH301 Random Musings, September 14, 2010

1. Cell phones and water and black body radiators. I don't really like the fact that cell phone companies charge so much to replace cell phones. And I don't like the idea of buying insurance on something as insignificant and unnecessary as a cell phone. But I am not a careful person, and so losing my cell phone has become a very common, and very expensive, way of life for me over the years. So I changed habits and these days I never let the phone out of my sight, even when I take my four youngest children swimming—which presents its own set of problems....

On five different occasions the last few years, my cell phone has ended up in the water—sometimes it is just me jumping into a pool with the cell phone in my pocket. Sometimes it is when I make a giant thunderstorm in class and get drenched. Even when I am careful it doesn't work, like the time the phone was ringing over on a chair by the pool, and evidently my three year old heard it, went to get it, and brought it to me (at least that is what I surmised when he started pointing to my phone sitting at the bottom of four feet of water.) I have since decided to not take it to the pool, but that didn't stop it from ending up in the toilet one day (and no one will admit to how that happened).



cell phones don't work when they get wet. Now the average person would simply buy another phone, but not me, I am too cheap. I have already bought my older children their own phones several times, and it is costing me a fortune to pay hard cash to send them both to college as well, so I think, "I bet I can save this wet world of the physical degrees over every bit of it. world works—world and win. when the cell batteries run out of juice and the cell phone is powerless for a while, the phone needs to be baked again for a few minutes. For a while, baking my phone on a weekly basis was simply a part of my routine.

Well cell phone baking isn't without hazards—one morning, coming inside from working in the yard, I happened on the smell of putrid, acrid burning plastic, and sadly I learned that you can't be too careful when you put cell phones into ovens, because my cell phone had fallen on top of a black body radiator that is hot enough to melt plastic even if the photons it is giving off are in the infrared region of the spectrum and not the visible region. Still too cheap to buy a new phone, I continued to use that phone till the end of the contract. It was a little worse for wear, and smelled really bad when you put your nose next to it. And while people could hear me because the receiver didn't melt, the speaker kind of melted so I don't really know what anyone was saying to me, not that it mattered much because I rarely listen to what people tell me anyway.

2. Quiz 1 results were, frankly, disappointing. The average was a 75% and I had thought it would be in the 80s. It should have been—why? Because the quiz was easy. And while about half the class missed 1 or fewer questions, I really want to see a hundred more get a high grade. Why? Because I want everyone in the class to realize dreams that will most certainly be supported by getting an A in this course.

So riddle me this:

Which is worse

- That I put the Schrodinger equation question type from the real quiz on the practice quiz, and yet 40% of you got it wrong. How? Because 180 of you didn't bother to take the ChemPortal quiz—and what do you know, 180 of you got the question wrong. What could possibly make a college student not bother to work the professor's practice quiz? This is slack even by high school standards.

OR

- One of the questions on the quiz HAD NO RIGHT ANSWER and yet NOONE mentioned this during the quiz. 500 students take the quiz, and NOONE says, "hey there isn't a right answer." Even worse, after the quiz, only ONE PERSON e-mailed to point this out. WOW.

So now I will poll the TAs, and ask, which is a more pathetic display of student passivity in a class where I stressed ACTIVE LEARNING on the first day:

- 180 student didn't bother taking the practice quiz which had an exact quiz question on it \_\_\_\_\_
- 500 students didn't raise their hands to say there was no right answer on a quiz question \_\_\_\_\_

### 3. STOP THE PRESSES—GOOD NEWS

More than 50 of you crowded into my office today, and there isn't a quiz till next week. So maybe things are changing. Keep up your attendance at office hours and academic communities.

4. MORE GOOD NEWS. Errata. About 15 students e-mailed to tell me there were a couple of mistakes on worksheet 3. Travis fixed them and the correct version is now posted. Thank you for keeping us on our toes.

5. Fair questions on exams and quizzes—your rights: I always try to be fair about the questions I put on quizzes and exams. If you feel a question is unfair or misleading, by all means e-mail me and I will consider your concern. If I make a change it will be for the entire class. But please do not be frivolous about it.

6. It never stops--there is a quiz next week on Tuesday, September 21. It will be 8 questions worth 40 points total. It will be harder than the first quiz, with questions comparable to what you will see on the first exam. The questions are drawn from lectures 4, 5 and 6. The question types are:

- Electronic configurations of atoms
- Electronic configurations of ions
- Ranking periodic table properties: atomic radius, ionization energy, electron affinity, ionic radius
- Ranking periodic table properties: atomic radius, ionization energy, electron affinity, ionic radius
- Calculating an ENC (effective nuclear charge)
- Filled and half filled shell issues: Electronic configurations of transition metal atoms and ions
- Filled and half filled shell issues: Electronic configurations of the  $p^1$ - $p^4$  metal ions
- Filled and half filled shell issues: the fine structure in IE and EA trends

7. This weekend you can expect the following: a practice quiz 2 on Friday evening in the portal, a TA practice quiz 2 on Sunday, and a worksheet 4 as we begin bonding.

8. Want to hear something depressing? Did you know our first exam in this course is only two weeks away on Wednesday, September 29—a chance to sink your teeth into 30 questions in 75 minutes on the material in Chapters 1 and 2. I guess that your college social life is about to go down the tubes.

9. Poetry Corner. First, in honor of the calculator free existence you now lead in this class, a pretty popular poem you probably heard in a really bad movie:

"The Square Root of Three":

I fear that I will always be  
A lonely number like root three  
The three is all that's good and right,  
Why must my three keep out of sight  
Beneath the vicious square root sign,  
I wish instead I were a nine  
For nine could thwart this evil trick,  
with just some quick arithmetic  
I know I'll never see the sun, as 1.7321

Such is my reality, a sad irrationality  
When hark! What is this I see,  
Another square root of a three  
As quietly co-waltzing by,  
Together now we multiply  
To form a number we prefer,  
Rejoicing as an integer  
We break free from our mortal bonds  
With the wave of magic wands  
Our square root signs become unglued  
Your love for me has been renewed

Second, if I had to offer a single piece of advice on how to live a contented life, it is to understand and live the poem "Joy and Sorrow" by Kahlil Gibran from *The Prophet*. If you don't understand it yet, just wait till you've lived another quarter century. The basic idea is that a little sorrow in one's life is not a bad thing and a lot of sorrow is even better, since it arises in the hollow carved by your greatest joys. So the next time you break up with someone, if you are utterly devastated, then congratulations on having had a great relationship. See, life is simple.

Of course this reminds me of a little ditty from South Park that one of my children sings: "Without evil there'd be no good so it must be good to be evil some time." Somehow I don't think Kahlil had this in mind when he wrote "Joy and Sorrow"

Joy and Sorrow  
Kahlil Gibran

The a woman said, Speak to us of Joy and Sorrow,  
And he answered,  
Your joy is your sorrow unmasked.  
And the selfsame well from which your laughter  
rises  
was oftentimes filled with your tears.  
And how else can it be?  
The deeper that sorrow carves into your being,  
the more joy you can contain.  
Is not the cup that holds your wine  
the very cup that was burned in the potter's oven?  
And is not the lute that soothes your spirit,  
the very wood that was hollowed with knives?  
When you are joyous, look deep into you heart  
and you shall find it is only that which has given  
you sorrow that is giving you joy.  
When you are sorrowful look again in your heart,  
and you shall see that in truth you are weeping for  
that which has been your delight.

Some of you say, "Joy is greater than sorrow,"  
and others say, "Nay, sorrow is the greater,  
"But I say unto you, they are inseparable.  
Together they come, and when one sits alone  
with you at your board,  
remember that the other is asleep upon your bed.  
Verily you are suspended like scales between  
your sorrow and joy.  
Only when you are empty are you standstill and  
balanced.  
When the treasure-keeper lifts you to weigh  
his gold and silver,  
needs must your joy or your sorrow rise and fall.



