The nature of science

[this article is dedicated to Markus Schmidmeier and Julia Micheal]
Science is not just about making hypotheses and testing them; science is much more. I'm now a student at a local major university and in the last few days have performed things that we typically think 'only scientists' can do:

1. economized the axioms of set theory
2. determined the general requirements of set theory
3. determined the general requirements of any practical quantum theory
4. made explicit the axioms of a quantum realism
5. created a project description for creating aware agents

And I'm 'just a student'. What does this teach us?

I. students can 'do' science
How did I do this? Am I special? Only in how I've trained my mind. This shows another fact: our self-discipline is critically important to scientific endeavors.

II. science requires self-discipline
But it's not just about our self-discipline, we need to think in organized ways. We need to grow our minds in ways that result in productivity.

III. scientists should organize their minds from childhood
What we do with our minds is critical, yes? We must ask questions. But more than this, we must ask questions that may defy conventional notions. No progress in science can be made otherwise.

IV. scientists must ask 'the hard' questions
And finally, theoretical scientists, whether they're from the 'hard sciences' or 'soft sciences', absolutely need to (at least) become familiar with axiomatization.

V. great theoretical scientists need fluency in axiomatization

This is perhaps the most important article I could ever write about science. Please pay attention and please bear with me (have patience). I rarely am in this mode.

..When I was a kid, I wanted to be like Spock, the fictional character of the original Star Trek. Laugh if you must but perhaps more amusing is that I also wanted to be like Kwai Chang, the fictional character of Kung Fu. Spock was logical and had a very sharp mind. Kwai Chang was all about balance and peace. I wanted to know if it was possible to be both; I found out by growing up that way. Considering the achievements above alone, this is astonishing: fiction has inspired reality.

But it is so much more than this.. Good fiction inspired good reality. In other words, meaning is enhanced. And this is the crux of my being: to enhance meaning in all our lives – not just mine.

We have arrived at the singularity ahead of time (before December, 2012). Please write it down on your calendar: :) (Is this guy serious? Does he take himself seriously? Is he joking? Is he crazy? ..I assure you yes, I'm crazy – but in a harmless way.. The only way I achieved above was 'take a step out of my humanity'. The only way I could solve the truly hard problems in science was: stop being human.)

Obviously, I'm not speaking of being 'inhuman' (violent or offensive). I'm attempting to express something closer to alien or non-human intelligence .. If we have problems that seem unsolvable, we must look at them from fresh perspectives. Sometimes, we need to take a step outside ourselves to see from those fresh perspectives. So the process of science requires alien perspectives. It's 'mind boggling'
unless we actually try it.

Back to axiomatization.. The basic process is this:

1. you make a plausible assumption or two
2. you consider all the possible logical consequences of those assumptions
3. you decide what constitutes a prime/core assumption/consequence and write that down explicitly – that is your Axiom 0 – what all following depend on
4. if you have problems arriving at step 3, you may have to start again
5. attempt to find the next most-core notion and explicitly write that down – Axiom 1
6. continue this process until you run out of meaningful significant implications – your Axiom system is complete
7. check for logical consistency between your Axioms – any mistakes, fix them; any omissions, complete them
8. check for correspondence to reality – is there a one-to-one correspondence between your Axioms and reality?
9. if so, you're now free to develop the theory or structural framework of your new discipline

Congratulations! You've created a new branch of science! ..Essentially, axiomatization is the process of scientific discipline creation. Wow! :)

If a student can teach scientists science, anything is possible.

Now we know why Student (who invented the t-test) called himself Student. And why my good friend changed his last name to Learner. And why my mother says: “Learning is a lifelong process.” But we learned something more today:

VI. in the process of learning, significant achievements can be made
So if we look at the six statements above, they themselves form an axiom system! This is further evidence we are at the singularity!

If you doubt this, use the procedure above for anything you care about – anything you're truly interested in. You'll discover there are always assumptions 'underlying' anything. The 'trick' is to make them explicit. If you can 'put your finger' on something, if you can 'nail it down' conceptually, you can create an axiom system for it. Now of course, is this desirable? Suppose I wanted to make the field of 'religious studies' more 'rigorous' or 'formal'. I might change the 'intent' of it: instead of simply studying all the diverse religions of the world, how they're different/similar, perhaps I could study why humans have religions – this is a more psychological consideration. This new discipline we could call 'the psychology of religions' or simply 'religious psychology'. Boom. We've just created a new branchlet of science simply by asking a good question .. My point is, try axiomatization yourself before you denigrate the procedure.. Look at the five achievements I did in a matter of days with this 'newfound skill'.

Of course, I had a tremendous amount of good information at my 'fingertips': my almost eidetic memory.. Sure, I forget lots of things.. But if we live each day as if we're a blank slate for life to write upon, we can learn a hellava lot. If we continually try to integrate new accurate information into our minds, we continually build our 'databases' of mental information. Under proper conditions and with proper attitudes, we can be fountains of inspiration and discovery.

Sorry.. I used the wrong word. Be is the correct word.

Be.