

5-17-05

Dear Oisin,

Tonight I thought I'd start writing this letter a bit earlier than the last two nights. Writing to you always makes me feel better, so probably I'll get a good night's sleep if I write to you first.

Do you know why I'm not sending this to you by email? For one thing, letters are nicer than emails in many little ways that are not so easy to explain. For another, I want to practice my patience! In the modern world, we get so used to doing things quickly and expecting quick responses: I would so much like for the letters to get to you right away, so you can know I'm thinking of you, and so I can know that you know I'm thinking of you. But this seems to be a good time for patience. Not quite like ancient times when letters were delivered by runners, or horses, or ships, but still, the week or so it takes for them to get to you might make the experience a tiny bit more meaningful.



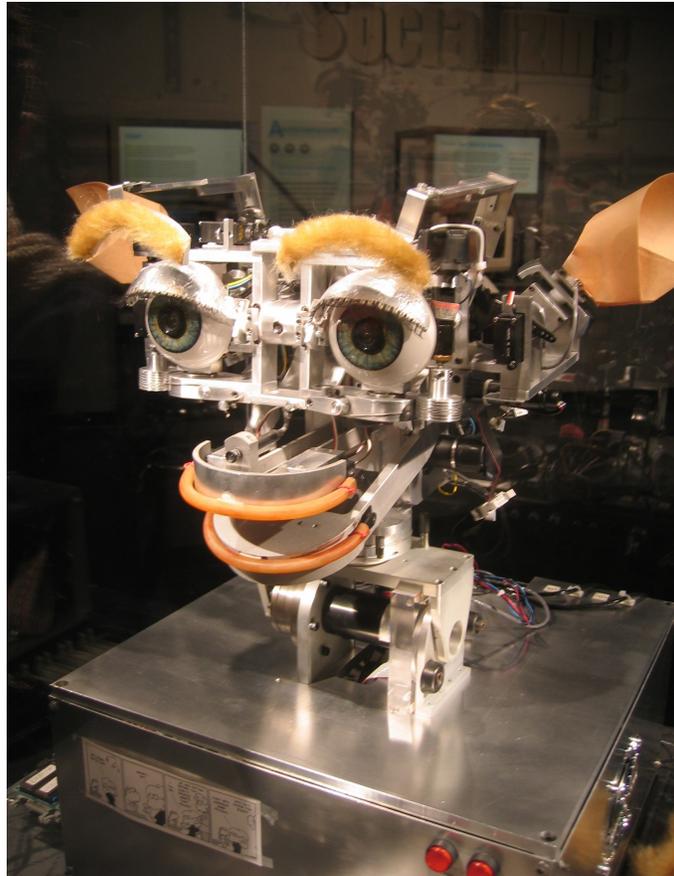
Ancient Roman mailman

I hope you enjoy reading them as much as I enjoy writing them. By enjoy, I don't mean it makes me laugh or jump around. Rather, I tend to smile some wet smiles as I write. But still, after a letter is done, my feeling of sadness changes from a very anxious, impatient one to a quiet, tender feeling. (Somehow, I feel like mommy might not approve of my explaining such things to you, ha, ha.)

Tomorrow will be a busy day, so I do need to sleep soon. I will give a lecture in the morning to the mathematicians at the Newton Institute, and then in the afternoon, I have to talk about something called 'non-abelian cohomology' with a man named John Coates, who lives here in Cambridge and who I know from long ago. He wanted me to explain to him some of my recent little discoveries. That's one of the very nice things about being a mathematician. Even from far away, we can keep track of what our friends and acquaintances are doing, and have a lot to talk about when we meet. After that meeting, I will attend a lecture myself delivered by a man named Daniel Dennett.

Mr. Dennett is a philosopher who thinks a lot about whether machines can eventually think for themselves, rather in the vein of Mr. Hofstadter who wrote the book about Achilles and the Tortoise. Someday, I'll explain to you more about why this is such an interesting question. But you can get a feel for it even by playing a bit with the calculator I gave you. If you ask it to calculate $134+345$, or 13×15 , or even, 13452459×45582985 , it will do so very quickly. About as soon as you ask, it will give you the answer. (Except you have to ask in the calculator's language using the keys, not human language.) Does this make the calculator very, very smart? People usually don't say so. They

might say the calculator is very powerful or efficient, but we are a bit reluctant to say it's very smart. Why is that? After all, if a little boy could work with numbers so fast, we might say he is very smart indeed. Perhaps it has to do with the fact that the calculator can't do much else. It can't run or jump, or play ball like a boy. Suppose we made a robot with mechanical arms and legs that could do all those things and also put a calculator in his head? Should we say the robot is smart, or again just 'powerful'? After all it wouldn't be able to write poetry, or draw beautiful pictures like Oisín does! Perhaps we could make a robot that can do those things very well. Some people think we never will. They think that writing beautiful poetry is something so special that you couldn't design a machine to do it convincingly. Indeed, at the moment, no matter how hard it tries, a computer can't even *translate* poetry from one language to another so that the result looks attractive. But you never know...not so long ago, many people thought that machines could never even play chess as well as humans, but that's already happened. (One very famous computer is named 'Deep Blue', and he can defeat pretty much any human at chess.) Well, I don't know either, but I do know that the question is very, very interesting. Ultimately, the issue is whether a machine can think for itself, or if it's doomed simply to repeat the instructions that humans give to it. Mr. Dennett is one of the people who think that machines can eventually do essentially anything humans can, so we'll see what new things he has to say tomorrow.



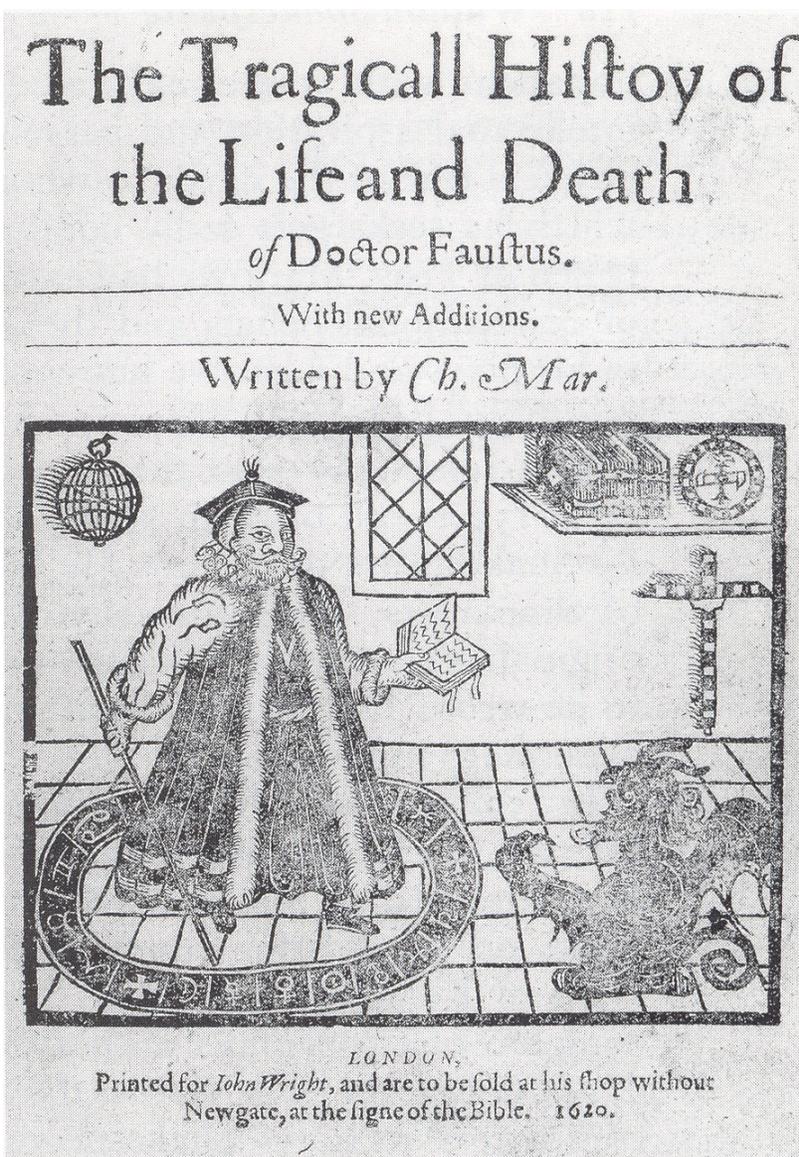
Robot Kismet from the Massachusetts Institute of Technology

After the lecture I will dine with Mr. Coates and another man named Mr. Sarnak who is also visiting from America. I am meeting them in a rather ancient dining hall, so I'm sure I'll be thinking of you.

It's possible that I'll try to see a play after that. They are showing at the theater here a play entitled 'Doctor Faustus,' by Christopher Marlowe. I wanted see it so that I could tell you about it. The main line of the story is very well-known, and many people have written their own versions, the most famous being the one by Johann Wolfgang von Goethe (who also wrote the scary poem about the Erlking). But the one by Marlowe (an English writer who lived around the same time as Shakespeare) is a version I've never seen. Christopher who was

recently visiting us is named after Mr. Marlowe. There is a long story around that naming, having to do with how Christopher's father believes firmly in a theory according to which Marlowe secretly wrote all of the plays of Shakespeare! But anyways, the play tomorrow is definitely by Marlowe.

The idea behind the story is quite provocative. Dr. Faustus is a philosopher, probably medieval, the kind you see in pictures with a candle and a skull on his desk.



He is terribly greedy for, of all things, knowledge. This play in fact makes the point that greed even for knowledge can be rather sinister. He makes a deal with the devil in exchange for knowledge and, of course, ends up rather badly. Even though this plot doesn't fit in well with how you and I usually think about knowledge, it is an interesting angle of inquiry. It might make more sense if we remember that some philosophers in the middle ages thought that enough knowledge would allow them to transform cheap metals into gold. Also, at many different times in history, people have used their technical knowledge to produce weapons that ended up hurting many good people. Even something that seems quite wonderful, such as a deep knowledge of the human soul, might be used to trick people rather than to help them. Reflections like these are very much tied up with the 'Romanticism' I told you about in the other letter, according to which true wisdom is learned from nature, while book-learning, especially science and the efforts to transform nature, lead to no good. These people might even say that designing a machine that can think for itself would be like a deal with the devil. Others will say that knowledge by itself is neither bad nor good, it's just that different people decide to use it for good or bad ends. Well, as you might guess, I tend to think that to know is on the whole better than not to know, and maybe a lot better. But we must let Mr. Marlowe and the Romantics (who came a while after him) have their say. After all, they do write inspiring poetry!

The only problem with this play is that it is being performed at 11 P.M., so I might be quite tired by that time. Maybe I will go the next day when I don't have so many other things to do.

Dr. Faustus is the kind of subject I suspect would have interested Mr. Edgar Allen Poe who wrote Annabel Lee, and who is renowned for his interest in dark and mysterious things. But he never wrote his own version of Faustus for some reason. He was probably quite busy with writing so many other things. He could also write about light and airy subjects:

To Helen

Helen, thy beauty is to me
Like those Nicaean barks of yore,
That gently, o'er a perfumed sea,
The weary, way-worn wanderer bore
To his own native shore.

On desperate seas long wont to roam,
Thy hyacinth hair, thy classic face,
Thy Naiad airs have brought me home
To the glory that was Greece
And the grandeur that was Rome.

Lo! in yon brilliant window-niche
How statue-like I see thee stand,
The agate lamp within thy hand!
Ah, Psyche, from the regions which
Are Holy Land!

Maybe this poem is also a bit sad (why?), and not just light and airy. The Helen here is Helen of Sparta of course, and maybe also a lady that Poe knew in his real life. But the poem is also about the love he has for Greece and Rome, as I'm sure you've guessed already. So if he loved Greece and Rome so much, how come he spent so much time writing about dark and mysterious things? (I think you'll agree that his other poem we know about a beautiful woman is rather macabre.) This is the

kind of question people try to answer when they study literature seriously. You might try asking Halmoni or Haraboji sometime, although the answer is not likely to be easy. Maybe some day, after you've read many more books and picked up plenty of wisdom from nature, you'll come up with a wonderful answer yourself!

Good night Mr. O.

Mr. D.



Helen