The talk I ought to be giving:

Me: Micha Elsner, postdoc in ILCC
Research: children's word learning with Bayes
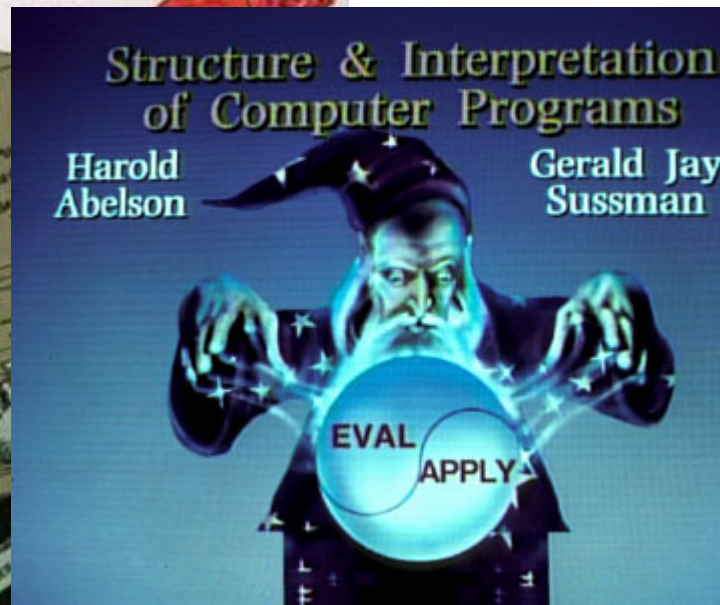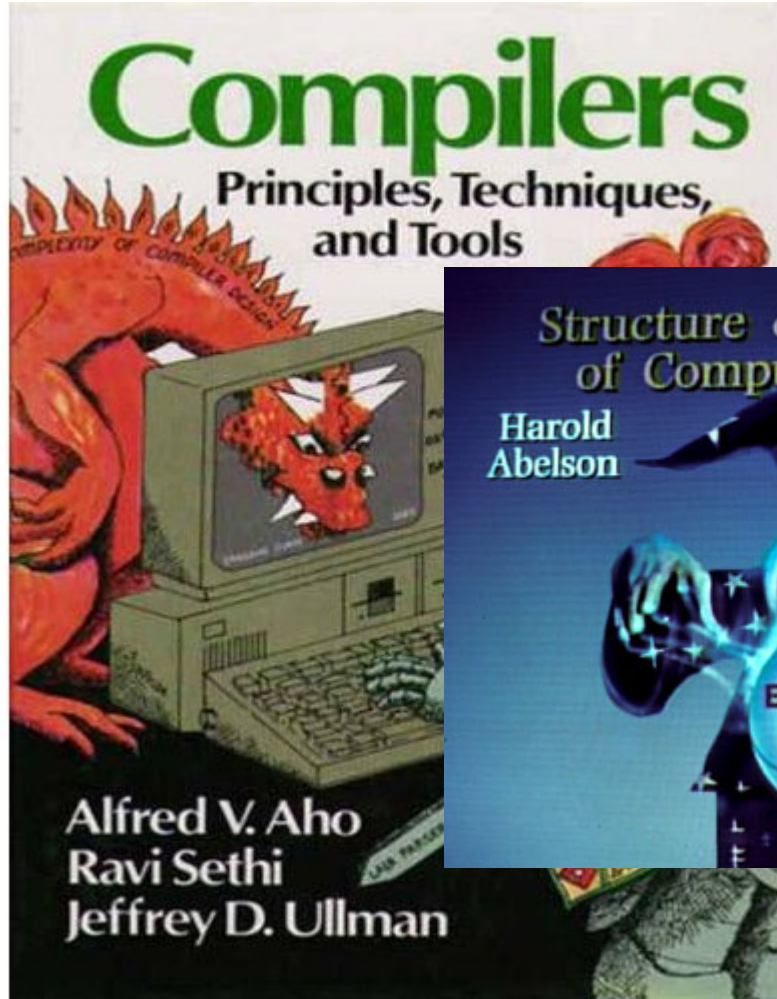plot structure in novels

Your academic career:

- Short-term projects; long-term goals
  - Know how your project relates to scientific aims
- Depression is endemic... be on your guard
- (Charniak's 1st law of research) Do research!
  - Always be working on something, even if it's silly.
- Never build anything you can't evaluate!

Subtle and Quick to Anger

Why you are a wizard, and why it matters

We're obsessed with magic:

It's everywhere:

magic
1. adj. As yet unexplained, or too complicated to explain...
"TTY echoing is controlled by a large number of magic bits."
-The Jargon File, 20c [1]

```
DESCRIPTION
    Amd is a daemon that automatically mounts
filesystems whenever a file or directory within that
filesystem is accessed.
```
-manpage for amd, 20c [2]

Expanding your command-line resources can provide a big increase in your productivity and propel you toward becoming a ***UNIX command line wizard****!*
-commercial advice site, 21c [3]

What is magic?

We use the metaphor of magic...
    but are we really magicians?

 =?

What are the 'design patterns' of magic?
What are the anti-patterns?

Language with power

Take some pot salt and chunk it after them... 'You son of a bitch, don't come back here no more.'
-Spell for driving away a witch, Afr. American, 20c [4]

Take away the sleep of that woman until she comes to me and pleases my soul, lead [NAME] loving, burning on account of her love and desire for me... drive [NAME] from her parents, from her bedroom... force her to love me and give me what I want...

-Love spell, Greco-Roman, 1c [5]

Cross my heart and hope to die,
drop down dead if I tell a lie
-Spell for making a binding promise, British, 20c [6]

Performatives

Not propositional; to say them is to perform a *speech act*

Dependent on the correct linguistic *form* and appropriate *circumstances* (Austin)

> *I do solemnly swear that I will faithfully execute the Office of President of the United States, and will to the best of my ability, preserve, protect and defend the Constitution of the United States.*
> -Spell for becoming President of the United States, 18c

Casting a spell

Get together the required ingredients. Use them as a "handle" on your target. Speak the correct commands.

Take parings of nails, hair, eyebrows, spittle, and so forth of your intended victim… make them up into his likeness with wax from a deserted bees' comb. Scorch the figure slowly by holding it over a lamp every night for seven nights, and say:

"*It is not wax that I am scorching,*

It is the liver, heart, and spleen of So-and-so that I scorch."
-Spell to kill an enemy, Malaysia, 19c? [7]

```
Pane = getContentPane();
Title = new JLabel("I'm a wizard!");
Pane.add(Title);
```
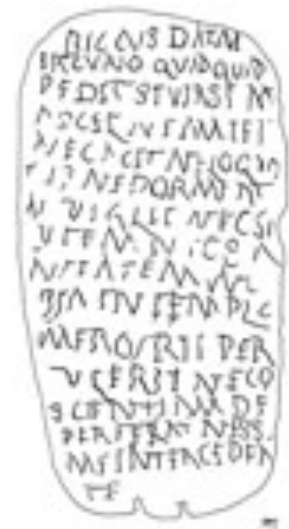-Spell to put text in a window, Java, 21c

Gods and spirits

Three mothers went to Rome, the fairies and the sprites, Peter and Paul, one mother of them said, stand; another mother said, walk; the other mother said, may this blood stop as the blood stopped which came out of the wounds of Christ--me to say it and the son of Mary to fulfil it.

-Spell to stop bleeding, Isle of Man, 18c [8]

Biccus gives Mercury whatever he has lost, so that the thief, whether man or male (sic), may not urinate nor defecate nor speak nor sleep nor stay awake nor have well-being or health, unless he bring it in the temple of Mercury; nor gain consciousness of it unless with my intervention.

-Curse tablet to punish a thief, Romano-British, ~2-3c [9]

    ("man or male": it's buggy!)

Wizards can compel hostile spirits

St Wolfgang of Regensburg forces the Devil to hold his prayerbook for him

-Michael Pacher, 15c [10]

Commanding these spirits can be very dangerous!

Is the computer a spirit?

The ELIZA effect: simple AI appears intelligent

<Scorpion832> i have been wanting to get to go out with you
<jenny18> i bet =)
<Scorpion832> possobly to have sex
<jenny18> i want to screw u now. rite here.
<Scorpion832> posibly to makeout with you for an hour long
<jenny18> hmm..
<Scorpion832> but you act crazy and you screwing everthin
<jenny18> well...
<Scorpion832> i love you i
<jenny18> i love u too. but dont tell any1 haha

- Chat transcript: human *Scorpion832* and ELIZA bot *jenny18*, 20c [11]

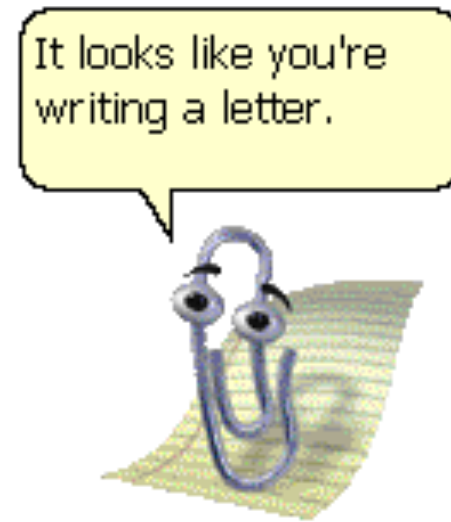# But it's even worse than that!

My Computer hates me.

> *...it is common to hear hardware or software talked about as though it has homunculi talking to each other inside it, with intentions and desires. Thus, one hears "The protocol handler got confused", or that programs "are trying" to do things...*
> -The Jargon File [12]

People personify computers with no AI at all!

Like spirits, they can be unfriendly...

...only a skillful wizard can keep them in check!

Secrets

If spells only "work" with the correct words and actions, and messing up is dangerous...
knowing the spells makes you powerful!

We discussed at great length the theories of how Zombies come to be... Some secret probably brought from Africa and handed down from generation to generation... ***These secret societies are secret. They will die before they will tell.***

-Zora Neale Hurston, 20c [13]

How to get to heaven

And again when they take my soul to the place of all the ranks of Jachthanabas,
the great and powerful Archon,
who is full of anger, the successor of the Archon of the outer darkness, the place in which all forms change,
who is powerful,
who is spread out upon the way of the Midst,
who carries off the souls by theft:
when they take my soul to that place
it will give to them the mystery of their fear which is

AWHPNEUPSAZPA

-Spell for the ascent of the soul
 Gnostic Christian, ~2-4c [14]

Sign in   Google

Email

Password

This was serious business...

Afterlife security provided by Archons...

If you forget your passwords, they will stop you going to heaven. (This is only the first password!) [15]

Password has graphical elements (very modern)
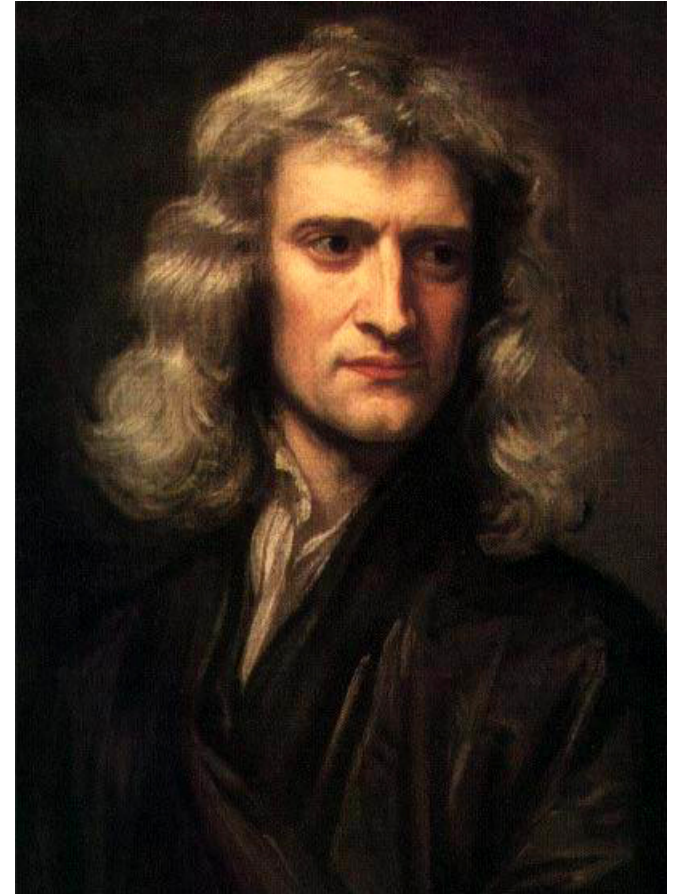
You wouldn't understand anyway

Separate thou the earth from the fire, the subtle from the gross, sweetly, with great industry.

It ascends from the earth to the heaven again, it descends to the earth and receives the force of things superior and inferior.

By this means ye shall have the glory of the whole world, thereby all obscurity shall fly from you.

Its force is above all force, for it vanquishes every subtle thing and penetrates every solid thing.

-Partial spell for making the Philosopher's Stone, ~12c original, trans Isaac Newton [16]

The power to bind and to loose...

Magicians are an exclusive group:
- Keeping secrets explicitly
  - *They will die before they will tell*
- It's hard to memorize everything
  - *AWHPNEUPSAZPA*
- Confusing jargon and metaphors
  - *Separate thou the earth from the fire...*

If people need you to command the gods...
    You're almost a god yourself!

Open standards, closed ranks

Most of us don't keep secrets explicitly...
but obscurity goes far beyond passwords.

```
perl -ne 'print if(/\b([Ww]izz?ard)\b/);'
```
-Spell for finding lines of text containing variant spellings of wizard

To generate the ith word w_i, given the previous word w_{i-1},

$G \, |a_0, P_0 \qquad \sim \mathrm{DP}(\alpha_0, P_0)$

$H_w|a_1, G \qquad \sim \mathrm{DP}(\alpha_1, G)$, for all w

$w_i \, |w_{i-1}=w, H_w \sim H_w$, for all w

-Partial spell for nonparametric word segmentation,
 from a paper draft by Dave Matthews et al, 2012

Are wizards trustworthy?

Of sooth-sayers there are many
Who heal disease of the wind.
To them, sir, we must turn,
Formulae are sovereign against illness.
But if the kam [shaman] shall profit you,
You must trust him in everything*, sir…*
-Turkestan, 11c [17]

A user rings.
"Do you know why the system is slow?" they ask.
"It's probably something to do with…" I look up
today's excuse "… clock speed."
"Oh" (Not knowing what I'm talking about, they're
satisfied) "Do you know when it will be fixed?"
-The Bastard Operator from Hell, 20c [18]

Evil wizards are plotting against us!

- Wizards are powerful...
- Secretive...
- Dangerous...

When something goes wrong,
it may not be an accident!

If wizards can't fix the problem, are they
causing it?

Black magic causes disasters

News from Scotland.

Witches at North Berwick plot to kill James VI & I by calling up a storm

-1590 [19]

70 people were found guilty!

Wizard vs. wizard

The cure for "black magic" is often "white magic"...

   but *any* practitioner is suspect!

*her father came to the Towne, touched with grief for this torture of his daughter [by witchcraft]... tooke her urine, **went to one for his advice (whose fact herein is no way justifiable**, and argued but a small measure of religion, and the knowledge of God in him) who first tolde unto him the cause of his coming, that is, to seeke help for his daughter... and then gave **his counsell for remedy... a powder to be cast upon the same, and certaine words written in a paper**, to be layd on the likewise with the other...*
-A Treatise of Witchcraft, England, 17c [20]

Moral panic...

Are you a "white hat" or a "black hat"?
   Real hackers know things aren't that simple.
   But lots of people don't!

We're wizards... like it or not

It's how we see ourselves...
And how others see us.

Our words have power...
We command dangerous,
self-willed helpers...

When things go wrong, only we can fix them...
   If we didn't break them in the first place!

Abracadabra!
"It has happened as I said"

-Spell, origin and translation uncertain, 4c [21]

Sources

[1] Eric Raymond, The Jargon File: http://catb.org/jargon/html/: "magic"

[2] man amd: informatics system

[3] http://www.cyberciti.biz/tips/unix-command-line-2.html

[4] qtd. in Cat Yronwode, "Using salt in magic spells", http://www.luckymojo.com/salt.html

[5] in Chris Faraone, "Ancient Greek Love Magic", p5

[6] various in Iona and Peter Opie, "The Lore and Language of Schoolchildren", p145

[7] James Frazer, "The Golden Bough", ch3

[8] William Harrison, "Mona Miscellany", http://www.isle-of-man.com/manxnotebook/manxsoc/msvol16/index.htm

[9] "Curse tablets from Roman Britain", http://curses.csad.ox.ac.uk/index.shtml

[10] Wikipedia: http://en.wikipedia.org/wiki/File:Michael_Pacher_004.jpg

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[12] The Jargon File, "Anthropomorphization": http://catb.org/jargon/html/anthropomorphization.html

[13] Zora Neale Hurston, "Tell My Horse"

[14] Bruce codex, gnosis archive, http://www.gnosis.org/library/bookss.htm, trans. Violet MacDermot

[15] images: Abraxas stone, diagram from First Book of Jeu, http://www.gnosis.org/library/1ieo.htm

[16] Wikipedia: http://en.wikipedia.org/wiki/Tabula_Smaragdina

[17] in Nora Chadwick, "Shamanism among the Tatars of Central Asia", 1936

[18] Simon Travaglia, "The Bastard Operator from Hell", ch1, http://bofh.ntk.net/BOFH/0000/bastard01.php

[19] Wikipedia: http://en.wikipedia.org/wiki/File:North_Berwick_witches.jpg

[20] Alexander Roberts, "A Treatise of Witchcraft", http://www.gutenberg.org/files/17209/17209-h/17209-h.htm

[21] Craig Conley, "Magic words: a dictionary"