That game kids play with the two teams trying to take back their flags…

Steal the bacon!

<u>Francis Bacon</u> also known as Lord Bacon wrote a book called *Novum Organon.*

In English that means 'true directions concerning the interpretation of nature'.

It was written in latin & published in <u>1620</u> and is often believed to be the foundation of modern science.

The book advocated for science as a way man had retaken control over his own "do minion" which metaphorically had been lost in the garden of Eden…

At the time the book was written, astrology was considered hard science while Bacon's work fell within the realm of **"subjective, objective and empirical"** -- laying the foundations for the scientific method.

The dangers of Bacon's masculine can be seen in fictional stories such as <u>Frankenstein</u> or the reality we now face with <u>global warming</u>.

When your code is broken but Daniel tells you you're super close…

ALMOST GOT IT!

<u>Heinz von Foerster</u> almost got it…but they fail to realize that <u>reflexivity could be come a spiral</u> rather than a circle.

A circle is perfect and predictable; you know where it's going to end up.

But a spiral can involve a dangerous hierarchy of instructions that never end.

That book Thomas Moore wrote about a perfect world:

Utopia.

Turns out technology has lost it!

Technology has lost utopian gloss

Now we're all scared of artificial intelligence, complexity life, cellular automata etc.

Want to know the only way out?

BE in the world, rather than APART from it

The book addresses how we can use the Regime of Computation to improve our understanding of what it means to be in the real world rather than building things a independently of it.

A comaker rather than a dominator.

Simulations can be powerful resources which we can use to help understand the entanglement of language with code – meaning we can better understand what may happen with artificial intelligence and have a better grasp of what would happen if a computer was subjective

Why does Donald Trump want to build a wall?

Because the border with Mexico is PERMEABLE!

A consequence of the entanglement of language with code is that boundaries have become permeable...

Because language and code are so entangled – boundaries become permeated....

> Code permeates language + is permeated by it
> Electronic text permeates print
> Computational processes permeate biological organisms
> Intelligent machines permeate flesh

No use trying to police these boundaries

Better idea is to try and understand how they flow across borders

Even though boundaries are permeable they are also really meaningful

Don't worry! <u>Humans are still distinct from intelligent machines</u>…even while the two are becoming increasingly entwined….

Informing the actions between people and machines is a vision of computational media, as a template of the world's active agency.

If we have a better understanding and control over the relationship between humans and machines it is possible we can rewrite a more narrative than Frankenstein turned out…

One where humans are not seen as subject's manipulating objects in the world.

It is very possible to place computational media into scenarios of mastery similar to when Bacon's original ideas about distinguishing subject from object which providing a basic

Every scary robot movie (minus Wall-E)…

Terminator, AI, Matrix, Do Androids Dream of Electric sheep?

The general theme with these movies relates to some kind of robot no longer wanting to be treated as an object but rather as a subject with autonomous actions. Then there's a conflict with humans…leads to Arnold Schwartznager fighting the world….or something along those lines….

In the end, humans always win and always maintain their right to dominate the objects.

If we interpret the relationship between people and intelligent machines from this pop culture perspective…we will continue to regard machines as objects we control…which is BAD!

This book is all about escaping that generic narrative – focusing on the similarities between people and machines rather than the differences.

While Bacon is busy trying to distinguish the subjective and objective, master and slave, good guys (humans) vs bad guys (robots), **Hayles want us to remember that machines are extensions of us and we share a lot of qualities!**

> For example EVOLUTION

In Katherine's opinion, it is hugely important to remember the mutuality of our interactions with machines – <u>they interact with us just as much as we interact with them</u>.

They create us even as we create them

The book gave loads of examples of this:

> Wolfram's cellular automata, Patchwork Girl, Karl Sims virtual creatures, Andrew Worth

When we look at robots in this way, Hayles clearly sees "that they are not objects to dominate or subjects threatening to dominate us"

Interacting with machines is an experience that incrementally changes us…

What we make and what [we think] we are, coevolve together...

Questions, Comments, Concerns, Final Thoughts, Speak now or forever...
Keep in mind this is your LAST CHANCE EVER to discuss
My Mother was a Computer as a Data Viz MS Students!!

1. Rose/thorn of the book? What was your primary takeaway? How is it effecting your thesis project development?
2. Katherine Hayles makes a convincing argument that we as humans are computational beings (agree or disagree)
3. Feelings on robots? Has Hayles altered your understanding of modern computation and are you more or less scared of robots than you were before reading her book…