What’s New

Patrick Henry Winston, ’65
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CBMM Vision

It is time to collaborate to develop a computational account of human intelligence.
Let’s propose a Science and Technology Center!
Artificial Intelligence
Machine Learning
Computer Science

Cognitive Science

Neuroscience

Science and Technology of Intelligence
Step 1
Step 3
Step 3

Who is there?
What are they doing?
Where are they?
Why are they there?
When is the picture taken?
Is he toasting or drinking?
Are the people happy?
What will they do next?
Step 4

Learning with $N \to \infty$

Learning with $N \to 1$
We won!

The Center for Brains, Minds and Machines
Thrust 1

How it works
Thrust 2

How it develops
Django was started by two people who worked in a newsroom.

You can update and retrieve articles very easily.

They need a good way to store and access articles.
Thrust 3

How it is implemented
Thrust 4

Social interaction
John was hungry.

He wanted a new car.

He decided to play his violin.

His brother got a new job.
John was hungry.

He wanted a hamburger.

He decided to walk to McDonalds.

He ordered a Big Mac.
John, an MIT freshman, was hungry.

He wanted a hamburger.

He decided to go to the student center.

On the way, he was mauled by an escaped circus lion.
Grace thinks the powder is sugar. It is sugar. Her friend is fine.

Grace thinks the powder is arsenic. It is sugar. Her friend is fine.

Grace thinks the powder is sugar. It is arsenic. Her friend dies.

Grace thinks the powder is arsenic. It is arsenic. Her friend dies.
Back to Thrust 1

The story at the center of the story
The Strong Story Hypothesis

The mechanisms that enable us humans to tell, understand, and recombine stories separate our intelligence from that of other primates.
Macbeth is a thane and Macduff is a thane. Lady Macbeth is evil and greedy. Duncan is the king, and Macbeth is Duncan's successor. Duncan is an enemy of Cawdor. Macduff is an enemy of Cawdor. Duncan is Macduff's friend. Macbeth defeated Cawdor. Duncan becomes happy because Macbeth defeated Cawdor. The witches danced and had visions. Macbeth talks with the witches. The witches predicted that Macbeth will become king. The witches astonish Macbeth. Duncan executes Cawdor. Macbeth becomes Thane of Cawdor. Duncan rewarded Macbeth because Duncan became happy. Macbeth wants to become king because Lady Macbeth persuaded Macbeth to want to become the king. Macbeth invites Duncan to dinner. Duncan complements Macbeth. Duncan goes to bed. Duncan's guards become drunk and sleep. In order to murder Duncan, Macbeth murders the guards and Macbeth stabs Duncan. Macbeth becomes king. Malcolm and Donalbain flee. Macbeth's murdering Duncan leads to Macduff's fleeing to England. In order to flee to England, Macduff rides to the coast and Macduff sails on a ship. Then, Macduff's fleeing to England leads to Macbeth's murdering Lady Macduff. Macbeth hallucinates at a dinner. Lady Macbeth says he hallucinates often. Everyone leaves because Lady Macbeth tells everyone to leave. Macbeth's murdering Duncan leads to Lady Macbeth's becoming distraught. Lady Macbeth has bad dreams. Lady Macbeth thinks she has blood on her hands. Lady Macbeth kills herself. Birham Wood is a forest. Burnham Wood goes to Dunsinane. Macduff's army attacks Dunsinane. Macduff curses Macbeth. Macbeth refuses to surrender. Macduff kills Macbeth. The end.
...The witches predicted that Macbeth will become king. The witches astonish Macbeth. Duncan executes Cawdor. Macbeth becomes Thane of Cawdor. Duncan rewarded Macbeth because Duncan became happy. Macbeth wants to become king because Lady Macbeth persuaded Macbeth to want to become the king. Macbeth invites Duncan to dinner. ...
Inference rule:
If X harms Y, X harms Y’s friend.

Explanation rule:
X may want to kill Y because X is angry at Y.

Concept pattern for revenge:
X's harming Y leads to Y's harming X.
Macbeth murders guards.

Macbeth murders Duncan.

Macbeth becomes king.

Duncan becomes dead.

Macbeth stabs Duncan.

Guards become dead.

Macbeth harms guards.
Macduff is Cawdor's enemy.

Macduff is Duncan's friend.

Duncan is Cawdor's enemy.

Duncan is Macduff's friend.

Lady Macduff is Macduff's enemy.
Macbeth harms Macduff.

Macbeth angers Macduff.

Macduff kills Macbeth.

Macduff harms Macbeth.

Macduff isn't sane.

Macduff kills Macbeth.
On a commonsense level

It looks like Dr. Jekyll thinks Macduff kills Macbeth, probably because Macbeth angers Macduff.

It looks like Mr. Hyde thinks Macduff kills Macbeth, probably because Macduff isn't sane.

On a concept level

It looks like Dr. Jekyll thinks Macduff kills Macbeth is part of acts of Revenge, Mistake because harmed, and Pyrrhic victory.

It looks like Mr. Hyde thinks Macduff kills Macbeth is part of act of Insane violence.

Why did Macduff kill Macbeth?
Did Lu kill Shan because America is individuali
It looks like the Dr. Jekyll reader of *Lu murder story/eastern*, **on reflection**, believes America is individualistic which enables him to believe Lu kills shan because America is individualistic.

It looks like the Mr. Hyde reader of *Lu murder story/western** does not believe America is individualistic and therefore cannot believe that Lu kills shan because America is individualistic.
• The USA knew the Viet Cong were preparing to attack the USA.
• The USA knew the USA would defeat the Viet Cong.
• The USA knew the Viet Cong knew the USA would defeat the Viet Cong.
• The USA believed the Viet Cong would not attack the USA.
• The Viet Cong attacked the USA.

• The Israelis knew the Egyptians were preparing to attack the Israelis.
• The Israelis knew the Israelis would defeat the Egyptians.
• The Israelis knew the Egyptians knew the Israelis would defeat the Egyptians.
• The Israelis believed the Egyptians would not attack the Israelis.
• ?
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| The USA knows that the viet cong prepares to attack it. | The USA knows to defeat the viet cong. | The USA knows that the viet cong knows it defeats the viet cong. | The USA believes that the viet cong doesn't attack it. | The viet cong attacks the USA. |</p>
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The USA knows that the viet cong knows it defeats the viet cong.

The Egyptians attack the Israelis.
Duncan is a person. Lady Macbeth is a person. Macduff is a person. Macbeth is a person. A thane is a noble. Macbeth is a thane. Macduff is a thane. Lady Macbeth is greedy. Macbeth defeats a rebel. Appear is a success. Macbeth has a success. Witches talk with Macbeth. Witches have visions. Duncan rewards Macbeth because Duncan becomes happy. Macbeth wants to become king because Lady Macbeth persuades Macbeth to want to become king.

Duncan becomes dead because Macbeth murders Duncan.
Duncan is a person. Lady Macbeth is a person. Macduff is a person. Macbeth is a person. A thane is a noble. Macbeth is a thane. Macduff is a thane. Lady Macbeth is greedy. Macbeth defeats a rebel. Appear is a success. Macbeth has a success. Witches talk with Macbeth. Witches have visions. Duncan rewards Macbeth because Duncan becomes happy. Macbeth wants to become king because Lady Macbeth persuades Macbeth to want to become king.

**Duncan becomes dead because**

because **Person x becomes dead whenever Person y kills person x.**
Macbeth is a thane and Macduff is a thane. Lady Macbeth is evil and greedy. Duncan is the king, and Macbeth is Duncan's successor. Duncan is an enemy of Cawdor. Macduff is an enemy of Cawdor. Duncan is Macduff's friend. Macbeth defeated Cawdor. Duncan becomes happy because Macbeth defeated Cawdor. The witches danced and had visions. Macbeth talks with the witches. The witches predicted that Macbeth will become king. The witches astonish Macbeth. Duncan executes Cawdor. Macbeth becomes Thane of Cawdor. Duncan rewarded Macbeth because Duncan became happy. Macbeth wants to become king because Lady Macbeth persuaded Macbeth to want to become the king. Macbeth invites Duncan to dinner. Duncan complements Macbeth. Duncan goes to bed. Duncan's guards become drunk and sleep. In order to murder Duncan, Macbeth murders the guards and Macbeth stabs Duncan. Macbeth becomes king. Malcolm and Donalbain flee. Macbeth's murdering Duncan leads to Macduff's fleeing to England. In order to flee to England, Macduff rides to the coast and Macduff sails on a ship. Then, Macduff's fleeing to England leads to Macbeth's murdering Lady Macduff. Macbeth hallucinates at a dinner. Lady Macbeth says he hallucinates often. Everyone leaves because Lady Macbeth tells everyone to leave. Macbeth's murdering Duncan leads to Lady Macbeth's becoming distraught. Lady Macbeth has bad dreams. Lady Macbeth thinks she has blood on her hands. Lady Macbeth kills herself. Birham Wood is a forest. Burnham Wood goes to Dunsinane. Macduff's army attacks Dunsinane. Macduff curses Macbeth. Macbeth refuses to surrender. Macduff kills Macbeth. The end.

The story is about Pyrrhic victory. Lady Macduff was Macduff's wife. Macbeth wanted to become king because Lady Macbeth persuaded Macbeth to want to become king. Macbeth murdered Duncan, probably because Duncan was a king and Macbeth was Duncan's successor. Macduff fled to England. Macbeth killed Lady Macduff. Macduff killed Macbeth, probably because Macbeth angered Macduff.
CBMM Contributions to come

- A better understanding of ourselves
- A better understanding of each other
- A substantial contribution to our societies' future education, prosperity, health, and security
Dan Oliver (5:34:31)

Madeleine Pascolini-Campbell (4:27:13)

Thomas Petersen (2:40:17)

Julie Pryor (4:57:56)

Jeremy Rishel (5:27:50)