Mental spaces and conceptual blending

http://mentalspace.net

http://blending.stanford.edu
Hidden behind *simple* words and *everyday* language are vast *conceptual networks* manipulated *unconsciously* through the *activation of powerful neural circuits*. 
Importantly, thought and language are embodied. Conceptual structure arises from our sensorimotor experience and the neural structures that give rise to it.
Which is harder for us to do?
Program a computer to play chess at the grand master level
or
Program a computer to have language as good as a three year old

• Language is hard
• Language is more than the words
Levels of control

High-level

Low-level

vs.

vs.
• language is only the tip of the iceberg of meaning construction

• meaning construction operates in many areas of human activity: art, mathematics, religion, technology, poetry, …

• conceptual mappings are the same for all these superficially different areas of human thought and action

• therefore linguistics sheds light on general human thinking, and conversely, the study of meaning construction in other areas sheds light on linguistics
Mental Spaces
Mappings

- Correspondences between elements and relationships in different mental spaces
  - Clark Kent & Superman
  - Sean Connery & James Bond
  - Baby Georgie & President G.W. Bush
  - Goddess of love & Aphrodite & Venus & Lise & Isabella

- Based on various sorts of relationships
  - Identity
  - Analogy
  - Representation
  - Cause-Effect
Gods of Olympus

Natoire's painting

Botticelli's painting

Goddess of love

name Aphrodite

name Venus
a Goddess of love

a' name Aphrodite

Gods of Olympus

Natoire's painting

a" name Venus

Botticelli's painting
b name Lise
model
a' name Aphrodite

Artist's studio
Natoire's painting
Artist's studio

Botticelli's painting

c name Simonetta model

a" name Venus
a Goddess of love

a' name Aphrodite

b Natoire's studio

a" name Venus

c Botticelli's studio

Natoire's painting

Botticelli's painting

Gods of Olympus
a Goddess of love

Natoire's painting

a' name Aphrodite

Natoire's studio

a'' name Venus

Goddens of Olympus

Botticelli's studio

b

c

Botticelli's painting
a Goddess of love

Natoire's studio

Gods of Olympus

Natoire's painting

Botticelli's studio

Botticelli's painting

b

a' name Aphrodite

a" name Venus

!
a Goddess of love

a' name Aphrodite

Gods of Olympus

Natoire's studio

Natoire's painting

b

a"

name Venus

Botticelli's studio

Botticelli's painting
a Goddess of love

Gods of Olympus

Natoire's painting

Botticelli's painting

Natoire's studio

Botticelli's studio

Aphrodite's studio

Venus's studio

Simonetta Vespucci
Gods of Olympus

God of love born d

Botticelli's painting

Botticelli's studio

name Simonetta Vespucci

Portovenere

born d'

15th c. Florence

name Venus
This large picture by Botticelli may have been, like the *Primavera*, painted for Lorenzo di Pierfrancesco de' Medici's Villa di Castello, around 1482, or even before. Some scholars suggest that the *Venus* painted for Lorenzo and mentioned by Giorgio Vasari may have been a different work, now lost. Some experts believe it to be a celebration of the love of Giuliano di Piero de' Medici (who died in the Pazzi conspiracy in 1478) for Simonetta Cattaneo Vespucci, who lived in Portovenere, a town by the sea with a local tradition of being the birthplace of Venus. It must be noted that Botticelli himself also privately loved the beautiful Simonetta, who was de' Medici's mistress. Whatever inspired the artist, there are clear similarities to Ovid's *Metamorphoses* and *Fasti*, as well as to Poliziano's *Verses*. Simonetta is also believed to have been the model for Venus in this painting, as well as for several other women in other Botticelli works, such as *Primavera*. 
In 1993, Jordan played for the Bulls. Now he plays for the Wizards.
Kobe Bryant is the Jordan of the 21st century.
This is a pipe.
(1) **In 2001, you climbed Mount Rainier.**

(2) **If you had climbed Mount Rainier.**

(3) **Max believes that you climbed Mount Rainier.**

(4) **In the picture, you are climbing Mount Rainier.**

(5) **When I was six years old, I weighed fifty pounds.**
Access Principle

If two elements \( a \) and \( b \) are linked by a connector \( F ( b = F(a) ) \), then element \( b \) can be identified by naming, describing, or pointing to, its counterpart \( a \).
I'm not up on American history. What was the President's name in 1958?
a name George Bush
   president

a' name George Bush
   child

b name Eisenhower
   president

2008

1958
Achilles sees a tortoise. He chases it. He thinks that the tortoise is slow and that he will catch it. But it is fast. If the tortoise had been slow, Achilles would have caught it. Maybe the tortoise is really a hare.
Achilles sees a tortoise. He chases it.
Base Space B

a name Achilles
b tortoise
SEE a b
CHASE a b
He thinks that the tortoise is slow and that he will catch it.

space-builders
Base Space B

Belief Space M

\(a\) name
b tortois
SEE a
CHASE a

SLOW
But it is fast.
a name Achilles
b tortoise
SEE a b
CHASE a b
FAST b

Base Space B

Belief Space M

Future Space W
If the tortoise had been slow, Achilles would have caught it.
a name Achilles
b tortoise
SEE a b
CHASE a b
FAST b

Counterfactual Mental Space H

SLOW b'
CATCH a" b"

SLOW b₁
CATCH a₁ b₁
Suppose James Bond, the top British spy, has just been introduced to Ursula as Earl Grey, the wealthy tea importer, and that she finds him handsome. It is equally true that Ursula thinks the top British spy is handsome and that Ursula thinks the wealthy tea importer is handsome, and both express the same belief.
Base

- a name Ursula
- b name Bond, top spy
- c name Lipton, wealthiest tea importer, ugly

Belief

- a' name Ursula
- b' name Grey, wealthiest tea importer
- c' name Lipton, ugly
(i) Ursula thinks the wealthiest tea importer is handsome.

(ii) Ursula thinks Lord Lipton is handsome.
(11) Max is 23. He has lived abroad. In 1990, he lived in Rome. In 1991 he would move to Venice. He would then have lived a year in Rome.
(11) Max is 23. He has lived abroad. In 1990, he lived in Rome. In 1991 he would move to Venice. He would then have lived a year in Rome.
Base, Vpt, Focus, Event

Max 23
Base, Vpt, Focus

Event

live abroad

→
Base, Vpt

Focus, Event

1990, live in Rome
1990, live in Rome

1991, move Venice
Base

1990, live in Rome

Vpt

1990, live in Rome

Focus

1991, move Venice

Event

live a year in Rome
Base space M---**PAST**---> Viewpoint Space N --- **FUTURE**----> Focus Space K

simple past + [ will + Verb *move* ]

\[ \Rightarrow \quad (\text{past} + \text{will}) + \text{move} \]

\[ \Rightarrow \quad \text{would move} \]
WHEN I WAS IN MY PRIME, I COULD'VE PINNED HULK HOGAN IN A MATTER OF SECONDS!

IS THAT TRUE, MOM?

PROBABLY
OF COURSE, WHEN YOUR DAD WAS IN HIS PRIME, HULK HOGAN WAS IN KINDERGARTEN.
Dad (watching wrestling on TV):

*When I was in my prime, I could've pinned Hulk Hogan in a matter of seconds!*

Son (to mother):
*Is that true, Mom?*

Mom:
*Probably.*

Mom (next and last frame in the strip):
*Of course, when your Dad was in his prime, Hulk Hogan was in kindergarten.*
DRABBLE By Kevin Fagan

When I was in my prime, I could've pinned Hulk Hogan in a matter of seconds!

Is that true, mom?

Probably.

Of course, when your dad was in his prime, Hulk Hogan was in kindergarten.
a: name Dad
b: name Mom
c: name Norman
d: name Hulk

CHAMP d
a: name Dad
b: name Mom
c: name Norman
d: name Hulk
CHAMP d

PRIME $a_1$
a: name Dad
b: name Mom
c: name Norman
d: name Hulk

CHAMP d

PRIME a₁

P

T

B

I
a: name Dad
b: name Mom
c: name Norman
d: name Hulk
CHAMP d

I
PRIME a

T

PIN a3 d3
a: name Dad
b: name Mom
c: name Norman
d: name Hulk

CHAMP

I
PRIME a

T

P

PIN a d

CHAMP a d

CHAMP a d
Calvin: I got another letter from my past self.
Hobbes: What's it say?
Calvin (reading): "Dear Future Calvin, I wrote this several days before you will receive it. You've done things I haven't done. You've seen things I haven't seen. You know things I don't know. You Lucky Dog! Your pal, Calvin."
Calvin: I feel so sorry for myself two days ago.
Hobbes: Poor him. He wasn't you.
In Pablo's picture, the girl with blue eyes has green eyes.

In Pablo's picture, the girl with green eyes is fat.

Pablo thinks that the girl with blue eyes has green eyes.

Pablo thinks that the girl with green eyes is fat.

Pablo thinks that the slim girl with blue eyes is fat and has green eyes.
Connectors:

That newspaper you're reading was just sold to Hearst for $50Billion. It will reorganize itself, and will soon be located on Wall Street.

Norman Mailer loves to read himself.

Plato is on the top shelf, next to Homer.

I'm the quiche, she's the ham sandwich.

The mushroom omelet left without paying his bill.
I'm not up on American history. What was the President's name in 1933?

George Bush.
AND EARNEST

I'M NOT UP ON AMERICAN HISTORY. WHAT WAS THE PRESIDENT'S NAME IN 1990?

GEORGE BUSH.
Numerous versions from several sources:

John and Bette had been married for 10 years when she asked what he would do if she died first:
Would you get married again?
"Well, I am only 36, so I might," he replied.
Would you live here in our home with her?
"I suppose so," he answered.
What about our bed, would you use that too?
"Sure," he replied.
What about my new golf clubs, would you let her use those, too?
"Oh no," John said. "She's left-handed."
Momma, I told you about this new guy I met...?

Yes...

Well, he proposed to me. He's real cute, a lawyer, with hazel eyes and blond hair, and his name is Kent Zalch.

Yes?

Except, my friend Katie says her new guy just proposed to her, and she says he's also cute, also a lawyer with hazel eyes and blond hair and his name is also Kent Zalch.
What do you make of it, Ommia?

As an intelligent woman, Marylou, what do you make of it? And I mean in terms of reality.

In reality, it could be that he has so much love to give, one woman isn't enough... or, he only loves me, but is too nice a person to hurt Katie's feelings... or, he's got a rare type of amnesia...

Or, in real reality, he's two different guys, and this is just a weird coincidence!
-Or, in real reality, he's two different guys, and this is just a weird coincidence!

Yes, that's the reality!! It's a coincidence! Thanks, Momma!

The reality is that if I didn't have that roast in the oven, I'd stick my head in it...
MOMMA, I TOLD YOU ABOUT THIS NEW GUY I MET...? YES...

WELL, HE PROPOSED TO ME. HE'S REAL CUTE, A LAWYER, WITH HAZEL EYES AND BLOND HAIR, AND HIS NAME IS KENT ZALCH. YES...

EXCEPT, MY FRIEND KATIE SAYS HER NEW GUY JUST PROPOSED TO HER, AND SHE SAYS HE'S ALSO CUTE, ALSO A LAWYER WITH HAZEL EYES AND BLOND HAIR AND HIS NAME IS ALSO KENT ZALCH.

IN REALITY, IT COULD BE THAT HE HAS SO MUCH LOVE TO GIVE, ONE WOMAN ISN'T ENOUGH... OR, HE ONLY LOVES ME, BUT IS TOO NICE A PERSON TO HURT KATIE'S FEELINGS... OR, HE'S GOT A RARE TYPE OF AMNESIA...

-OH, IN REALITY, HE'S TWO DIFFERENT GUYS, AND THIS IS JUST A WEIRD COINCIDENCE!

YES, THAT'S THE REALITY?! IT'S A COINCIDENCE! THANKS, MOMMA!

THE REALITY IS THAT IF I DIDN'T HAVE THAT ROAST IN THE OVEN, I'D STICK MY HEAD IN IT...