

## Scientific Report of 1<sup>st</sup> visit through EURO-XPRAG travel grant no 3811

During the first visit of Assimakopoulos to Cardiff, he was familiarised with the experimental paradigm utilised and with Tomlinson and Bott designed and ran an initial experiment on the proposed topic. In more detail, we finalised two lists of natural data (see attached), one for narrowing and one for metaphor, with 40 triples of sentences (a pragmatically enriched, a literal and a nonsensical version) and designed an experiment based on the mousetracking paradigm. We also prepared some sentences on approximation and category extension, but due to the time limit we didn't include them in this experiment, but will utilise them later on. Regarding narrowing we incorporated in our examples 10 sentences from Rubio Fernandez (2008) in order to see whether we would replicate her results. With respect to metaphors, we chose our sentences on the basis of their conventionality (cf. Jones & Estes 2006) while trying to keep the context as minimal as possible making all sentences 9 words long. Then we ran the experiment carefully counterbalancing the sentences between 4 groups of 10 participants. In this respect, 20 were presented with half the enriched and half the figurative sentences and the other 20 were presented with the rest, while in each group of 20, half were presented with the 'Sense' option on the left of the screen and the 'Nonsense' one on the right and vice versa. We collected the data from 40 participants and now are in the process of analysing them via e-mail communication and videoconferencing. We also discussed our next steps and decided to conduct a second experiment replicating Rubio Fernandez's paradigm, but through the implementation of pictures, setting the preparatory work that would need to be carried out before the second visit in 2011.

### References:

- Jones, L.L. & Estes, Z. (2006) 'Roosters, robins, and alarm clocks: Aptness and conventionality in metaphor comprehension', in *Journal of Memory and Language* 55: 18-32.
- Rubio Fernandez, P. (2008) 'Concept narrowing: The role of context-independent information', in *Journal of Semantics* 25: 381-409.

### Appendix: Sentences used in the experiment

#### A. Narrowing

Todd bought a new house because he has money.  
Todd bought a new house using his Dad's money.  
Marcia had a headache and she gulped some money.

Susan said that she wants to meet a bachelor.  
Susan said that an unmarried man is a bachelor.  
Austin believes that West Wales borders with a bachelor.

Tom gets high grades because he has a brain.  
Tom gets nauseous because of tumors in his brain.  
The coastal road is obstructed by a large brain.

Jason finished his work and went out to drink.  
Jason finished his workout and had water to drink.

Becky ate a burger and had fries to drink.

The main course at dinner was a delicious bird.  
The hunter aimed his rifle to shoot the bird.  
The computer guy said he would program the bird.

Mary rang the doctor because she had a temperature.  
Mary rang the doctor because she checked her temperature.  
Chelsey rented a car because she needed to temperature.

Dave had been given the sponge cake to cut.  
Dave had been given a few things to cut.  
Colton was so hungry that he swallowed the cut.

They decided to order Chinese pancakes filled with duck.  
They decided to buy their eldest son a duck.  
After Giselle lost her dog she realised a duck.

The bed in our room is made from pine.  
The garden at our house has a big pine.  
The heavy rain turned the soil a nasty pine.

Dave asked me whether I could feed his fish.  
Dave asked me whether I could see the fish.  
Jaden drove back home using his shiny new fish.

We drove to Phil's because it was a distance.  
We drove there because it was a long distance.  
They hired a nanny and decided their worst distance.

Laura loves to walk in her brand new heels.  
Laura loves to buy shoes with very high heels.  
Jessika is able to cook all sorts of heels.

Nora went to a veggie restaurant and had corn.  
Nora went to America and saw fields of corn.  
Andy headed to the garage and entered the corn.

Agatha liked the older guy because he had hair.  
Agatha liked the rockstar because of his long hair.  
Alfred was the best player shooting with his hair.

Mark knew that his hefty coworker liked to eat.  
Mark asked his coworker what he wanted to eat.  
The monstertruck had big tires and liked to eat.

The judges convinced Olivia that she had a voice.  
The judges convinced Olivia she had a strong voice.  
Alanis knew that her fish had a nice voice.

Joshua's coworkers decided that they would get a pint.  
Joshua's coworkers decided to measure out exactly one pint.  
Alfie's friends thought they should eat a nice pint.

Leslie knew that she was in for a walk.  
Leslie knew that he was going for a walk.  
Aaron was looking to buy a brand new walk.

After the amazing meal we knew Marcus could cook.  
After the meal Marcus decided to learn to cook.  
While at the countryside Bart collected rocks to cook.

As an avid cyclist and athlete Ken had legs.  
As an avid cyclist Ken had very strong legs.  
Because of his kind face Bernie came across legs.

The charity donations proved the businessman had a heart.  
The charity donations were for scientists researching the heart.  
The newspaper featured an exclusive interview with a heart.

His continued support showed that Troy was a friend.  
His continued support made Troy my father's best friend.  
Stephanie went out of the window and shut friend.

Driving the Porche Simon felt he had a car.  
Driving the Porche Simon forgot about his own car.  
Brad had finally understood how to cook a car.

Christina went to the athletics ball dressed in mink.  
Christina went to Russia to buy a pet mink.  
Bruce called his new boss on his mobile mink.

Everyone at the match said that Beckham could play.  
Everyone at the picnic thought of games to play.  
People at the party brought good food to play.

After he won Lewis felt he was a man.  
After he won Lewis talked to the old man.  
Cameron paused and then started breathing through the man.

Edward charmed the whole class by being an Englishman.  
Edward charmed the whole class apart from the Englishman.  
Charles sat at his desk and wrote tomorrow's Englishman.

His moves convinced the judges that he could dance.  
His moves convinced Sally to get up and dance.  
Chris took some bread and butter to make dance.

Rich and old-fashioned Bob was looking for a housewife.  
Rich and old-fashioned Helena wanted to remain a housewife.  
Danny really wanted to go away and study housewife.

Jenny wants a boyfriend with a set of ears.  
Jenny wants a nice new boyfriend with pierced ears.  
My boss hired someone who can program some ears.

Examples adapted from Rubio Fernandez

To make the fire Monica used the broken chair.

To make the room nicer Monica bought a chair.  
To see them well Darryl must renew his chair.

Tim felt like having a little tea at breakfast.  
Tim did not have enough money to buy breakfast.  
Dominic got married last week and he wore breakfast.

The picture looked nice in the frame of brass.  
The picture is from Sheffield where they make brass.  
Duncan worked all night in order to finish brass.

Last night the moon was shaped like a banana.  
Last night Lisa gave the small monkey a banana.  
Yesterday I pulled over and parked in the banana.

Sheila is looking up the word in an encyclopedia.  
Sheila is looking for someone who sells an encyclopedia.  
Earl had mistaken the two lost child for an encyclopedia.

Samuel went for a test drive in a Mercedes.  
Samuel went to the new corporate building of Mercedes.  
Sylvia got in the train and walked across Mercedes.

After having dinner Mary quickly changed into her slippers.  
After having dinner Mary packed her clothes and slippers.  
Ethan had lunch and drank a glass of slippers.

The young zebras did not notice the hiding cheetah.  
The young zebras approached the territory of the cheetah.  
The French guy put on his jeans and cheetah.

They encountered turbulence over Germany and headed towards Norway.  
They flew over Germany in order to visit Norway.  
Eugene met his friends and they argued a Norway.

For the results Anna bought a bottle of champagne.  
For the dinner at her aunt's Anna brought champagne.  
Charlie went to Barbados and got married to champagne.

### **Metaphors**

*Conventionality rating over 4.0 (Jones & Estes 2006)*

The young researcher argued that memory is a warehouse.  
The young researcher left the petroleum at the warehouse.  
The couple decided to try and understand the warehouse.

Linda told me that my bedroom is a dump.  
Linda told me that rubbish goes to the dump.  
Freddy was looking for milk and cookies with dump.

Tony hugged his wife with his arms of steel.  
Tony hugged his wife outside the factory of steel.  
Franklin signed the letter and sent it to steel.

Tracey still works even though she is a fossil.  
Tracey still works although she collected her last fossil.  
Lyv decided to eat the last piece of fossil.

My boss told me my idea was a diamond.  
My boss paid a high price for the diamond.  
My sister would like to eat the delicious diamond.

Don't irritate Ross because his anger is a volcano.  
When he got to Italy Ross visited the volcano.  
Gregory got undressed and took off his new volcano.

The ornithologist claimed that a bird is an airplane.  
The ornithologist claimed that some birds hit the airplane.  
Hale was constantly chatting with her new best airplanes.

The manager told the workers that time is money.  
The manager told me not to spend much money.  
The clerk gave the handwritten letter to my money.

Craig told Jill that his job was a jail.  
Craig told Jill that he would go to jail.  
The bag contained her new purse and a jail.

Emma thought that her new cat's fur was silk.  
Emma thought that Susie's dress was made of silk.  
Bill started trombone lessons to help him understand silk.

Beatrice told us that finding love is a journey.  
Beatrice told us to start packing for the journey.  
Garrett didn't manage to come across the big journey.

The photographer thought the new model's legs were twigs.  
The photographer thought the ground was covered in twigs.  
Gale eventually stopped to drink some very tasty twigs.

He got hired and his degree was the doorway.  
He reached the building and couldn't find the doorway.  
Gail was excited and started to sing a doorway.

Jenny came in and her smile was a magnet.  
Jenny came in and looked for the missing magnet.  
Fraser trimmed his hair and eyebrows with a magnet.

When Madonna finished singing the cheering crowd was thunder.  
When Madonna came on stage everyone heard a thunder.  
Chloe washed the dishes and switched on the thunder.

Heather said her new best friend was an anchor.  
Heather said her new sailing boat has an anchor.  
Jeff cooked stew and served it with an anchor.

Mark's marriage turned out to be a short leash.  
Mark takes his dog out with a short leash.

The director makes films out of a short leash.

The smiley receptionist was a breath of fresh air.  
The receptionist left for a breath of fresh air.  
Gus will receive a higher breath of fresh air.

Tania told her daughter that love is a flower.  
Tania told her daughter that she wanted a flower.  
Muse played a song originally performed by a flower.

The ballet teacher said some dancers can be butterflies.  
The ballet teacher said she saw some colourful butterflies.  
Michael was drinking lots of beer and eating butterflies.

Conventionality rating below 4.0 (Jones & Estes 2006)

Visiting France showed Patty that traveling is a rollercoaster.  
Visiting Disneyland meant that Patty could ride the rollercoaster.  
Courtney was afraid that she had contracted a rollercoaster.

The bad news of Richard's death was an earthquake.  
The bad news was that Tokyo experienced an earthquake.  
The best thing that she learnt was an earthquake.

I trusted Travis and his lie was a dagger.  
I trusted Travis and I gave him my dagger.  
Marshall asked me if I could weave a dagger.

John slipped because his driveway was an ice rink.  
John slipped because he walked on the ice rink.  
Emmanuel entered the market to get an ice rink.

The teacher was exhausted because class was a zoo.  
The teacher was exhausted when driving to the zoo.  
Mick felt tired because he was riding a zoo.

The researchers said the human mind is an arena.  
The researchers were excited to visit the ancient arena.  
Joel forgot to write up half of his arena.

While at Selfridges Amanda thought that stores are jungles.  
While at Selfridges Amanda reminisced going to the jungles.  
Julian invited us over for dinner and cooked jungles.

Sonia thought her computer skills course was a joke.  
Sonia thought she had understood the young man's joke.  
Joey kept on eating the soup with a joke.

Living on the farm the rooster is my alarm-clock.  
Living on the farm I needed a loud alarm-clock.  
Jocelyn was at school and wrote an amazing alarm-clock.

Given his generosity Linda's new husband was a gem.  
Given his generosity Linda thought she'd get a gem.  
Malone had been told to lie to the gem.

The school boy realised that education is a lantern.  
The school boy realised that he needed a lantern.  
The drunken girl thought that she should dress lantern.

The doctor told Jerry that smoking is a time-bomb.  
The doctor had left Jerry to disarm the time-bomb.  
Harvey has always treated a flu with a time-bomb.

After she left Howel realised that insults are razors.  
After she left Howel realised she had his razors.  
Meredith wanted to entertain the whole bunch of razors.

The child thought the lady's unflinching gaze was ice.  
The child asked the old lady for some ice.  
Kurtis didn't manage to catch the very last ice.

After my PhD I realised research is mountain climbing.  
After my PhD I visited Germany for mountain climbing.  
Harrold really wanted to go and buy mountain climbing.

Tina thought her lectures were the perfect sleeping pills.  
Tina thought her doctor would prescribe her sleeping pills.  
Hardy started writing on the blackboard with sleeping pills.

Johan eats so much his stomach is a barrel.  
Johan entered the pub and sat on a barrel.  
He was bored and kept talking about eating barrel.

At the pond Alex saw that beavers are lumberjacks.  
At the pond Alex saw trees chopped by lumberjacks.  
Mel and his wife saw eggs laid by lumberjacks.

For long distances Neil's old car is a boat.  
For long distances Neil would use his new boat.  
Mack thought he would fire the new lazy boat.

The commentator said that the goalie was a spider.  
The commentator said that he had seen a spider.  
Hannah lit up her last cigarette with the spider.