Welcome to the fifth annual Babylab newsletter and let us start by saying a huge thank you to all the parents and children who came in and helped us out this year! Without you, our work wouldn’t be possible.

2011 has been a year full of changes and new developments, firstly with the addition of two new members of staff!

Claire Delle Luche, a post-doctoral researcher, started in July 2010, and is working with us here and researchers in Paris! Together with Jacqui Turner, a new PhD student who joined the lab in January 2011, they look into the effect of consonants and vowels in word processing.

Another of our PhD students, Samantha Durrant, came back from her maternity leave to continue her work looking at dialect variability in word learning with young infants.

The Babylab this year has also had three placement students who have taken a year out from their degree to study language development; they are Alice Horkins, Gurdeep Sidhu and Jenny Bingham.

We have also had an impressive 8 students completing their final year projects in the babylab this year – our largest number yet.

Some international researchers came to visit us: Julie Bertels from a Babylab in Belgium using our new eye tracker (read on to find out more) and Cristina, an Italian student, who started a study looking at children’s vocabulary development.

And we also had one ‘Goodbye’. Joseph Butler, who had been a part of the babylab for some years, has moved on to warmer climes, he is now working in the Babylab in Lisbon, Portugal. His work here looked at accent perception in young infants. We wish him much luck in this new position.

New studies...

This year has seen the babylab completion of three of our studies and the beginning of many more with some new and exciting areas of interest!

We are in the process of giving our website a ‘face-lift’; we have updated the pictures, given up-to-date descriptions for the studies, we’ve also added pictures to the direction section to help you find us and there is also now a page where you can see all of our photos, so when you get an email you can put a face to the name! Keep an eye out for its launch! Another addition is the link to our Facebook page where you can again see more pictures and leave your comments about your visit to the Babylab! Check it out at plymouthbabylab.org.uk or search Plymouth Babylab on Facebook.
**Current Research...**

**How do infants process accents? An ERP study with 11 month olds.**

We tested 48 babies for the ERP (Evoked Response Potentials) study, and we’ve now been able to start the long process of looking at their brain activity in response to sentences and words in different accents. So far, the results tell us that infants’ brains respond differently to different accents, and this seems to have an impact on the way they learn the sounds of new words. We’ve got lots more analysis to do on this data, but it’s been an exciting study for us, and our participants seem to have enjoyed it too. Lots of the parents took amazing pictures of their Baby Scientists’ heads all lit up red and green, we hope they will cherish them!

**Name recognition in 5-month-olds**

Infants can differentiate very fine differences in speech, noticing the consonant change in “ba-ba-ba-ba-da” sequence. When speech becomes meaningful, however, will they only recognise the exact form of a spoken word or a broad set of representations for that word?

Here, 5-month-olds were presented with recordings of the first word they learn: their own name. They heard either their name or a slightly mispronounced version (e.g. Sam or Tham). Results so far show us that they do recognise their name, preferring the correct version.

**Categorisation of familiar words and objects in 18-month-olds.**

This new study is collaboration with the Oxford Babylab, and we want to know if children at 18 months old are categorising the objects’ names they hear everyday. So for this we show them lots of pictures and play them lists of words to see whether they are more interested when the pictures and words all belong to one category, animals for example: cat, dog, horse or whether it doesn’t make a difference to them. So far we have tested 41 children and it seems that as this young age they might just be categorising the objects’ names they hear!

**Are children at 24 months old more sensitive to detecting changes in consonants or vowels?**

At 23 months old are infants better at detecting changes in words if you change a consonant or a vowel? Children play a game with the researcher where we ask that she selects from two objects that she has never seen, the one that goes with another previously unknown object. The researcher teaches the child a new name for these objects that differs in a small way, on a consonant (for example, pok/tok) or a vowel (for example, tik/tok). We have found that children at 23 months old can do the task equally well with a consonant or a vowel change, which is very different with what French toddlers do: they are much better with consonant change than vowel change!

**Segmentation of fluent speech in 10 month old infants.**

Over 100 babies have now participated in this study, which looks at the way infants learn to pick words out of fluent speech in different accents. We only need a few more ten month-olds to complete this study, which has been one of our biggest to date!
Are children at 14 and 20 months good at recognising words?

Samantha Durrant, a PhD student, is interested in dialect variability and how this influences children’s learning of words. In this study she presented children with pairs of images and named one, half of the time using the correct name and half a mispronounced name, e.g. “Ball” or “Gall”. 180 children have been tested so far, and Sam’s interest is whether the children behave differently if they have different accent exposure. Preliminary results so far indicate that children who hear more than one accent at home perform better than those who hear only one.

Consonant and vowel processing in 12-month-olds.

This study will use the same design as Hester’s ERP study to determine whether babies have a bias for perceiving vowels better than consonants.

12-month-olds will be presented with auditory isolated phonemes (such as ta or ka), whilst watching a silent cartoon or playing with toys. This means there will be a chance for you to get a picture of your Baby scientist with the red and green cap on!
Affordance Study in 4 and 5 year olds
We know that in adults, when we see a cup with the handle on the right, we activate the action of grasping it with our right hand, even if we have no intention whatsoever of picking up the cup. We aimed to investigate whether this was due to a lifetime of experience with objects, or an innate ability. The children participating in this study looked at a series of pictures of household objects on a computer screen, and were asked to press a button if the image contained a cartoon smiley face. We saw 32 children; all of them did the task with no difficulty at all. However, the study failed to find a significant effect, but has generated many interesting questions that will provide the basis for future research. We love it when results are puzzling!!!

Cross-linguistic study with 18 and 30 month olds.
One of our PhD students, Rafalla Farag, is looking at cross-linguistic studies. His main goal is to see whether words in one language will activate related words in another language in bilingual children. We know that as adults when we hear “dog” it also activates “cat”. But when a child is learning two languages, do the word meanings cross over? Does the English word dog activate the Spanish word gato? The 125 children, (aged 18 and 30 months) that Rafalla have seen have a wide range of second languages including Spanish, Finnish, Polish, Arabic, Portuguese, French, Dutch and many more! Children saw two images and then heard a sentence in which the last word was in their second language, for example, “yesterday I saw a dog” followed by “gato”. The results of the Arabic-English bilinguals are excellent: all the children show activation of related words in Arabic, or in English. The results of the other bilingual groups are still under analysis!

If you would like to read any more about any of the studies or contact any member of the team please visit the Babylab website at www.plymouthbabylab.org or email any of us at plymouthbabylab@gmail.com.

This is the last newsletter that we will send out by paper and email, (we are trying to cut our carbon footprint) so if you would like to continue receiving it please provide an email address to next year you can still hear about all the amazing things!

All that’s left is to say a BIG BIG BIG Thankyou to all

The parents and the Babylab scientists who make our work possible!

Have your details changed since you signed up? If so please tear this form off and send it back FREE POST to: Plymouth Babylab, School of Psychology, Portland Square, Drake Circus, Plymouth, Devon, PL4 8AA. We will call you as soon as we receive your form.

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