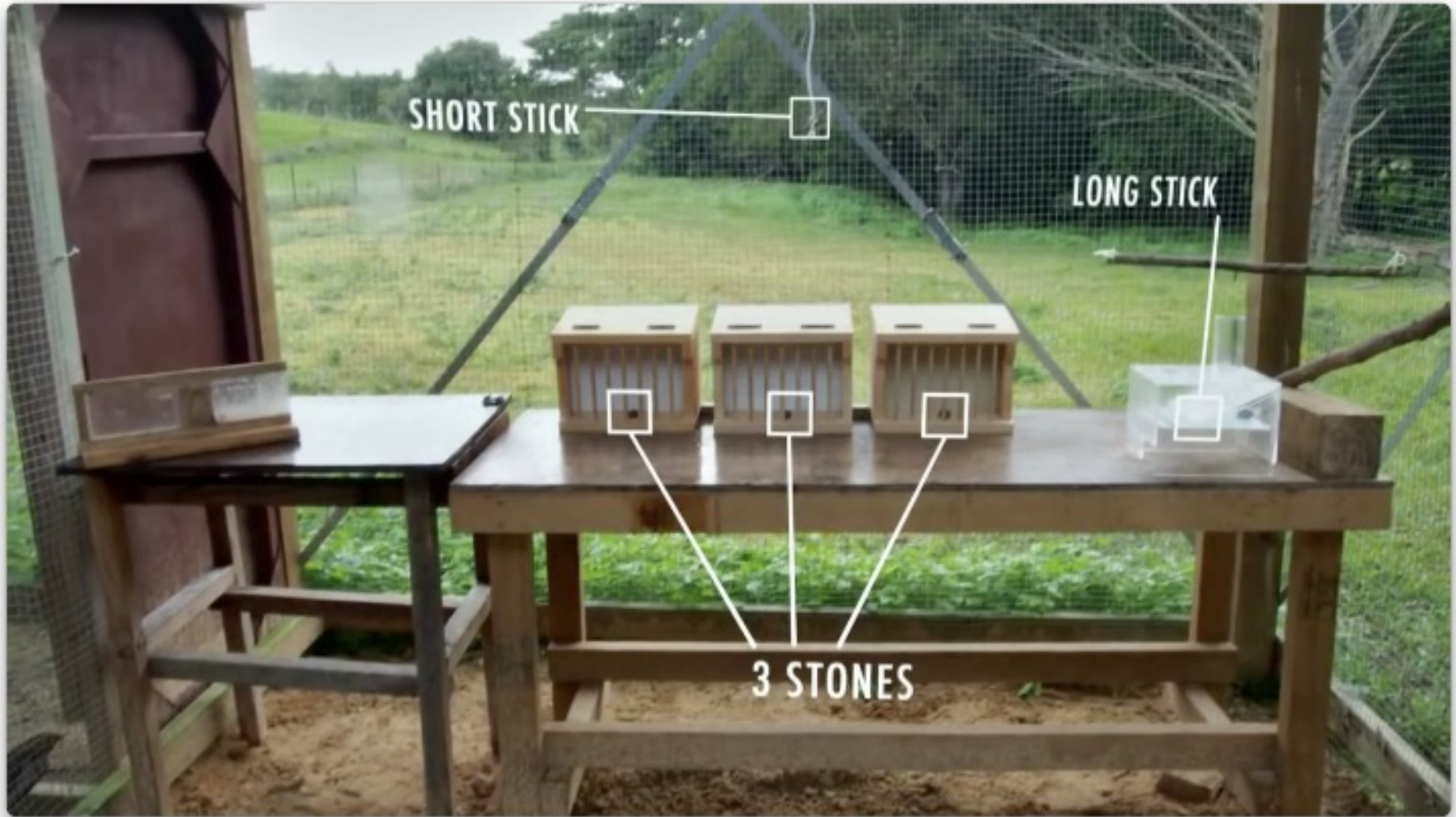


Animal intelligence – language bank

- In comparison to
 - Comparatively
 - However
 - Whereas
 - Although
 - Is capable of DOING
 - Can do
 - Is able to DO
 - « I think that the octopus has the capacity to solve complex problems and to interact with others... »
 - I'm not convinced... I don't see it quite that way – I don't agree
 - The ration of weight of brain/ size of body
 - Social skills versus autonomy
 - We placed the elephant because of its huge memory...
 - Next, finally...
 - Another idea we are pursuing... is domesticated animals versus wild animals...
- Smart, intelligent
 - Problem-solving capacity
 - Analytical skills
 - Memory
 - Learning
 - Social intelligence
 - a crow, a parrot, a bee hive, octopus ink



SHORT STICK

LONG STICK

3 STONES

11:46

What we're seeing across New Caledonia, is populations of crows that appear to have traditions of making single-step tools or two-step or three-step tools... and these traditions are persisting over 10 or 15 years at least, that's as much as how long we've been studying them for and we think they've been there for a lot longer. So **it appears there is** some kind of transmission of the tool designs across the population.

A rare and fascinating glimpse of how **this might happen** has been captured on camera. Here, an adult bird is using a stick to probe grubs hidden inside a log. A youngster stands by watching as **the adult seems to demonstrate** the right way to use the tool, and when the adult departs, she leaves behind the stick in the hole. The youngster can now have a go itself, although this one has some way to go before it becomes an expert like its parents. **It seems as though** one way that our ideas can travel through the crow population is via family groups – the social circle. But **Alex's research suggests** something even more extraordinary, that with each new generation, the ideas don't stand still, but are honed and improved.

When we talk about this, we talk about something called the ratchet effect, which is this idea that it's a really good idea to be able to copy each other and as a group you can end up being able to build better and better tools – **obviously** we don't invent the wheel every generation ourselves, we make it better and better. **Potentially**, this is what's going on here with the crows. **There is no concrete evidence that** any other animal species able to show this ratcheting up of their technology to make it more and more sophisticated.

So it would just be crows and humans – no chimpanzees, nothing?

At the moment, no it's something that **we think is** unique to humans but **maybe** it's going on in these crows as well.

11:46

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Education and the brain

- People can multitask
- Learners can self regulate
- We learn according to learning styles
- Brain games make us smarter
- We only use 10% of our brains
- Knowledge becomes rapidly out of date
- You can find it all on the Internet
- Children today are media-wise digital natives

- Friday class 14h start

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Tiktok task - work with a partner

- Young neuroscientists...
- You have been asked to make a tiktok on the subject of learning
- Introduce the topic
- Debunk some myths
- Finish by explaining what works for you
- Upload to moodle – send to JP
- Feedback on Friday