CREATIVE VS LOGICAL

The creative thinker is often labelled as right brained, while the more logical person is referred to as left brained. Does this apply to your baby too?

BY **CAMILLA RANKIN,** WITH COUNSELLING PSYCHOLOGIST **SARAH VAN OLST**

Does knowing that your toddler is a left- or right-brain thinker, and if so, how much, matter for his growth and development? The simple answer is: at this stage, no, not much. Babies are not born with a predisposition towards being right- or left-brain dominant, and growth of the brain is at its most rapid rate in your baby's first year and a half of life, so "attempting to pin an outcome on whether or not your toddler will be left- or right-brain dominant at this stage of development is futile," says Sarah van Olst, a counselling psychologist with a special interest in childhood and children.

Why should this matter?

The basic theory is that while we have one brain, this brain is divided into two parts. More specifically, the part of our brain – the cerebral cortex – that controls our rational functions, such as thought, learning and reading, is made up of two halves. These halves are commonly called the right brain and left brain, or hemispheres. They are connected by many, many nerves which allow messages to pass between them: our neural pathways.

In the late 1960s an American psychobiologist, Roger W Sperry, documented that these two halves of the brain also have two very different ways of thinking: the right brain is visual and looks first at the whole picture and then at the details, while the left brain is verbal and analytical and looks first at the pieces

RECOGNISE YOURSELF?

The following are the typical functions that the two sides of your brain have:

LEFT-BRAIN FUNCTIONS

- Uses logic
- Is detail-oriented
- Craves facts
- Words and language
- Maths and science
- Can comprehend
- Has very good perception of order/perception
- Knows object name
- Reality-based
- Forms strategies
- Practical
- Safe

RIGHT-BRAIN FUNCTIONS

- Uses feeling
- "Big picture"-oriented
- Follows imagination
- Symbols and images
- Philosophy and religion
- Can "get it" (understand meaning)
- Has great spatial perception
- Knows object function
- Fantasy-based
- Presents possibilities
- Impetuous
- Risk-taking

HALF A BRAIN IS ENOUGH

Nico is an eleven-year-old boy with a slight limp, who loves his laptop computer and who carries a deep secret: he does not have the function of both sides of his brain. At the age of three, Nico was given a right hemispherectomy to control his debilitating epilepsy. This procedure removes or disables one side of the brain – it is an extremely rare surgical procedure and is only done on young children because of the ability of a young child's brain to adapt and teach itself to work as a whole again.

Antonio Battro, a Spanish cognitive neuroscientist, explains that Nico has developed into a smart child with almost no physical and mental impairment. Battro believes that half a brain is a new brain, and it seems that Nico has proven his theory. Talents and skills typically understood to be right hemisphere-dominated tasks, such as mathematics, visual arts, musical abilities, motor capabilities (when using a mouse and a keyboard) and attention span have, in Nico, all developed normally for his age. Nico's intact left hemisphere, Battro suggests, has learnt these skills and is a whole brain in itself. The only tasks Nico seems to struggle with are drawing and handwriting, but Battro introduced Nico to a computer and now Nico is better than anyone in his class at typing and computer-based drawing, and he has recently discovered the virtues of e-mail and computer programming. Says Battro, "We can see the malleability of the young brain where Nico's neurons in the left side of his brain rewired themselves to each other to take over many of the functions of his amputated right hemisphere."

Read Nico's story in: *Half a brain is enough: The story of Nico* by Antonio M. Battro

before putting them together to get a sense of the whole picture. He thought each human developed a preference or "dominance" for one side of the brain and therefore way of thinking. Out of this Nobel Prize-winning research developed the popular idea that people are either right- or left-brain dominant and therefore the way we see and understand the world around us, and whether we are artistic/creative or analytic/rational, is determined by which side of our brain is dominant.

What about my child?

Sperry's research, like most psychological thought, filtered down into thoughts on parenting: understanding your child's brain dominance meant understanding the way your child sees and approaches the world – is he artistic and creative, or is he logical and analytical?

These thoughts became particularly important if your child was struggling in a formal educational setting, as schools typically favour a left-brain approach to teaching and testing. As Sarah explains, "Many mainstream schools are outcome based, and are highly orientated towards people with left-brain preferences. In order to cater for and educate millions of learners, schools are geared towards structured thinking, expecting learners to achieve within boundaries of analytical thinking. With schoolgoing children who prefer to use more imaginative cognitive styles; they may run into difficulties at school. These drawbacks may be diminished if we can help children to learn in creative, colourful ways. For example, using creatively drawn up mind maps or baking cakes using jelly tots and liquorice to indicate the iris, cornea and optical nerve of the eye."

All or nothing?

Sperry's research is however pretty simplistic and later research pointed to the fact that the two halves of our brains actually work in concert with one another. "A child may have a preference towards the artistic and the intuitive right-brained aspects but that is not to say that he is exclusively right-brain dominant: the two

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sides of the brain work together to achieve cognitive functions," explains Sarah.

"It should not be a priority for a caregiver to decide whether or not her toddler is right- or left-brain dominant. Toddlers and young children have networks of neurons that are 'plastic' and malleable and the connections between them, that form in early life, are dependent on the child's interactions with his environment. So, it is much more important at this stage of your toddler's life to create an environment in which your toddler can learn to be a well-functioning being. Good attachment, love and attention between a child and a caregiver help the growth of the baby's brain and emotional brain development. Another important thing to embrace is play: allow your toddler the freedom of imagination. Children thrive and grow in leaps and bounds when they go on the adventure of exploring the world. Just as adults use words to communicate, children use their play as their form of communication. So rather allow yourself as an adult to learn about your child through observing the way your little one sees the world. You might learn a lot!"

The bottom line

As your child grows so will the neural pathways that send messages between the two hemispheres of the brain. As a parent, the best way to get those pathways firing is through love, attention and free play. As Sarah says, "It is the interhemispheric interaction that matters: whatever the preference – analytical or artisitic to put it simply – there is nothing better than the two halves of the brain firing from right to left and left to right." Your child will look and see the world from his or her own special perspective, and that is perfect.