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Press release

Crawliskate®, technology backed by Erganeo and captured on film by Netflix in a documentary series about babies



Learning to walk is a milestone in every child's life. Babies start crawling at around eight to ten months old.

For a long time, researchers believed this was merely a transitional stage in learning to walk. But the reality is much more enigmatic, as **Marianne Barbu-Roth**, Head of Research at the CNRS, explains in Netflix's documentary series, "Babies".

A documentary series that explores the complex world of babies

"Babies" follows fifteen little ones over the course of their first year of life, documenting everything from their very first cry to their first steps. It takes an emotional, scientific and research-based approach to examining how babies evolve from new-borns to early childhood.

In the third episode of the series, Marianne Barbu-Roth, looks at new-borns' motor skills in a new light and overhauls preconceptions. The documentary showcases Crawliskate® technology, which is backed by Erganeo.

Crawliskate® is born

The question at the heart of the project was: are new-borns' arm and leg movements controlled in the brain?

The research team set about trying to pinpoint an answer, focusing on new-borns' motor skills and how these interact with their perceptions. In particular, they sought to understand the links between babies' first steps and how their walking skills developed later on.

As soon as they are born, a new-born is able to get around by crawling to their mother's breast, or toddle if they are held upright and their feet are placed on a solid surface. This primitive form of walking is widely considered to be mere reflex, which disappears around two to three months of age.

Yet this has been revealed not to be the case: many studies have demonstrated that there is a link between how babies walk as new-borns, and how they walk later on. With this in mind, it emerged as essential to study the characteristics of this primitive form of walking, as well as links to environment and the importance of early training in children at risk of delays to their locomotor skills.

To study these characteristics, Marianne Barbu-Roth's research team designed and developed a tool capable of analysing new-borns' movements. Throughout the process, the team was confronted with recurring issues, in particular babies' difficulties in propelling themselves forward as a result of the weight of their head (a third of their total body weight), and their inability to hold their head up due to gravity.

After two years in development, in 2016 the team had completed the first-generation version of their Crawliskate®. The device looks like a mini skateboard, and is designed to give babies the freedom to get around without feeling hindered by gravity, and allow them to move their legs and arms around. Light-reflective sensors attached to the joints of moving babies on the Crawliskate® allow researchers to record the quantity and quality of every slight movement the babies make.

Data was ultimately collected from around a hundred new-borns. The results allowed the team to analyse the very first skills new-borns develop to move themselves around by crawling, and demonstrated that they coordinate their arms and legs in a similar way to mature, fully-developed walking. These results confirm just how important it is for new-borns to practice walking in order to prevent locomotor delays. All the teams involved in the project (CNRS and Université de Paris) hope that their research will allow early motor and locomotor skills to be acquired by premature babies.

Erganeo is proud to have supported the teams in designing and developing this innovative device that helps premature babies learn to walk.

The full programme is available on the Netflix website, in Part One of Episode Three ("Crawling") of the "Babies" documentary series. The Crawliskate® is shown in the fourth to eighteenth minute of the episode.

About Erganeo – www.erganeo.com

Erganeo is an investment fund that specialises in breakthrough innovations (Deep Tech) with major societal impact. We invest early in the game to secure researchers' newest inventions before they are transferred to companies or before start-ups are founded, across a wide range of scientific fields: Biotech, Infotech (telecom, connected objects, big data, AI) and Enertech (new energy, chemistry, materials), among others.

Erganeo aims to accelerate and simplify links between research and industry for the benefit of society. To do so, we finance and accompany the new generation of French researchers and entrepreneurs on the road to international recognition and success.

As a member of the SATT Network, Erganeo draws on the Ile-de-France network in building the foundations of a better tomorrow, tapping into a talent pool of over 20,000 researchers across 350 cutting-edge, leading laboratories. Since it was founded, Erganeo has invested over €29m, thus contributing to the signing of 70 licensing agreements with companies of all sizes, and setting up 16 start-ups.

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