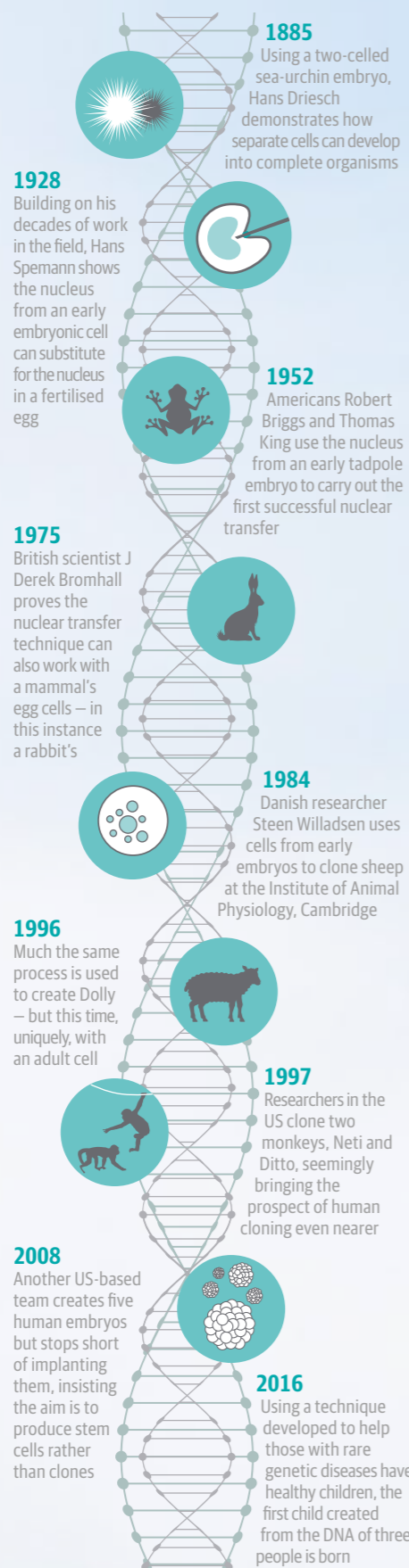


Looks familiar:  
a brief history of cloning



“Today, two decades on, neither the hopes nor the fears that greeted Dolly’s unveiling have been fully realised.”

In considering the first part of this assessment it is important to remember that Dolly embodied an advance most experts had thought impossible. The method used, known as somatic cell nuclear transfer, had been employed several times previously but never with an adult cell. Dolly therefore undoubtedly represented – to use one of academia’s most well-known tropes – a paradigm shift.

In due course Wilmut and his team coined the phrase “therapeutic cloning” to describe a process in which a cloned embryo is created purely for the production of stem cells, which are then harvested and used to help better understand and treat diseases. As is practically inevitable in any field of research, this approach has since been largely superseded. Now it is easier to make what are called induced pluripotent stem (iPS) cells by “reprogramming” adult skin cells – a method untainted by the need to destroy human embryos during the harvesting phase.

Although one recent appraisal of Dolly’s legacy dismissed therapeutic cloning as “passé”, the further march of progress in no way diminishes Wilmut’s achievement. Every scientist accepts his own contribution is likely to serve only as a stepping-stone to something superior. Shinya Yamanaka, who won a Nobel Prize for his research into iPS cells, has credited Dolly as his principal motivation. As Newton once said: “If I have seen further it is by standing on the shoulders of giants.”

Meanwhile, the cloning of humans remains the stuff of sci-fi. This is in no small part due to the enduring inefficiency of nuclear transfer and the consequent risk of abnormalities. Given that there were 277 would-be Dollys and only one survived, the mere thought of trying to apply such unreliable techniques to humans is at best inadvisable and at worst unconscionable.

Several claims of success have surfaced, but all have conspicuously lacked credibility.

US-based “reproductive specialist” Panayiotis Zavos has provided no meaningful evidence to support his repeated boasts of cloning human embryos and transferring them to wombs. South Korean biotechnologist Woo-Suk Hwang, formerly a professor at Seoul University, was found to have fabricated numerous supposedly groundbreaking experiments and now, having earned a suspended two-year jail sentence for embezzlement, oversees a company that clones pet dogs at \$100,000 a time. The Raëlians, a quasi-religious movement founded on the belief that extraterrestrials were responsible for life on Earth, say that in 2002 they cloned a baby girl, Eve, from a 31-year-old American woman. She has yet to come forward to seize her place in history.

Wilmut, now an emeritus professor, never envisaged Dolly as a milestone on the road to human cloning, once rejecting the concept as “repugnant”. As the controversy surrounding their work intensified, he and his colleagues determinedly nudged the narrative away from the nightmarish realms of Mary Shelley and HG Wells and back towards what had always been their intention: improving animal welfare and human health. Now, as well as arguing for both a modern-day “ark” containing tissues from endangered species and a “library” of cells compatible with as many human immune systems as possible, he pleads not just for caution but for patience.

Interviewed in 2008, the year he received a knighthood for services to science, Wilmut was asked how the Dolly story had shaped his thinking. “Well,” he said, “I guess maybe it made the world seem a bit greyer. You would think there are merely positive benefits to come from something new like this, but you also see there are problems as well. And so there’s a sort of grey area in the middle, where things aren’t as rosy and as satisfactory as you might like.”

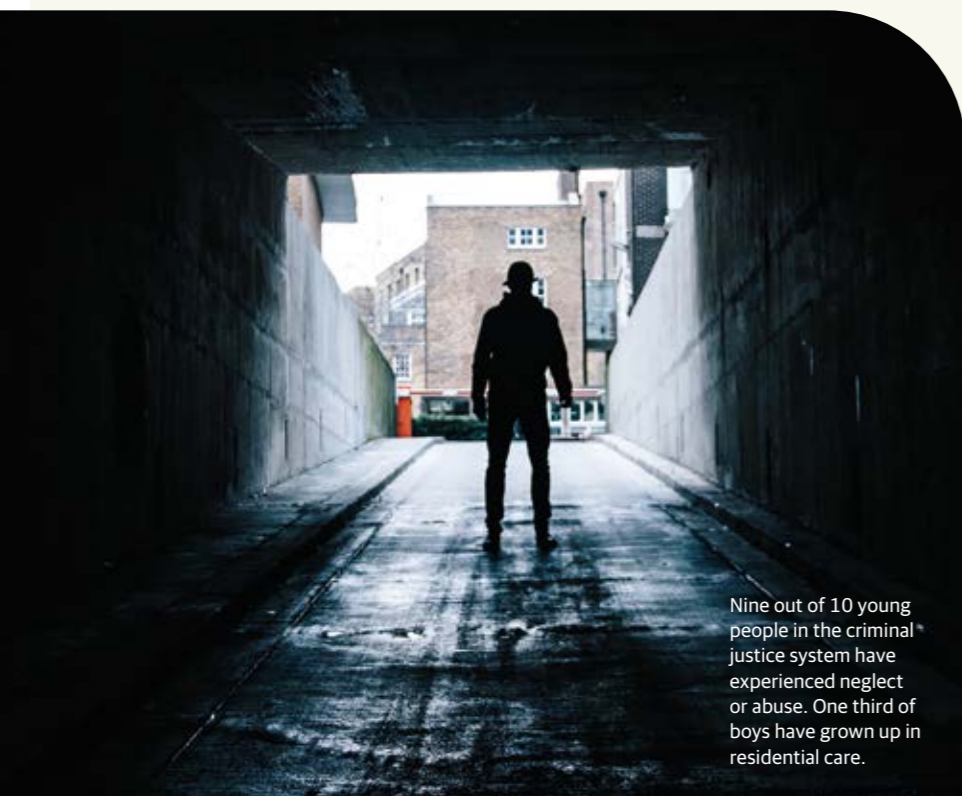
In this reply, with its combination of undue modesty and near-regret, we perhaps find the dilemma at the heart of so many great scientific breakthroughs. Einstein expressed a similar sentiment when, reflecting on his role in the development of the atomic bomb, he lamented: “The unleashed power of the atom has changed everything save our modes of thinking, and we thus drift toward unparalleled catastrophe.” Even when it comes to the most famous sheep in the world, nothing is ever truly black and white.

# Unlocking inner heroes

You pace your cell. In just a few hours you’ll be released. You want to make a fresh start. Being locked up isn’t fun and the look on your sister’s face when you were convicted still fills you with shame. But it will take guts. Where will you stay? What will you live on? You’ve stopped smoking weed, but can you stay stopped on the outside?

Spark Inside coaches are all professionally qualified and experienced.

Image: Spark Inside



Nine out of 10 young people in the criminal justice system have experienced neglect or abuse. One third of boys have grown up in residential care.

Libby Barrett, Investment Manager, Rathbones

Prison is frightening, but a third of young men who are sent there have been in residential care and know how tough life can be – 90% have experienced neglect or abuse, 32% have a learning disability and 37% arrive with a drug problem. While prison is frightening, the outside world is worse. With nowhere to stay when they leave and no imminent prospect of work, many find it hard not to slip back to their old life – the estate, gangs, drugs and crime.

If rehabilitation is a goal of an enlightened penal system, prison doesn't work: 97% of prisoners say they want to leave crime behind, yet 45% will reoffend within a year (67% for 15 to 18 year-olds), rising to 75% after two years. The easy response is to write off young offenders, say they've brought it on themselves and look away. But that's a huge waste of young lives and, beside that, it doesn't work. The people you want to ignore will be the ones who steal your son's mobile phone, break into your house and ultimately soak up millions of pounds in criminal justice system resources.

“The reoffending rate for those who have been on the course is 10% – the national average is 45% in one year and 75% after two.”

Spark Inside believes that a different approach will produce starkly different outcomes. Founded in 2012 by its CEO, Baillie Aaron (a young Harvard and Cambridge graduate), this ambitious charity is pioneering the use of professional coaching in prisons to reduce reoffending and show young people how to turn their life around. A core principle of life coaching is that people must be empowered to help themselves. Advice and instruction have limited effect; according to the charity, “sustainable transformation can only ever come from within.”

This may sound very ‘touchy feely’, but Spark Inside’s *The Hero’s Journey* programme is incredibly powerful. A small group of Rathbones staff, including a senior investment director, participated in a workshop and most found the experience very moving. The programme was devised by Lola Fayemi, who joined Spark Inside as director of coaching in 2013.

Based on Joseph Campbell’s well-known model, which underpins many folk tales and films including Star Wars, it challenges participants to look at their life so far and in the future, and ask:

- how do I want my future self to be?
- what is needed to get there?

Participants initially attend three workshops in prison where they work in a group with their peers. The hero’s journey is brought to life with contemporary cultural references to help the participants relate to the challenges they will face and be inspired – in our session, we discussed how 50 Cent, the hugely-successful rapper, escaped his apparent fate of dying young as a drug dealer in New York.

Through the programme, participants learn how to identify and challenge their limiting beliefs and negative self-talk. They develop greater resilience and self-awareness, build a more positive self-identity and identify challenging, but achievable, future goals.

Crucially, Spark Inside has identified that ‘through the gates’ support is most effective. As well as the group workshops, participants are offered up to six one-hour follow-up sessions, leading up to and following their release. The post-release support is crucial: without it, it can seem almost impossible to make the necessary changes.

As with all coaching, the quality of the experience comes as much from the skill of the coach as from the programme. Spark Inside has a small team of experienced professional life coaches, such as Naina Oliver, who brilliantly facilitated the Rathbones session – in just 90 minutes, she encouraged my colleagues and me to face up to some challenging issues. Coaches are engaged on a session-by-session basis. Most also work as corporate life coaches, which subsidises their more vocational work for the charity.

The cost of the programme, including three group workshops plus the follow-up one-to-one coaching is £12,000 for six offenders. At just £2,000 per participant for the full journey, it is incredibly cost effective. However, such work is about results and *The Hero’s Journey* has so far achieved incredible results. The most recent external evaluation

showed a reoffending rate of just 10% – as I’ve already said, the national average is 45%.

Trevor, a beneficiary of *The Hero’s Journey* programme, explains how he benefited: “Spark Inside helps you get an understanding of the problems you face, why you keep facing them, and why you can’t break the cycle of offending. The one-to-one coaching is a conversation with you, about you, and how to help you. Nowhere else in prison are there people there for you, to talk about you, and help you understand yourself better.”

Even those who believe that prison should be about punishment rather than rehabilitation must accept that reducing reoffending is good for selfish reasons alone as the costs to society of low- to medium-level crime are huge. The government certainly agrees. In February, the Home Office announced that the rehabilitation of prisoners would become an objective of prison for the first time ever.

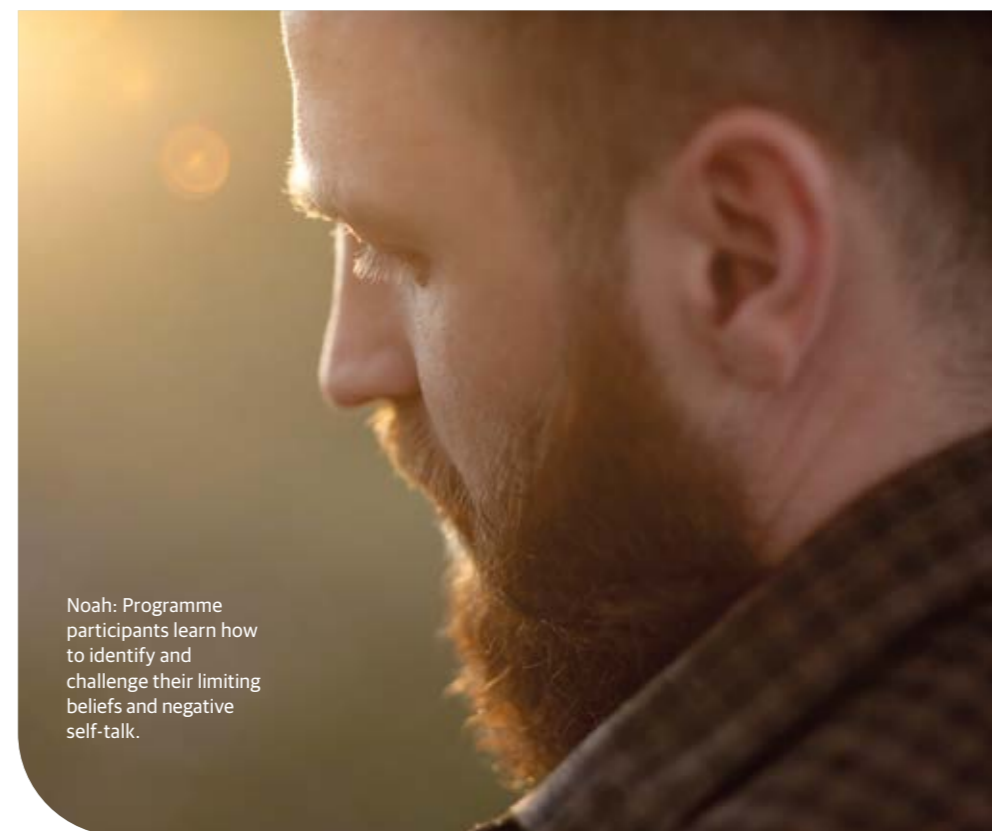
Spark Inside is still operating on a small scale – established in just nine prisons and young offender institutions in the South East, as of February it had delivered 81 *The Hero’s Journey* courses to over 250 young people. It wants to reach far more, depending on resources and the support of prison governors, who these days have much greater autonomy in how to achieve reoffending targets. The charity has also developed a systems coaching methodology to reduce tension in prisons between offenders and warders. Again, early data suggests this can be extremely effective.

As with all prison charities, however, the biggest challenge is funding – the rehabilitation of prisoners is hardly glamorous. Spark Inside only gets about a third of its funding from government commissioning, relying mainly on grants and trusts, and major philanthropists. The Rathbone Brothers Foundation was pleased to support the charity as it met our demanding criteria. We hope it continues to grow and gives more young people the tools and self-belief to change their lives.

**SPARK  
INSIDE**

Learn more about this remarkable charity and its work by visiting [sparkinside.org](http://sparkinside.org)

Images: Spark Inside, Russian Shugushev/Alamy



Noah: Programme participants learn how to identify and challenge their limiting beliefs and negative self-talk.

## Noah's story

When I went to jail for the fourth time, I thought either I would spend the rest of my life in jail or I would end up dead. I had mixed with the wrong crowd all my life and graduated from petty theft of mobile phones and selling cannabis when I was 13 to robbery and grievous bodily harm a few years later. I first went into prison when I was 16 and was in and out of the system for the next six years.

I was on a road of destruction and felt I didn't really have anything to live for because I didn't think much more was possible for my life.

But then I worked with Spark Inside. Before the workshop I didn't feel like I could talk to other people, I kept my feelings bottled up. But the workshop helped me realise that I could talk to people and they would listen and they would understand. It helped me to understand other people better too.

It also helped me to see I was living for today and I wasn't living for tomorrow. I wasn't thinking about the future. So I started to think about what I wanted to do with my life because I knew I didn't want to keep coming

back to jail. I reconnected with the fact there was so much more to life; that there is always a solution to any problem; and that the impossible is possible.

I had lost belief in myself but the whole programme – the workshop and one-to-one coaching – restored the belief that I can do anything I want if I put my mind to it. It also opened my eyes to all the other possibilities and avenues that I could take to achieve what I wanted in life.

The coaches saw the spark in me that I hadn't seen in myself for a long time, and it gave me hope that it wasn't too late to change things.

When you feel like no one is listening to you and no one cares you start to resent the world, but the Spark Inside coaches made me feel heard and understood and helped me see the world in a different light.

I would love to see this course delivered to every person in prison, to anyone who has lost hope or direction so they can regain their focus and their belief in themselves.