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Follow Your Own Path

'If you understand how the universe operates,
you control it, in a way!'

STEPHEN HAWKING, *MY BRIEF HISTORY:*
A MEMOIR, 2013

From an early age there were clear indications that Stephen Hawking had a natural inclination towards the sciences, though no one could have predicted that he would become the single most famous scientist on the planet. He was born on 8 January 1942 in Oxford, England, to where his parents, Frank and Isobel, had moved in the hope of escaping the German bombs then falling on London. His mother and father also had established ties with Oxford, both having studied at its famous university – Frank graduating in medicine and Isobel in philosophy, politics and economics.

Frank was a specialist in tropical diseases and had met his future wife while she was employed as a medical secretary in London. He spent some time in the pre-war period based in East Africa, but returned to Britain around the outbreak of the Second World War. The authorities considered he would make a more significant contribution to the war effort by continuing his medical practice rather than by entering the armed forces.

It has often been noted that Stephen was born on the day of the three-hundredth anniversary of the death of the brilliant Italian astronomer, Galileo Galilei. To some, this

is a most portentous coincidence, although Hawking has dismissed its significance out of hand, pointing out that some 200,000 other babies were also born that day, the vast majority of whom lived their lives utterly unaffected by their ‘connection’ to Galileo.

Towards the end of the war, the family returned to the leafy North London suburb of Highgate, where they enjoyed a comfortable – although far from lavish – lifestyle. Their numbers were expanded by the arrival of a sister for Stephen, Mary, in 1943, followed by Philippa in 1947 and then an adopted brother, Edward, in 1954. By that time the Hawkings had relocated to St Albans, a historic town some twenty miles north of central London. Given their closeness in age, Stephen and his two sisters played together, but also harboured a certain competitiveness. In fact, Stephen has described Mary as a brighter child than he was. For instance, while she had mastered reading by aged four, he only learned when he was eight. He put his relatively late development in this area partly down to his parents’ choice of school for him, the progressive Byron House School, which eschewed traditional methods of learning.

If he was not exactly bookish from the outset, he was nonetheless always interested in how things worked. He had a near obsession with model railways, for instance, and plundered his modest child’s life savings to buy an electric set (which performed, sad to relate, underwhelmingly). As he entered his teens, he displayed a similar love for model boats and aeroplanes, devoting a large part of his leisure time towards creating working models. Another of his

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hobbies was to invent board games, many of which were extraordinarily complicated. A war game, for example, required a board containing several thousand squares. In such ways, Hawking was creating mini universes that he was able to fully know and bring under his control. In other words, he was practising on a small scale for what would become his life's work.

The Hawking family provided an environment that celebrated thinking differently. Both parents were intellectuals who embraced a certain bohemianism. While that might not have seemed much out of place in 1950s Hampstead, it certainly was in suburban St Albans. The family, for instance, enjoyed holidays in a gypsy caravan, which they kept on land near the coastal resort of Weymouth – at least, until the county council forced them to move it after several years. They also spent a year touring Europe and Asia in an old London black cab. On another occasion, Isobel (whose own free thinking had earlier seen her become a member of the Young Communist League) took the children to visit an old school friend in Spain who was married to the poet Robert Graves. Stephen subsequently shared a tutor with Graves's son for the summer.

In 1951, Hawking was an eager visitor to the Festival of Britain, a celebration of the modern world that the British government hoped might raise the nation out of its post-war doldrums. For the young model-mad lad from St Albans, it was nothing less than a revelation, turning him on to new forms of architecture, as well as the latest scientific and technological trends and developments.

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Over time, he established himself as a pivotal member in a circle of school friends who shared a passion for science. Tellingly, Hawking was nicknamed 'Einstein'. The group would discuss questions that ranged from how to build a radio-controlled aeroplane to how the universe began and whether there is a god or not. They might not have been the coolest kids in school – Stephen, skinny, unsporty and burdened with a lisp, was the very model of youthful nerdishness – but they were among the sharpest.

By the time it came to thinking about what he might wish to study at university, Hawking was adamant that his heart lay with physics and astronomy, subjects he believed would help him 'fathom the depths of the universe'. This, though, was something of a disappointment to his father, who had hoped that Stephen would follow in his medical footsteps. Yet the Hawkings had gone out of their way to promote independent thought, so he could hardly have been surprised when Stephen insisted on applying for natural sciences. Stephen's compromise came in his choice of institution – his father's alma mater, University College, Oxford. So it was that Frank Hawking set his son on the path to scientific greatness, and Stephen asserted his will with the conviction that has characterized his life. Frank need not have worried anyway, since Mary would become a doctor and kept that particular family tradition alive.

Don't Let Misfortune Define You

'I think people in the disabled community would say he's the biggest celebrity going. And he's shown that having a disability is no obstacle to achieving great things.'

DR TOM SHAKESPEARE, DISABILITY RIGHTS
CAMPAIGNER, 2015

Hawking was twenty years old with the scientific cosmos at his feet when the first signs of serious illness began to manifest themselves. He grew clumsy and struggled to tie up his shoelaces. Friends at his twenty-first birthday party recall how he was unable to pour drinks for them properly. After a tumble down some stairs, he visited a doctor, who told him to ease his alcoholic consumption, but his mother thought there was more to it and instigated further testing. Eventually he was diagnosed with amyotrophic lateral sclerosis – a degenerative wasting disease. The prognosis was about as grim as it could be: he could expect to be dead before his mid-twenties.

Hawking was, naturally, left reeling and entered a dark psychological period as he was forced to confront his own mortality. Although he has denied later reports that he began to drink heavily, he found solace in the music of Wagner and became what he has described as 'somewhat of a tragic figure'. Yet he emerged from it more focused and more determined than ever to make his mark on the world. Any indignation he might have felt at being struck by such an unforgiving condition was set aside in pursuit of achievement. And when his demons did appear, he

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thought back to a boy who had occupied a hospital bed opposite him before succumbing to leukaemia. If he was feeling self-pity, Hawking would tell himself that there is always someone else worse off.

Pre-diagnosis, Hawking's studies had been drifting somewhat. Now he embarked on his research with renewed vigour. He had a 'road to Damascus' moment, realizing that there were lots of worthwhile things he could do if he were reprieved and that if he was going to die anyway, he 'might as well do some good'.

'Stephen once tried to convince me his illness was an advantage because it helped him to concentrate on the important things.'

NATHAN MYHRVOLD, FORMER COLLEAGUE
OF HAWKING'S

To his surprise, Hawking found that in many respects he was enjoying post-diagnosis life more than the pre-diagnosis version. This was in no small part down to the arrival in his life of Jane Wilde, the woman who would become his wife. Buoyed by her support, he also began to make serious headway in his scientific investigations.

Alas, the symptoms of his ALS became more acute as the years went by. On a trip to the USA in the mid-1960s, his speech rapidly deteriorated so that only those who knew him well could decipher his slur. By the late 1960s he was confined to a wheelchair, with Jane having to assist him with day-to-day functions. By the

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1970s the couple needed additional live-in help and in the 1980s he almost died while on a trip to Switzerland. Suffering from a blocked windpipe and pneumonia, he was given a tracheotomy (in which a breathing device is implanted into a hole cut in the neck) that removed the last remnants of his natural voice. There have been several other close calls with death, too, including a sharp deterioration in his health in 2009. However, time and again he has confounded the doctors by bouncing back from the brink.

Through it all, Hawking's star has risen and risen. From promising postgrad student at Cambridge, he has become a world-renowned theoretician, a bona fide superstar of the science firmament, a global celebrity and an icon of the age. It is, by any standards, an extraordinary achievement, regardless of the additional challenges of his physical incapacitation. But when questioned as to how he has coped with his disability, he has historically been quick to emphasise the upsides of his life. His quality of life is good despite his affliction, he has said, and he has done most of what he wished to do. Certainly, it is difficult to imagine how he could have achieved much more even if his health had been impeccable. His one regret, he concedes, is a deeply personal one – that he has not been able to play with his children and grandchildren as he would have wished to.

In a 2011 interview with Claudia Dreifus for *The New York Times*, Hawking laid out his manifesto for those suffering from serious physical impairment: 'My advice to other disabled people would be, concentrate on doing