

## Knowing Grandad

A few years ago, after my wedding, several of our friends who had met Grandad there for the first time described Grandad to me as 'a legend'. In just a few hours, he had managed to make a big impression on an even bigger number of our guests.

Of course, Grandad was incredibly sociable, but he also had a special ability to find common ground with anyone, which endeared him to whoever he talked to.

It certainly helped, that Grandad had such an enquiring and well-informed mind and was equally at home discussing a mind-blowing range of subjects, including politics, science, philosophy, religion, languages, literature, history, and foreign travel.

My mum pointed out that some of Grandad's many interests tended to come in phases, with the latest crazes variously including Buddhism, China, and children's books such as Asterix and Paddington Bear. Paddington Bear was particularly popular, perhaps down to a shared refugee experience, or more likely due to a mutual love of marmalade.

My brother John, who is disappointed to be unable to be here today as he is currently working in West Africa, has pointed out Grandad's interest in the people important to him and has remarked on Grandad's positive attitude when evaluating both people and ideas. It seems quite amazing that, in spite of the significant evil he personally witnessed during the Second World War, he managed to remain so objective, reflective, and forgiving. The same qualities were mirrored in Grandad's personal relationships, where he was supportive, loyal, and always saw the best in people, especially his family.

Despite his broad knowledge and interests, Grandad's education and career was in science and engineering. Although science changed unrecognisably during his long life, he was always keen to discuss the latest scientific progress with me, and was never fazed by new developments. In fact, he may well have been the only 97 year old to communicate with family and friends primarily by text message!

I remember how, about 10 years ago, when doing some university research as a lowly undergraduate student, I smuggled both my grandparents in to the lab on a weekend to show them what I was working on. What I remember most, is how visibly excited Grandad was to see all the modern scientific equipment and to learn about what I was doing with it. In fact, he was so keen to make sure he had seen and fully understood absolutely everything before leaving, I was terrified we were going to be discovered by my supervisor.

To me, Grandad's death feels strange and disconcerting. As a scientist, I struggle to understand, how can his tremendous vitality, his energy, his exuberance, be simply extinguished, like a candle?

Like any academic, in search of answers I turned to the scientific literature.

The biology textbooks talk about the necessity of death for life. Without death, none of us would ever have evolved to be born.

The physics textbooks, on the other hand, talk about things like conservation of energy and the laws of thermodynamics. They explain that no energy is ever created or destroyed in the universe. They tell us that all of Grandad's vitality and energy - every bit of heat, every vibration from his words, every photon of light that ever bounced off his face – they all remain with us here in this world.

So, I guess, according to the law of conservation of energy, Grandad is not gone – he's just...just less *orderly*.

Albert Einstein once said, "Our death is not an end if we can live on in our children and the younger generation. For they are us, our bodies are only wilted leaves on the tree of life".

So let us celebrate Grandad's life and continue his legacy. Thank you, Grandad, for your love, support, encouragement and inspiration. It's been a privilege to know you, and I'll miss you enormously.