



Granville Stewart Galt

**Born 10 February, 1921, near Edinburgh
Died 16 December, 2013, in Linton, Cambridgeshire**

Granville Stewart Galt was born near Edinburgh on 10th February 1921, a member of a small clan with its origins in the Isle of Skye. His forebears include the writer John Galt and the first Governor General of Canada, Sir Alexander Tilloch Galt.

His grandfather owned goldmines in South Africa but as a 12 year old child his father had been put on a ship bound for the UK with his younger sister to escape the Boer War. GSG's father worked with William Weir in the construction of the National Grid. Unlike his father, GSG was not sent to Fettes, as his Father wanted to see something of his first-born son; a prophetic decision, as John Alexander Galt was to die on the eve of his 40th birthday, while GSG was at war. GSG's peripatetic education makes his achievements all the more remarkable as at times he would find himself in a highland schoolroom with only 6 other pupils of assorted ages and abilities. An early fascination with science was fuelled by the gift of a chemistry set but his constant experimentation led to his exasperated grandmother pouring its components down the sink, ignoring the seven-year old's attempts to intervene. A loud boom followed, as the contents blew up the drain: a passion for pyrotechnics was born.

On leaving school my father was offered a research post, testing and developing the glue for the de Havilland Mosquito aircraft. Seeing it as an opportunity not to be missed, he decided to postpone University for a while and set about testing small pieces of resin-bonded walnut. He worked on the development of acrylic paints and was delegated the task of producing the first white acrylic paint. Exploring the usefulness and versatility of composite materials became a driving force in his life.

By now it was clear that a global war was brewing. GSG's research activity exempted him from military service but his own very strong sense of ethics made it impossible for him to contemplate "walking along civvie street while others fought". Already a TA from his school days, he signed up. As a TA he was dispatched to guard Gatwick Airport and was there when the Messerschmitts attacked.

He was enlisted to the Royal Army Service Corps as a non-commissioned officer, being commissioned in the field, 18 months later. Shortly afterwards, he found himself in a ship sailing to North Africa. Here he found himself carrying the 1st Battalion of the Coldstream Guards as part of the 6th Armoured Division. He participated in the assault landings in Algeria and Morocco. Subsequently, making their way along the coast, they soon found themselves under shell fire from a fort in French Tunisia and in a somewhat uncomfortable position, when a thunderous explosion indicated the presence of the RN, blowing off the top of the fort.

After Tunis he was involved in the protracted Battle for the Kasserine Pass, and a prolonged period of desert fighting, commemorated by a black tie with a white mailed fist. His memory of the desert was of the discomfort of sand storms and of the wily Bedouin character. After some weeks of providing a reliable supply of eggs, a nomad trader claimed that his hens were off lay. Noticing the bulging hood of the man's clothing he slapped him heartily on the back. "No worries, my man" he said, and had at least the satisfaction of knowing that the Germans would not be enjoying fried eggs for breakfast, any more than his own men. After Tunisia the 6th Armoured division participated in the Italian campaign as part of the 8th Army and ended the war in Austria under the command of V corps.

In Italy GSG saw greater cruelty than at any other time in his life. I could not understand why he failed to see the beauty of almond blossom, until he told me that he associated it with body parts hanging in the fragile, scented trees. He was at Monte Cassino when the Americans bombed it and on 20th March 1942 was mentioned in despatches, for an act of bravery. At the time he was in charge of the men manning the smoke pits, veiling the communications and bridges lower down. Seeing that the smoke was first eddying in the wrong direction and then stopping entirely; he walked and crawled along the railway line, below where the Germans were dug in, directly under fire, to order his men to "start the f...ing smoke". More than a lifetime later I asked if he were not terrified? "Not terror; apprehensive perhaps...I couldn't believe that they weren't firing. I think they were curious as to where I was going".

The division then advanced North and my Father remembers the high Apennine mountains for its extreme

cold. The men were exhausted and on one occasion my Father's batman, a doughty Yorkshire man named Warrilow fell asleep at the wheel of their jeep, which left the track and was only prevented from falling to the bottom of the gorge, by a happily placed tree stump.

Re-attached to the 8th Army, they moved northwards and through the swamplands inhabited by poisonous water snakes and on towards Venice.

On route to Venice they came under attack from Nebelwerfers, and he found himself encircled by a cluster of 6 large shells, all of which failed to detonate. He had himself photographed in their midst to commemorate his luck.

GSG was on the first tank to enter Venice. He arrived in battledress and at night, and in full mess kit dined in the Doge's Palace. For the next three weeks he stayed in what I believe was the Danieli Hotel. On his arrival at the Danieli he was greeted by his batman, who had been invalided from the front line: "Good evening, Sir, I've put you in the honeymoon suite." As GSG stepped out on the balcony to admire the view, a four-inch cannon shell whizzed below him, removing a portion of the hotel's facade.

From Venice they moved on towards Austria via Rome and Florence. At some point my Father visited Belsen and very much wishes that he hadn't.

In Austria he took up riding, borrowing a stallion liberated from the Spanish Riding School. This animal liked to rub itself vigorously up against trees. GSG's control of these animals was somewhat unreliable, for when on another occasion he took the lead horse from a gun carriage out for a hack, all was fine, until he turned the animal round, and, making for home, the horse bolted, clearing an elderly peasant engaged in digging up some potatoes for her tea.

In keeping with the habits of war he liberated some fine vintage champagne, later to be drunk at his wedding.

At some point my Father was ordered to accompany a convoy of POWs to be returned to Yugoslavia. Alerted to their likely fate, when a university professor he had made friends with committed suicide, GSG sent a runner down the line of cattle trucks ordering that the doors be opened and the prisoners advised to take their chance in the wooded hills. This must have been in contradiction of military orders and my admiration for his integrity is huge. He saw three girls, who had been in the first truck, being pursued by Tito's men. He ordered his men to throw ropes and drag the women back across the wide fast-moving river. Always an emotionally intelligent man GSG wept as he remembered the incident and the fate of one of the girls, who was left behind.

GSG's life has always been informed by his humanity. On one occasion he found an artist, Ivor Brown, sketching a sunset, his rifle leaning against a fence. He ordered Brown to dig his slit-trenches for the rest of the campaign. Brown went on to do portraits of various generals, and I have a fine charcoal drawing of my father, drawn as they sat in a trench.

At the end of the war my Father was deployed to Greece and given the task of overseeing the distribution of food to the starving Greeks. Supplies arrived through the port of Piraeus. On one occasion, he was surprised to find piles of fruit and bouquets of flowers blocking the doorway to his office in Patras: a present from the Mafia, one of whose number at dusk sidled up to him in the street. He made his disdain plain, by having the man arrested.

GSG enjoyed the freedom of Greece. His headquarters were a difficult four and a half hour journey from Piraeus, so he found himself largely left alone to do his work in peace. He loved Greece and was asked to stay on in command, as a professional soldier. But my mother didn't think that life in Greece was for her, so he sailed home to England and married my mother on his return.

Following the completion of his postponed university education GSG started a manufacturing business, in partnership with the Dawkin brothers, and Cyril Langworthy, who owned an outfit manufacturing Durasteel fire resistant doors. This was on the site of the Perkins factory where Sir William Henry Perkin had produced the first aniline dye, while attempting to make artificial quinine and accidentally inventing mauveine, later to

be called mauve. Here, my Father explored the possibilities of composite materials and developed new ways of moulding fibreglass.

Much of his bread and butter work came from producing fibreglass domes for architectural use. One of the first of these had been an early cover for the practise courts at Wimbledon; and one of the last was the dome for New Hall.

Of greater interest was his development and manufacture of the first complete composite car body in the world, which was dropped onto a Buckler chassis. The use of moulded bodies allowed for a greater emphasis on the aerodynamic aspects of the car's design. The lighter weight would make for far greater efficiency and in the event of a crash the composite material would absorb a significant amount of shock.

In the late 50s GSG designed and manufactured one of the earliest flight data recorder housings, in reality an orange composite egg. As well as being fireproof, the housings needed to prove capable of surviving the 1000 g-force impact of a weighted steel spike. In tests the steel spike became red-hot and buckled, while the composite housing remained intact. The BBC made short films of this, and of the Buckler car, inviting my father to drive the car into a tree!

He designed and manufactured series of bomb suits and other protective and defensive items under the aegis of Applique Armour Systems, with material woven to his specifications by Fothergil and Harvey. He made stab- and bullet-proof vests for the police. For the army he invented a helmet with a double visor and one with a wireless set into it. It seems a commonplace nowadays; but then, bomb disposal teams had only hand-held walkie-talkies. He developed a system for the remote disposal of bombs with the bomb being dropped remotely into a pre-dug pit and the personnel being protected by a large armoured plate. His bomb suits were used internationally and he remains an honorary member of the Miami bomb squad to this day.

GSG's wartime experience left him with a determination to better protect tanks. Never again did he want to see men immolated, or to hear their screams. A problem that had not been satisfactorily resolved at the time was the containment of the impact of hollow-charge missiles. He offered his services to MVEE/FVRDE. He was then living in Berkshire and Chertsey was close by. Dr Gilbert Harvey provided him with a RR-trained engineer Peter Downey, to give him any assistance he needed. He conducted his trials of the new armour using the army ranges in Kirkudbrightshire.

After eighteen months work, having analysed the results of 52 separate trials, the result was Chobham armour, which was fitted on Chieftain tanks and Warrior vehicles, and has also been used on ships. GSG overcame the problems the MOD were unable to resolve and having developed a new moulding process he was able to manufacture the armour for use on tanks.

The development of the new armour was entirely due to his persistence and to his counter-intuitive mind. However, MVEE/FVRDE and the Thatcher government were to take the full credit and kudos for themselves. Mrs Thatcher was pictured driving a Chieftain tank, a latter-day Boudicca, with white headscarf caught by the wind. This, my father, a modest and self-deprecating pragmatist, was ready to accept. He felt he had accomplished his mission and was happy to be paid for the manufacture of the material. What was and remains unacceptable was that Mrs Thatcher, at the time bent on insinuating herself with President Reagan, dispatched Major-General Donald Isles with the armour as a gift to Washington. Isles alerted my father to this. It was subsequently fitted onto all Abraham tanks, depriving my father of the entire US market. It was a deplorable betrayal of both confidence and of trust. As his daughter I find it outrageous that a man who worked tirelessly for his country, has received no recognition whatsoever but instead was shafted by the representatives of those he sought to serve. It was a great wrong and one that should be put right.

GSG then turned his attention to RIBs. He had a passion for the sea: for diving, for fishing and for boats. A series of small balsa models were always to be found atop the loo. He felt that the design of RIBs could be improved. He wanted to manufacture affordable leisure boats, but more importantly ones that could assist the RNLI.

By this time my father had re-located his factory to Cowes on the Isle of Wight, and he was friends with Commander David Stogdon RNLI. They would each assist the other by providing a rescue team during

trials. Trials were conducted in the Solent as the tide went out, producing vicious 15 foot waves and challenging conditions. GSG's innovation was to drill three holes in the hull, allowing it to fill with water which acted as ballast whenever the vessel was stationary and which would then expel itself once the boat was up on the plane. This made the RIB far more stable in choppy conditions. The deeper V of the hull, together with its unique flooding hull design caused it to sit far lower in the water making it far more stable for rescue and other use. These RIBs were manufactured in a variety of sizes from 4.5 to 8.4 metres and were used by the armed forces and for rescue and for commercial purposes throughout the world. The Royal Yacht Britannia sported one, as did Greenpeace's vessels. On one occasion my father was telephoned by a naval friend: "We've just been outrun by a drug-runner in a RIB, and it looks like one of yours." It turned out that one of my Father's co-directors had got rather over-excited at prospect of a generous handful of cash, and had failed in his due diligence. The simple but counter-intuitive nature of the Sea-rider/Surfer Commando was typical of all he did.

He once asked me what colour a field was. Like any 5 year old, I replied, "Green". "Look again", he advised.

GSG determinedly lived his life to the full. He liked fine wine and food and owned holiday homes in France and the USA. Well into his 60s, he commuted to work on a Ducati motorbike and he held a pilot's licence for most of his life. His first licence was signed by the King. He was still gliding and flying motorised parachutes in his mid 70s. In his mid-80s he chose to outrun a hurricane rather than going into the local shelter. He owned and enjoyed fast cars, yachts, planes and motorbikes; and fished into advanced old age. He has been the most encouraging of fathers and was a devoted husband designing some stunning jewellery for my Mother and, ever the romantic, filling their house with gifts of flowers. Always exquisitely dressed with a vast collection of flamboyant Italian silk ties, handmade shoes and suits; he has asked to be buried in a kilt of the family tartan and wearing the tie of the 6th Armoured Division, emblazoned with the mailed-fist.

- Margaretha Galt - 24/12/2013