

## An Engineer's Story, as (mostly) dictated by Duncan

Mount Hope Machinery was founded in Taunton, Massachusetts, by J. D. Robertson, known as Douglas to his friends, Mr Robertson to his employees. Made redundant in his fifties, Mr Robertson tried to start up his own company at least a couple of times before striking gold with bent rolls for the textile and paper industry. A brother successfully traded in draperies on his own account so possibly he provided early contact with textile management. Nonetheless the Taunton factory was soon successful enough to warrant another plant at Charlotte, North Carolina. Entry to Europe began with a small factory near Dartford, Kent, England.

Housed in glorified sheds which leaked in the rain and froze in winter, the British plant grew busy enough by 1963 to employ a third engineer under the Scottish general manager, Jim Minto, himself an engineer, and his assistant, Robin Lever, a university graduate. Duncan Woolard was twenty-eight and had returned to England from eighteen months in the Caribbean with the American electrical contractors, Stone & Webster. Although trained as an aeronautical and mechanical engineer his ability had been quickly recognized and he had been put in charge of several aspects of a frequency conversion project in Jamaica in 1960.

With a wife and growing family the young man needed to find work quickly and was glad to accept a junior position at Mount Hope despite a fifty percent reduction in salary. It was not easy for him to find work because he was Registered Disabled, having an amputated left hand. Many employers were wary of his ability to carry out his duties as an engineer despite his five-year Indentured Aeronautical Engineering Apprenticeship and qualifications ONC and HNC, all achieved literally 'single-handed' and despite constant pain.

Like many disabled people, Duncan worked harder than most able-bodied to prove himself equal to any task, often going far beyond the call of duty. Such dedication proved an invaluable asset at Mount Hope, Dartford, where conditions were primitive. There were few employees in the workshop and Duncan had a thorough grounding in the assembly of bent rolls before going out on the road to discover the facts of their application.

The Mohomat roll from Taunton took two weeks to assemble and usually refused to work on site in the textile mill. Because of their size and shape, rolls had to be installed for final assembly in the customer's factory and were expected to work immediately. Priced at £5,300, the same as a Rolls Royce car, the Mount Hope roll was not cheap and customers took a dim view of having expensive cloth fouled up at £6 per yard.

Duncan persuaded management to set up tests at Dartford with different settings over three days. Described as 'a bastard to work', the Mohomat eventually 'worked like a dream' and straightened cloth very fast despite a tendency to 'leap all over the place'. By now Duncan was beginning to make an impact and was commissioned to find more workspace; this turned out to be a large wooden - but dry - hut which he later donated to the Boy Scouts.

Always ready to try new methods, Mr Robertson sent a single unit (SU) from America with an engineer who had no drawings. This 'expert' asked for a camper van to live in and promptly disappeared. The SU turned out to be 'a bloody abortion, a monstrosity' but was exhibited notwithstanding at the International Textile Machinery Association (ITMA) Hanover Fair. On another occasion Mr Robertson was told a machine didn't work 'because the wiring was too tight to allow electricity free flow' and despite his technical training the boss believed it.

Another new machine made its appearance, the WEFTRON. Duncan was asked to redraw and assemble it for the European market at an estimated cost of £4,200. Duncan produced it for £3,200 and rebates were made to prepaid customers. The WEFTRON was completed in three months: Duncan did all the drawings, both mechanical and electrical, the instruction books and training programmes. The drawings proved 100% accurate and the machine worked immediately. Cloth was straightened at 100 metres per minute, any type of woven cloth, even sheer material. The WEFTRON was 'a doddle' to set up - 'just offset meters and leave it running'. It would run indefinitely.

Everything on the WEFTRON was sourced in Britain except for the American transistors. The first WEFTRON was installed in a little woollen mill in the north. Most machines were custom-built in the workplace and experiments had to be carried out on site. The WEFTRON took only one week to assemble and was very easy and simple; end pieces were made by subcontractors to bolt on easily. Demand grew rapidly and the price gradually increased to £5,300. The biggest order went to Russia for 50; the biggest roll to Poland, about 180", one-off, the biggest in the world until the Swedes ordered a bigger one measuring 131/4" (400+").

Duncan was proving himself as an engineer and as a troubleshooter, travelling at first to the north of England to solve problems on installations in the textile mills. After the first two years he was promoted from Service Engineer to Product Engineer and was given a company car. The expanding family moved into a larger house. Leaving before dawn Duncan would drive north to beat the rush hour and return home in the early hours, always arriving at Dartford early for work the same day, a way of life not appreciated by his young wife who found three small children and a five-bedroomed house exhausting, especially without help.

The new home was half a Georgian manor house in need of extensive modernisation. Every spare moment was spent scraping off paint and paper and removing fittings. Duncan and Joan did the work, all but plumbing, themselves. Duncan proved himself more than adequate as carpenter, painter and decorator, insisting on doing all the finishing work himself, hanging wallpaper, painting windows, building kitchen units, tiling bathrooms and laying new floors - no mean feat with one right hand and a hook. To avoid attention, Duncan preferred to wear a false hand inside a knitted glove, but the hook was easier to work with.

Steadily becoming more and more of a workaholic, Duncan found the stresses of travel and work hard to balance with the demands of a growing family and

increasingly dissatisfied wife. Arriving fatigued from journeys at home and abroad the engineer looked forward to home cooking and home comforts. Tired of endless domestic chores within the same four walls, his wife hungered for variety and a change of scene. The resulting clash of needs and expectations paved the way for a stormy future with the threat of desertion or divorce rarely absent, a situation common to many young married couples with ambition.

Increasing pressures at work and the need to discuss exciting developments with colleagues in a relaxed, impartial atmosphere led to long sessions at the local Dartford pub often lasting well into the night. At that time, in the late Sixties and Seventies the fear of being caught drink-driving was not so great and somehow the young engineer would drive the thirteen or so miles home in a state of semi-consciousness, rising early the next morning to return to work and start all over again.

Meanwhile the design and improvement of textile and paper machinery carried on apace. Duncan's machines rarely broke down, even paper machinery running twenty-four hours a day three hundred and sixty-five days a year. They were difficult to repair if a breakdown occurred; anxious proprietors could not afford to stop print runs. Duncan modified tension controls on big callenders and winders, amending vibration controls and guides with floating roll guides. Bassetts Allsorts had one for liquorice; Sellophane also, and a cigarette factory one for paper with holes in it. Duncan was kept busy with off-set printers tension control and a viewmaster for print register. Dust in printing works was always a major factor and machines had to be proof against such hazards. A 20 puller type was followed by a puller-less which proved very successful.

Textile machines had to be waterproof because of mill conditions. Visits to textile factories were not good for leather shoes - workers wore clogs in Lancashire - the floors were always deep in water. Before the introduction of weft straightening machinery, clothing would lose shape when washed. The warp and weft were rarely at right angles, often producing uneven hems or unsightly stretching; hems would 'drop' after hanging for a while. Thus, the installation of weft-straighteners led to a marked improvement in the finished product. This was done by stretching material over bent or bowed rollers as part of a continuous process. The Germans were keen competitors in the field but customers preferred the WEFTRON and its prompt service conditions.

Customers also preferred the services of its English designer. This proved a doubtful honour which had to be curtailed of necessity and meant far more travelling for a man who disliked travel, hated meeting people and who felt ill before every flight. Having served an aeronautical apprenticeship Duncan knew too much about aeroplanes for comfort. Successfully hiding a deep insecurity and nervousness beneath youthful but impassive features, his fear of flying increased as time went on, eventually leading to a refusal to board a flight to Sweden and a consequent session with a psychiatrist. However the incentive to carry on regardless overcame such fears and his conscientious, almost neurotic, dedication to his work and a mortgage were fortified by free access to first class airport lounges as a frequent traveller and

the full use of bar facilities before and during flights..

Bar facilities were made full use of at 'The Ivy Leaf', Dartford, and after closing time there would be late-night excursions, sometimes to London's Churchill's Club, where Duncan would have to produce his credit card in the absence of collateral from senior members of the group. Sometimes wives would be invited at the last moment, a dubious treat as there was no warning and no time to fix clothes, hair or babysitters in advance. Such random perks were rarely refused as they offered a chance to spend an evening out together at company expense, albeit inevitably shared with other 'company men'. The conversation was usually technical and continued long into the small hours, especially when visitors were present. The company was expanding rapidly and salesmen often contributed to the discussions along with visiting Americans or members of the Swiss sales office; one of them, Tom Cooper, had been promoted from British sales in the North of England.

Tom was a very likeable character. A short, stocky Lancashireman with a wife and grown-up son, he had served in the Army before becoming a successful salesman. His absences from home grew longer and longer until he moved to Switzerland and developed a taste for hand-embroidered shirts and American automobiles. He also fell in love with an attractive widow who owned a lakeside hotel. There was a great deal of rivalry between Switzerland and the Dartford plant because of the financial advantages enjoyed by the Swiss sales office at the expense of the manufacturing unit. However Duncan and Tom always remained on good terms despite, or because of, candid expressions of opinion.

American design was generally criticised by the Dartford team who would chew over the problems with increasing candour as the evening wore on. 'Disasters' were discussed and the difficulties of installing 'weird and wonderful' transatlantic creations dealt with. The American gearbox was a major handicap which cost thousands of customer and company dollars to repair. Duncan redesigned the WEFTRON without a gearbox, using a brake motor instead of a stepping motor. Such modifications were kept quiet at first, instilling an almost conspiratorial sense of loyalty among the British team and inspiring a close camaraderie. But secrets could not be hidden from the Americans for long: the British upstart company was beginning to make more money than its US parent.

On a visit to Taunton Duncan was challenged by 'the old man' - the affectionate term used by the young man among friends at Dartford (also used by Duncan for his own father). Mr Robertson accused him, saying '*This is the tail wagging the dog*'. However Douglas Robertson trained at Massachusetts Institute of Technology, and he respected the young disabled British engineer who could produce superior machines at cheaper cost. They spoke the same language. Standing tall and upright, well over six feet, a fine looking man in his late seventies, the old man appreciated Duncan's opinions. But these conversations never enjoyed total relaxation due to Mr Robertson's aversion to alcohol and the Englishman's tight reserve without it.

It was said that the first Mrs Robertson had died of alcoholic poisoning and this had

left her widowed husband determinedly teetotal. No employee dared drink in his presence. Unlike most Americans the Robertsons lived in a brick-built mansion and were well-respected pillars of the church and Taunton society. The eldest son was sadly following in his mother's footsteps and was a source of heartbreak to his father whose dearest wish was that the boy should inherit the company. In later years Robertson junior spent periods in rehab units and sadly his own son was killed in a plane crash. Douglas Robertson piloted his own plane until he was almost eighty, flying between his American plants.

Finding his feet in the company, Duncan went from strength to strength, proud of the fact that he never asked for a pay rise but was rewarded regularly for his efforts with an increased salary and a new company car every couple of years. This helped defray the cost of family holidays which were always taken out of season and always in England or Scotland, but never more than two weeks a year. Far from greedy, Duncan enjoyed briefly escaping the frenetic environment he both loved and hated. The company guaranteed 24 hours service in Europe, 48 hours elsewhere. Trying to plan family events was usually hopeless. Like a general medical practitioner on call, there was no guarantee of being home for birthdays, dinner parties or other social occasions. Unlike most physicians, however, there was no partner to stand in, the university-trained engineer having left long since. Duncan was good value.

Away from telephones, booze and business he would spend the precious fortnight in the magnificent Scottish Highlands or on the soothing waters of the Norfolk Broads. The whole family looked forward to getting away from the strains of their extraordinary 'ordinary' life, out of reach of perplexed customers or harrassed colleagues, until one day they rounded a bend in a Norfolk river to see a large notice chalked on a board by the water's edge: *Will Duncan Woolard ring MHM asap*. It was the end of that holiday. Some minor crisis demanded his immediate return. The time was never made up. He was becoming indispensable.

Between 1963 when he joined the company and 1968 when he was appointed Design Engineer, Duncan travelled much of the world, visiting 36 countries. He liked some more than others: Sweden, Germany and America were clean and efficient. Africa was alarming. He found himself the only guest in a distant hotel annexe in Biafra. At breakfast he was told by a cheerful black waiter: *'We at war, Sir'*. It was the start of the Biafran genocide. There were no planes leaving the country and the roads were lined with tanks and troops. The engineer thought his last hour had come. Fortunately a flight was found and he escaped unhurt.

Flying was usually less of a relief. On several occasions there were problems with engines or turbulence. Once there was almost a catastrophe at Newfoundland when the plane landed unexpectedly heavily in *'a controlled crash'*. Every flight was a death sentence and the only antidote a stiff drink.

It was in Columbia that Duncan first appreciated the piquancy of gin and tonic, having formerly dismissed the cocktail as *'like drinking perfume'*. Not for the first time he was shocked by the halfpenny tips given to the hotel waiters and the vast inequities between rich and poor before drugs became the chief currency. It was

always hard to shake off his social conscience even when the scenery was spectacular. Flying low over the green mountains above Medellin was a mixture of thrills and delight. In Bogota he bought Joan an emerald ring, insisting she should have it valued on his return, wary of green 'Seven-Up' bottle glass used by the less circumspect Columbian jewellers. He always had a deep distrust of jewellery.

As Design Engineer for product development for the international market Duncan had to accept the hazards of a jetset lifestyle; it was both a boon and a curse, glamorous and boring. It was essential to see installations on site but there was rarely time for visiting the tourist spots. Service to the customer had top priority and work always came first. Whatever hour he arrived home, Duncan always returned to Dartford first thing in the morning to report on his trip and complete a full day's work, no time off in lieu. He was a dedicated '*company man*'.

What was the source of such dedication? Duncan was a product of wartime Britain when Victorian values of thrift, honesty and honour were still paramount. Born in Ilford, Essex on 16th March 1935, he was the son and grandson of engineers. His grandfather was said to have been Chief Engineer on the London Underground (but this could not be verified); his father, Henry James (Jimmy) Woolard, was Chief Engineer at Carrier Engineering, London. Jim Woolard was respected by all who knew him, not only for his engineering abilities but also for his kindness and warmth. He spoke ill of no-one and no-one spoke ill of him. Leaving school at 14, Jim worked as an errand boy in Bournemouth before becoming an office boy in the drawing office at Carrier in Buckingham Palace Road. Apart from a wartime transfer to Bolney, Jim spent the rest of his working life based with Carrier in the capital. His work on industrial chimneys, paint booths and airconditioning units became matters for corporate pride

An early talent for design revealed itself in his artistic illustrations at the Bournemouth shop where a freshly chalked slate advertised daily bargains. In his late seventies the grandfather touchingly remembered his boyish attempts to make the slate as attractive as possible, tracing with his hand the outline of a fish and describing its colour. The intense desire to do his best and his finely tuned sense of aesthetics made his engineering achievements all the more noteworthy. An eye for what was pleasing and harmonious combined with a determination to '*do it right*' were amply demonstrated in his spare time activities as architect, builder and gardener. Good design ran in the blood.

The long-held family belief in a connection with the renowned eighteenth century Wyatt architects should not be dismissed as mere wishful thinking, even though the link was tenuous and unproven. Jim's mother was a Wyatt and her parents' generation boasted at least two interesting characters: great uncle Augustus, 'Gus', and great-aunt Elizabeth. Little is known of either except that Augustus Wyatt left a worthy reputation and an engraved gold watch while Elizabeth climbed mountains and bought land in Canada (which was promised to her great-nephew but never materialised). A possible mesalliance in an earlier generation may have accounted for the total lack of pretension, illegitimacy being a heinous sin in Victorian times.

Unassuming and ready to learn, Jim was thankful of his opportunities at Carrier. Promotion followed steadily; like his younger son, Jim lacked selfish ambition, wanting only to do his best for the company and his fellow men. He spoke with deep nostalgia of his early days, when he was paid £1 a week: after a few short months he was called on one side and told his pay would be increased to '*thirty bob*', wiping away a tear and his voice almost breaking with emotion at the wonder of it. In the Thirties Depression he received a letter urging him to accept a 10% pay cut. Of course he agreed. His company loyalty was absolute, never discussing work at home. He firmly believed work and home should be kept in separate compartments.

As conditions improved Jim bought a car and kept a housemaid and a nanny for his two baby sons. He became a Mason and enjoyed social occasions with his wife, often making her evening dresses on a sewing machine with the same meticulous attention to detail that distinguished all his activities. In later life he relaxed at his local pub every weekday evening, enjoying the company of local working men; Saturday nights were for couples. Always smartly dressed and as handsome as he was modest, Jim commuted to the office by train, wearing the formal suit, bowler hat and rolled umbrella that distinguished the '*City gent*' of the period.

Completely devoid of guile, he avoided office politics, never worked late, never took work home and never talked about his work out of hours. Jim retired at 65 in his 50th year with the company, disappointed that Carrier had become part of the Haden group. His complete honesty and integrity and a reluctance to socialise within the company may have cost him a well-deserved directorship but he always remained the '*Sunny Jim*' of his childhood. He died in 1985, mourned by many.

Apart from his widow, Paddy, Jim's chief mourners were his two sons, Duncan and Brian. Their wartime primary education at Warren Road School, Chelsfield, was often interrupted by air-raids and carried out in an underground shelter. Duncan achieved the unique feat of getting all his sums right and being sent home five minutes early for the first time in the school's history. On a less auspicious occasion he was attacked by a German fighter plane which fired on the eight year old as he crossed a field alone. Living in *Bomb Alley* was hazardous and Duncan and Brian were evacuated to Llandudno, an unhappy and traumatic period.

Both boys attended Sevenoaks School in Kent as day boys, Duncan on a scholarship. This led to some teasing which was met with strongly worded repartee. Founded in 1418, Sevenoaks is the third oldest lay school in Britain. Gaunt and prison-like, its grey stones are forbidding, even with the modern addition of girls. In Duncan's day the headmaster, Higgs-Walker, thrashed any boy found speaking to a girl. Duncan was thrashed often and hard, usually for refusing to comply with school traditions such as running errands for the older boys. He was nearly expelled for swearing at the head boy on the Rugby pitch. His uncertain temper and refusal to kow-tow to authority no doubt sprang from the severe beatings inflicted on him by his mother as a small child.

Nicknamed '*Paddy*' for her violent temper, Duncan's mother was a strict five foot

authoritarian who ruled the house with a rod of iron, literally. Snatching up the poker, she would lash out at her younger son on the slightest pretext before shutting him in a bedroom cupboard. If a poker wasn't handy, Paddy used the high heel of her shoe. Brian would tell new acquaintances of his brother's treatment at the hands of his mother as if the shock never left him. At his parents' fiftieth wedding anniversary he narrated the story of Paddy's discovery that her new kitchen lino had been pitted with burns in her absence. Duncan had carried lighted tapers across the floor. In a cold rage she demanded to know who was responsible, promising not to punish the culprit if they owned up. Duncan admitted his guilt and was thrashed severely for his honesty. Such a betrayal of trust could not but leave its mark on both boys.

In the early Fifties single-sex schools were the norm. Girls were foreign objects, aliens from another world. Boys were expected to concentrate on their studies and on games. Duncan preferred cross-country running to team sports and his long legs were an advantage. He disliked many school activities such as the cadet force, opting for gardening, '*Digweed*', instead. Sevenoaks offered the usual public school classical education which fitted most of the boys for careers in the City as stockbrokers or lawyers. From the beginning Duncan was regarded as a rebel and always retained his London accent rather than the cultured tones of the typical public-schoolboy. When Brian chose a career in the Royal Air Force Duncan decided to follow and was accepted A1G1 for Pilot Officer training. His mother bought a supply of blue RAF shirts.

Almost within a week, on Sunday, 12th October 1952, Duncan was in Orpington hospital having his left hand amputated above the wrist. Watched by a couple of friends he had been hammering explosives into a metal tube to make a bomb in the garage of his home. Guy Fawkes bonfire night was approaching and they intended putting the device down the cess pit. It was a youthful prank that went terribly wrong. Dripping blood, Duncan showed someone how to make a tourniquet, telling his horrified mother matter-of-factly: *Mother, I've blown up my hand.*

Desperate to get the boy to hospital Paddy turned to a friend with a car but was refused because of the blood. Somehow another car was found and the boy was rushed to Orpington several miles away. A '*Chinaman*' performed the amputation and sewed up a huge gash in his right arm. Afterwards Duncan's mother was warned that her son would not remember his loss immediately but would need to be told as tactfully as possible. She insisted that he did know. From his hospital bed his first words to her were: '*No girl will want to marry me now*', a puzzling remark as girls had rarely been part of Duncan's environment.

During the next few weeks Duncan's parents practised doing things single-handedly so that they would be able to help their son when he returned home from hospital. They knew it would be a mistake to do everything for him; he must learn to do for himself, however hard it might be. Various friends gloomily predicted a wasted life, that the boy would be on the scrap heap, unable to cope. One Jeremiah even forecast that Duncan would not be able to walk properly because his balance would be affected. Meanwhile, lying alone in hospital, Duncan saw a bearded stranger looking at him from the foot of the bed who said: *You'll be alright.* Nobody else saw

the visitor and Duncan always believed it to be Jesus.

He needed every ounce of faith to overcome his disability, constantly praying for relief from the pain which would dog him for the rest of his life. His addiction to cigarettes and liking for alcohol were the only form of drug-taking he tolerated, apart from regular doses of aspirin when threatened with a cold. The long process of rehabilitation, such as it was in the Fifties, included several weeks at Roehampton limb-fitting unit where Duncan enjoyed the supportive company of war veterans, who were treated with great sympathy by the staff. Blind eyes were turned to excursions to the local pub, cigarettes and even a day at the races. The National Health Service provided free limbs and treatment. There was no counselling.

Some months later Duncan returned to the scene of the accident in the garage. Shutting the door caused a slight breeze which brought something fluttering down from the roof timbers. It was two fingers, still joined together, grey and paper-dry with long nails. Mysteriously the nails had continued growing.

Having lost his career in the Air Force Duncan had to reconsider his future and chose to apply for an Indentured Aeronautical Engineering Apprenticeship at The de Havilland Aircraft Company at Hatfield, Herts. He was made a Prefect at school before leaving for the de Havilland Training School in his eighteenth year, becoming one of the earliest students at the new Hatfield Technical College, now the University of Hertfordshire. Accommodation for the first year was in Astwick Manor, the company hostel, where youthful pranks were common before the need to rent shared rooms demanded greater maturity from the second year.

The Apprenticeship included practical work experience on the factory floor and block release of several weeks at the College. The Principal informed the Indentured Apprentices that they were *'the top 5% in the country'* and much was expected of them. He also expected them to wear white gloves at the college ball and was horrified when jazz was suggested. One of the wilder apprentices, son of the Swiss Consul in Scotland and a keen jazz enthusiast, left his indelible mark in white letters six feet tall on the college roof: **WOT NO JAZZ!** It was years before they were erased.

Despite pain and the condition known as *'phantom limb'* where sensations are felt in the absent limb, often painful and disturbing, Duncan mastered the same exercises in manual dexterity and accuracy on the shop-floor as his companions. He found the work exciting and challenging. Britain was in the forefront of aeronautics, having developed the first jet airliner, the Comet. Unfortunately de Havilland's progress brought the inevitable teething problems intrinsic to any new development. The first Comet crash was totally unexpected and unaccounted for, plunging the company into depths of mystified despondency. Why did it happen? After much investigation and research the answer proved to be a new phenomenon: metal fatigue.

Severe testing of airframes then took place in water, mimicking the stresses imposed by hundreds of take-offs and landings. Apprentices shared the tedious but essential watching duties at the water tank. Nobody knew for certain what would happen or

when. Duncan saw the first crack develop, thus confirming the theory of metal fatigue. It was a unique moment in aviation history. For the rest of his life he defended the superiority of the water tank over the computerised testing that later replaced it and intensified his fear of flying.

Sharing a flat with four apprentices introduced Duncan to the realities of domestic chores and weekly shopping. His mother had always taken care of such duties, carefully laying out fresh clothes for husband and sons with the same immaculate precision that she applied to housekeeping. Despite his disability her son learned to cook and clean, almost to his mother's perfectionist standard. At weekends he would return home on his motorbike. Learning to share living-space was an invaluable lesson. One of his flatmates became the president of a Dutch aircraft company and was knighted by Queen Beatrice. In Duncan's fifth and last year he met Joan Skeeles, a secretarial student at the college; after a five-week romance they married at St Alban's Registry Office on 6th August 1957, unaware that it was the anniversary of Hiroshima.

Having completed all the fitting exercises, metal-cutting, joinery, and intensive academic requirements that included many subjects to complete his apprenticeship, Duncan obtained Ordinary National and Higher National Certificates with Electrical Endorsements gained from long evenings studying at home as a married man. It was now 1958 and a baby was due in November. The aircraft industry offered less of a secure future and the family needed a home. Duncan changed course. He was accepted as an Assistant Experimental Officer at the Department of Scientific and Industrial Research Water Pollution Laboratory at Stevenage, Herts, where the new town offered housing with employment. This introduction to the civil service, however, did nothing to dispel doubts about the vitality of civil servants inspired by his father's unusual criticism.

Jim Woolard always regarded the civil service with scathing disdain, a rare target for someone normally so uncritical of his fellow man. The lifetime security of the civil servant, no matter how inefficient, with long holidays, sick leave and other benefits contrasted with the insecurity of industry, especially in the Thirties, and the lack of similar perks. The Senior Experimental Officer confirmed this poor image by his quirky habit of finding only enough money in his pocket at the end of the week for half a gallon of petrol for his car, much to Duncan's amusement.

Much to his gratification, Crofts (Engineers) Ltd, Bradford, approached Duncan with an offer of a post as Chief Estimator in their London Sales Office. After several months at the Bradford factory gaining knowledge of the products, Duncan found the office work demanding and frenetic, apart from the trauma of daily commuting to the capital. As major experts in mechanical power transmission the telephones never stopped ringing and Duncan was answering enquiries virtually nonstop all day, writing estimates to follow verbal ones. Few estimators lasted six months. Duncan completed a year before answering an advertisement by Stone & Webster Engineering Inc., the large American multinational contracting company. They needed engineers for an electrical frequency conversion in Jamaica, West Indies. Every item of electrical equipment on the island had to be checked and every

installation approved and converted.

Duncan was overjoyed to give up travelling to London on overcrowded trains and was delighted to be sent out to the sub-tropical delights of the Caribbean on double his London yearly salary, returning within a month in protest at the inadequate conditions awaiting his wife and family. The company agreed to improve matters and Duncan returned to Jamaica, starting in an office at the end of Montego Bay airstrip at the amazing sum of £2,250, tax free. The family joined him later in Kingston for seventeen months. It was an excellent opportunity to save money and Duncan also bought his first new car, a Morris Oxford. As an apprentice he had rebuilt an Austin Seven and toured Wales in it. The Oxford was pure bliss.

During the early months Duncan was invited to meet a cabinet minister, a prominent businessman, who offered him several tempting inducements, furniture, electrical equipment - his choice - if he would use the man's family firm for supplies. Young and idealistic, and rather shocked, Duncan said 'No'. That was the end of the matter.

Colonial life with a maid and houseboy, social drinks and dinner parties while natives rattled the garden gates for alms and scoured the rubbish tips strengthened Duncan's dislike of social inequality. He wrote to the *Daily Gleaner* to complain about a prison sentence imposed for stealing coconuts and was summoned to the Governor's residence, the '*King's House*'. Several years later he was amazed to be accosted at Lagos airport by a half-remembered figure: the former governor recognized Duncan and was delighted to see him so unexpectedly *en route* to a Commonwealth Prime Ministers' conference.

Jamaica achieved independence shortly after the contract expired in 1962 and Duncan was relieved to return home to Britain with his family before the rejoicing really began. A few days before their flight home the family joined the crowds lining the King's Road as Princess Margaret and her entourage arrived to begin the celebrations. There were daunting stories of Jamaican servants claiming ownership of their masters' houses as part of their liberation, and turning violent when evicted.

Home again for a dull grey August Bank Holiday and an exceptionally cold snowy British winter, Duncan began the urgent search for work. After several false starts he was relieved to be offered a job at his former Crofts salary of £1800. Having sold the Morris before leaving Kingston, he had to buy a car and was thankful to have savings. His parents helped furnish a small house about half an hour's drive from his new employer, Mt Hope Machinery, at Dartford. Duncan started there early in 1963.

Having experienced an attempted burglary shortly before leaving Jamaica the young family looked forward to a peaceful life in Kent where crime was virtually non-existent in the Sixties. The two boys were nearly of school age and a third baby boy arrived in the following August. To his inherited attention to detail and urgent need to see a job well done the young engineer could now add the experience of organizing unsophisticated labour and making decisions on site on his own. Such talents were augmented by a growing sense of self-reliance - always at a premium - and the

combination was to prove invaluable when travelling the world for Mount Hope. Never one to display his heart on his sleeve, Duncan was the typical Englishman abroad, calm, self-effacing, polite, reserved to the point of coolness.

To his family this reserved, controlled Englishman was anything but quiet. Arrivals home always meant noise and upheaval, often drunkenness and shouting. The tensions of work and travel sprang loudly out of this jack-in-a-box with a ferocity that terrified his children and distressed his wife. Family reunions were always a maelstrom of emotions and Joan's immaturity and confusion did not help matters.

Always glad to be home again, speaking English and catching up on company news, long evenings at the *'Ivy Leaf'* allowed time to discuss new products and ideas. New developments included the KNITROL for knitted fabrics, another First. Duncan also successfully modified tension control design and total tension unit using diaphragms instead of springs and developed an *'upstairs-downstairs'* tension controller for operation from above and below a super callender for Bowaters, papermakers. There was also a bin detwister modification with an inching motor which was very compact: *'a tremendous bit of equipment'*, and a turntable detwister.

Short trips to the Continent became commonplace, occasionally taking Joan along for the ride. Such journeys were rare through the difficulty of leaving three small boys with grandparents. The fun factor was low as they usually involved much solitary waiting about while Duncan conducted business in various offices. After official working hours, business continued into the small hours in more relaxed surroundings. Although she enjoyed seeing new places Joan had mixed feelings about walking the length and breadth of strange towns like Amsterdam for hours on her own.

Wives rarely accompanied husbands except once or twice to large textile exhibitions as at Basel where Duncan organised the Mount Hope WEFTRON stand. He was responsible for shows at Earls Court, Hanover, Greenville (USA), Japan and Milan (twice) and designed all the rigs for working equipment.

For Duncan the WEFTRON was the star, *'a joy to show'*. Flying down to Greenville from Taunton for the North American Textile Machinery Association exhibition with Mr Robertson proved something of a strain because of his objection to alcohol. He handed out chocolate bars in Tourist class. The big man's aversion to booze was matched by his dislike for unnecessary expense or time-wasting. On a visit to London he took a taxi with Duncan. The vehicle was involved in a minor collision and Mr Robertson leapt from the cab immediately into another, leaving Duncan to sort out details.

The second Mrs Robertson was as canny as her husband. During the Basel exhibition the wives were presented to her and flattered to be invited to lunch next day at an expensive hotel. The menu included rare delights such as real turtle soup at enormous cost. The women selected items not normally available at home and were horrified to discover they were expected to pay their own accounts afterwards. This was particularly hard on the British wives whose spending money was severely

restricted by British currency controls, a source of puzzlement and shaking heads to the American women - except Mrs Robertson who seemed oblivious to the problem.

The Robertsons expected convenience for their money and Douglas would complain bitterly about the Charing Cross Hotel's refusal to serve breakfast before eight in the morning. Like many Americans he believed in arriving at work with the rest of the employees, if not before them. This robust egalitarian attitude earned Duncan's respect as he had very little time for the typical British '*absentee*' boss who directed the company from the golf course. Duncan's views on management were uncompromising, having little faith in the traditional British system.

Entertainment at company expense usually took place beyond the pale of Robertson territory. In America, however, Duncan was taken to girlie bars in the southern '*Bible belt*' at Charlotte where topless waitresses served drinks and '*go-go dancers*' performed on the tables. In London there were lunches at Locketts where members of the British Cabinet dined and a memorable dinner at a big hotel where alternate places at the table were marked with men's names; as they sat down they were joined by girls who took the unmarked seats. Discretion discouraged further details and on this occasion Duncan was the soul of discretion.

Working hard and playing hard became a way of life. When the factory foreman complained about executive perks Duncan took him on a European trip, starting at his usual puritan hour in the morning and working through the night to finish. There was very little play on this occasion and no more complaints.

In 1970 Duncan went round the world in five weeks to install equipment at Expo 70 in Japan. Tom Cooper from the Swiss sales office accompanied him on the outward journey. They stopped at various ports of call on business, briefly savouring the different ethnic attractions at places like Singapore, Kuala Lumpur, Bangkok, Bombay, San Francisco, Hawaii. Their hotel in Japan was home to Lady Thatcher on her famous visit there and is currently rated as one of the most expensive in the world. Nonetheless Duncan was only too glad to return home, jetlagged and exhausted.

Later Tom and Duncan went to the Soviet Union to negotiate on behalf of the Americans who were reluctant to visit their arch-enemy at the height of the '*cold war*'. On arrival their passports were taken from them and the two men were put on a train at night to an unknown destination. Then followed a long day's discussions with factory representatives and the Party official whose agreement was necessary to every part of the deal. At noon they sat down to a table adorned by the American and Soviet flags. When the Englishmen explained they were not Americans, a Union flag was produced and toasts drunk accordingly. The toasts carried on for the rest of the day amid much conviviality during which gifts were presented until the vodka ran dry and Tom fetched a bottle of Scotch from his room to continue.

By midnight both men were much the worse for wear and made their way upstairs, where Tom proceeded to bang his head on the side of the bath, causing a bloody gash but no real harm. Next day saw them both on a train back to Moscow and they

were relieved to recover their passports for the journey home. On the station platform Tom was severely reprimanded by an official for dropping his cigarette end.

Other memorable visits included one of the world's best restaurants, the Pyramide at Point, where Salmon in Champagne sauce was a regular delicacy. Duncan would have preferred '*biftek, pom frit*', his usual dish when abroad. The lack of linguistic skills made little difference on the factory floor with sign language and mutual interest in machinery. A deep distrust of foreign cuisine often meant surviving on a bar of chocolate. In Sweden Duncan watched colleagues order the only British-sounding item: steak tartare, which to their disgust arrived as raw minced beef with a raw egg on top. It was sent back to be cooked.

In Stockholm Duncan lost his precious double passport, carelessly left in his coat pocket. An impressive collection of visas had made it necessary to fasten a new passport to the old. Passports were in great demand for American draft-dodgers during the Vietnam War. Duncan wondered how a new recipient would fit his personal details: Amputated left hand. Nonetheless Duncan still preferred the cleanliness and order of Scandinavia to the more easy-going, garlicky southern regions. His apparent ease at formal and other occasions impressed colleagues who felt intimidated in grand surroundings. Duncan's impassive countenance proved invaluable at poker!

Attention to detail was always evident at rare family celebrations when the family would be taken to a restaurant and a floral bouquet for Joan would be waiting on the table along with gifts for the boys. At Christmas Joan found a new purse in her stocking. Inside it were a train ticket and a receipt for a grand piano. She was to inspect the piano before having it delivered. Having always loved playing the piano, the gift of a baby grand should have been a dream come true. Alas, it was too late. Too many absences and too little attention were not to be remedied so easily. Joan would have preferred romantic evenings *a deux* instead of extended drinking sessions with business associates at company expense. Duncan's romantic generosity wrapped in one big piano-shaped package would have served a better purpose delivered in small quantities at frequent intervals. Although glad of the piano, Joan remained hurt and resentful of the company. In her eyes, Mount Hope Machinery was a demanding mistress and rival.

Inebriated flights to America and other places became as frequent for Duncan as the long sober hauls north to the British mills and across the flat plains of Belgium and Holland. Meanwhile the old Dartford factory was bursting at the seams and Mr Robertson had a new, spacious building custom-designed, a handsome work of brick and glass with his portrait hung in the foyer. He proved his appreciation of Duncan's efforts by giving him first choice of office as Chief Engineer, a large airy room upstairs with an excellent view of the entrance. The official opening was a grand occasion with special catering and pink champagne in a large marquee. The Mayor of Dartford attended while Douglas Robertson rejoiced in the new landmark with colleagues and friends. A handsome plaque commemorated the occasion.

Duncan felt his abilities were being recognised and redoubled his efforts on the

company's behalf. He had a key way cutter made outside for £1500, 40' long (for putting slot into roll), another British innovation, and installed a test bed in the floor of the Dartford factory, a *'tramway'* with 50 hp motor and vibrator checker to find the natural frequency. Compared with this, American methods were *'crude'*. Hydraulic units were also modified and 'V' rings introduced on rolls to seal them. In 1970 there was a patent award for Fluid Logic, a mechanism for guiding equipment in hazardous areas and a paper on the subject read to the Shirley Institute, Manchester, a personal landmark for Duncan.

Visits to Dartford by Mr Robertson became increasingly frequent and although some referred to him as *'a horse-trader'* he enjoyed a mutual empathy with the British engineer.

Duncan's success within the company proved to have an aphrodisiacal effect. Not only Mr Robertson's portrait adorned the new entrance hall. A curvaceous new receptionist also improved the working conditions for staff and management. The pretty young woman always smiled broadly at the Chief Engineer who was twice her age. He glowed in the reflected magic of her charms long after he reached home at the end of the day. She was having problems at home and needed somewhere to live. Aware of her salutary effect on Duncan, Joan suggested offering her a room.

In an atmosphere heavy with sexual inuendo and temptation a curious *menage a trois* developed in the large Georgian house. A game of Scrabble resulted in words such as: bed, mine, one, yours, two, ours, three. Bed-hopping became a nightly pastime, often with three in a bed. Fortunately the bedrooms were beyond earshot of the boys who appreciated the lighter mood until the arrangement began to disintegrate. Joan became jealous of her young rival and after several traumatic incidents when Duncan became increasingly confused and violent, the young houseguest arrived to find her belongings on the doorstep. She returned home.

Not long afterwards another office affair began between Duncan and a member of staff desperate for a baby and willing to pay expenses for a week's holiday together while her husband was away. An arrangement was made to have a 'family bereavement' message in The Daily Mirror should the husband return unexpectedly. The couple were visiting Duncan's brother at Robin Hood's Bay when he asked which member of the family had died, having seen the message in the newspaper. They returned forthwith. Several months after the end of the affair Joan was angered to find the ex-lovers drinking together at the Ivy Leaf and poured Duncan's beer over his head. She motored home in great fury while he calmly ordered another pint, to the stunned admiration of friends. On arrival home he was chased round the sittingroom with a carving knife, protesting his innocence.

Duncan made few attempts to hide his extra marital activities and visits to a marriage guidance counsellor advised divorce. Three actions were started at various times and dropped despite the couple's obvious incompatibility. They could not live together but could not live apart. Their sons found them both impossible and behaved impeccably throughout the tumult. Terrified of their father, wary of their mother, they never dared rebel.

Meanwhile changes were made in the company. Taking the place of the hard-drinking Scottish engineer, the staid Scottish company accountant was installed as General Manager and an external advertising executive as Sales Director, not a popular move. The man had little knowledge of manufacturing and bullied junior staff. Full of bluster and false bonhomie, he was enraged to discover that the youthful Engineering Manager received equal pay to his own and demanded a differential. He achieved £50 per annum more (£5,050 total plus car). He wanted to impress important visitors and demanded his name in the car park. Acceding to his request Duncan painted the name in six foot letters which couldn't be missed. The man's horrified reactions were observed with great glee by all concerned.

Some time later a young employee fell foul of the new Sales Director and was fired, being ordered to leave immediately. The fracas was overheard by everyone within earshot and Duncan watched the youth walk slowly across the car park. Suddenly he stopped, turned and re-entered the building. Marching back into the man's office, the youth put up two fingers in a sweeping gesture of defiance and blew a loud raspberry. Honour was saved. Some weeks later hundreds of reply-paid forms addressed to the company arrived - a double revenge.

The Christmas Dance revealed the Sales Director's shortcomings when it was discovered that no transport had been arranged for the Sales Department and an ice cream van was commandeered for the purpose. This curious mode of transport brought mirth from those enjoying the humiliation of the Sales Department and its boss. Attention to detail was not one of his strengths.

Company meetings were lively and often heated. Duncan proved himself more than equal to the task of informing company policy but less capable of persuading the older men of his wisdom in such matters. With a strong mathematical bent and keen interest in financial affairs Duncan out-distanced rivals in his business acumen and knowledge of legal requirements. Their failure to admit it resulted in an explosion of anger at least once, the dour accountant/General Manager almost erupting with rage, face glowering, shouting: 'I'll not be told what to do by a young whippersnapper like you!'

Although Duncan found such an incident amusing to relate to Joan in the bathtub he was finding himself increasingly frustrated by the restrictions of working among people without professional engineering experience and without the imagination to grasp his own aspirations for the company. Besides, his preference for relaxation, often in mixed company, at the Ivy Leaf, and a tendency to overindulge female as well as liquid refreshment produced heavy criticism from older, straightlaced, perhaps envious, colleagues. However there could be no disputing his ability to 'get the job done', even after long, boozy lunches with colleagues and friends in local industry such as Bill Spear, a paper engineer of wide experience. Bill expressed the opinion that Duncan was 'a very good engineer'.

As a Member of the Institution of Mechanical Engineers, Bill encouraged Duncan to apply for Membership. Influenced by his father's scorn of academic qualifications

and 'letters', Duncan's reluctance had been countered by Joan's enthusiasm. After about three years' persuasion he finally applied, with Bill's recommendation, and was delighted to be awarded Membership of the Institution and Chartered Engineer status in 1972. His father would have been proud, despite his scepticism.

For Jim Woolard the only true measure of a man were his integrity and experience. University degrees and letters meant little without the practical application of sound principles. His son could justly claim practical ability and intellectual capacity. The lack of any other qualified engineers at the Dartford factory meant a limited appreciation of Duncan's triumph since few employees were aware of its significance. Across the Atlantic his qualification made more impact, however.

Emboldened by his success Duncan wrote to Mr Robertson of his concerns for the company, telling him that he gave his opinion as a newly qualified professional engineer. He had reached a crossroads. Although still hidden from 'the old man' his drinking habits were causing problems where undignified scenes became commonplace, not least between man and wife. At the Christmas Party he had smashed a glass and threatened the band with it; at home his behaviour was even more bizarre, ripping telephones out of the wall after long and pointless harangues with late-night operators. Abusive telegrams were sent to various (Socialist) government ministers and loud arguments conducted with anyone who stood in his way, principally Joan.

One evening he carried the telephone to the local exchange and threatened to break windows. The police were called and considered making him the subject of a '3-day order' to a mental institution. On another occasion he spent the night in a police cell, charged with drink-driving. Life was a crazy mixture of work, drink, sex and ugly scenes. With the prospect of divorce pending he had nothing to lose by telling 'the old man' of his frustrations at work. The Georgian manor house was sold and a smaller, new home bought, while Duncan prepared to become 'a man of straw' with nothing, not even a job. Without a family to support, there was no point in working.

Expecting to be fired for his candour, Duncan was overwhelmed by Mr Robertson's reply: promotion to Vice-President of Engineering, worldwide. He began commuting between Europe and America every fortnight. True to type Duncan travelled in his own time, leaving Sevenoaks on Sundays to begin work at Taunton on Monday mornings and returning overnight on Saturdays, thereby spending only one whole weekend in four at home. He had been banned from driving for eighteen months but he had an International Licence, allowing mobility abroad. At Boston Airport he regularly hired cars for his fortnightly stint, staying at a motel. In England he was driven to and from Dartford by Joan, despite the divorce proceedings. He half-heartedly looked at single apartments but was relieved when Joan cancelled the divorce by tearing up the papers en route to court; she couldn't go through with it.

Commuting between England and America provided a welcome respite from 'ordinary life' although the strain of so much accumulated jetlag and alcohol took their toll. Arriving, swaying, at Taunton a car rental was denied 'the David Frost of Engineering' on at least one occasion and heated altercations with airport staff

became the rule rather than the exception. Arrivals home were always the scene of violent arguments and bitter disputes. The day of a move to a larger new house brought a phone call from Heathrow with Duncan complaining that he was being threatened with deportation back to America, having just arrived from Boston. In the early hours he would wake up demanding to know where he was. In Joan's estimation he aged twenty years in eighteen months.

In his capacity as Vice President the constant criss-crossing of the Atlantic was interspersed with frequent visits to the Herstal factory in Belgium and the Swiss sales office in Lausanne. At Christmas Duncan went to their parties, grand affairs with sucking pigs and fine wines from the cellars of the Swiss director's chateau. Few people noticed his false left hand in its knitted glove. He always wore a suit, donning an overall when necessary. Sometimes after working with a new colleague or customer over several weeks they would become curious about his gloved hand and ask: What have you done to your hand? The answer was often a shock as Duncan disguised his loss so effectively and could achieve engineering solutions better than most. The figures spoke for themselves. In 1963 turnover was £70,000; by 1974 it had risen to £800,000. The original workforce of 20 had grown to 65 and still included most of the original team.

In 1974 the Three-Day Week brought added complications. Politics was now interfering seriously with business. Much to Duncan's disgust the adjoining school enjoyed the benefit of floodlights for night-time activities while the factory struggled to keep up production.

In February a General Election was called while Duncan was in America. Aware of his strong political views Joan called him and asked: 'Do you want to have a go?' The answer was affirmative and Joan was delighted to act as his agent, collecting signatures, going to London for the necessary papers, organizing publicity and rallying support. Family and friends sat round the dining table for a mailshot of 29,000 postcards to the voters. A small mention in The Times by Philip Howard helped, even though it referred to Independents as 'eccentric'. Local papers were more generous while the Tory candidate, Sir John Rogers refused to share the same platform for discussion with an audience. The result was the predictable loss of deposit but the protest made a small dent in the smooth Tory heartland and Duncan acquired more votes than other Independents with semi-professional organisations. He was satisfied there had been a contest instead of the usual easy walkover.

Amused by this diversion, Duncan's colleagues commiserated with his lack of success. Among them was Wally, a Michael Caine lookalike who had joined the company almost from school before Duncan arrived. The two complemented each other: Wally was a rough diamond, sociable and brimming with Cockney confidence. He enjoyed his beer. Ray, the young, earnest junior accountant, had also joined Mt Hope as a raw recruit and was trained into the job over the years. Both married and had young families. Like Duncan, they grew with the company.

As the young men matured, acquiring some polish with their better suits and company cars, Mount Hope continued to progress although Mr Robertson was

becoming increasingly worried about financial matters. His relations with the tax authorities were confused by his insistence on handling the details himself. At last he admitted defeat and announced the sale of the company at an executive meeting in Taunton. Those present were shocked and dismayed. To their distress tears streamed down his face as the old man admitted his sorrow while assuring them that their jobs would be safe with Stowe-Woodward Industries Inc.

Stowe Woodward Industries Inc of Providence, Rhode Island was a division of Beatrice Foods. Founded by a group of former US Navy friends led by Tom Leonard, the company had mushroomed through his sharp business acumen. Mount Hope was a good bargain at \$5M and was snapped up. Despite Mr Robertson's tearful assurances the new broom began to sweep clean. Well-dressed, suave Americans held meetings and discussed company affairs although Tom Leonard left the day-to-day management to his senior executives and was rarely seen, his future assured by a cast-iron contract guaranteeing millionaire status for life.

It was a time of stress and uncertainty for all concerned, not least for Duncan, always insecure and worrying about his £10,000 mortgage. His father never had debts, having even paid cash for his house. Similarly, Duncan did not believe in debt and always lived within his means but unlike his father he was a worrier by nature. His sons were at Sevenoaks School on scholarships. Joan had returned to part-time secretarial work which would take her to the House of Commons in future. But still he worried. The senior accountant/General Manager was 'let go'. Other changes were made. Who would be next?

Strolling into Duncan's office, a tall, handsome, bespectacled American with crinkly greying hair looked at the Englishman directly and drawled: 'You womanize, you drink. Do you want to run the company?' For Duncan, at last the dream had come true.

Duncan had been with the company eleven years. Due largely to his efforts Mount Hope had become exceptionally profitable and successful. Like a fat, ripe plum it was ready for picking. The new Director and General Manager was happy and enthusiastic about the new opportunities opening up. At a rare meeting with Leonard he was told: 'There are no such things as problems, only opportunities.' This philosophy appealed. In fact the whole American way of doing business appealed to Duncan. He liked the brisk, no-nonsense attitude, the lack of class distinctions and the absence of stale traditions. He enjoyed his visits to the States. If the business of America was business, then Mount Hope's business was also a part of that thrusting philosophy. If you could do the job, that's all that mattered, and Duncan could.

During the first week of his new responsibilities Duncan returned from an essential trip to Belgium to find the factory on strike. This was the first strike in the history of Mount Hope Machinery Ltd. The union had taken advantage of the management hiatus and struck while the bosses were preoccupied. Quick-witted and resolute, Duncan solved the problem without contumacy and had the factory working again

within days. Time was now of the essence. His American mentor, Bob Horning, expected the entire Dartford operation to be 'cleaned up' and restructured within three months.

The blustering advertising man went. Duncan was instructed to cut the workforce by nearly half. Some of these people had become friends. They had families and mortgages. The American system of 'hire and fire' was an unknown concept in Britain where workers had grown used to security for life. Duncan had been amazed to see men 'let go' at Taunton, accepting their fate with good grace. But in England it was an unfamiliar and harsh new regime. Some were admittedly slower than others, some less inclined to work long hours and weekends. They had to go, regardless of sentiment.

The offices and factory were required to be kept tidy and clean, a revolutionary concept which guaranteed Duncan's approval despite the reluctance of employees accustomed to their own easygoing muddle. Desks were to be cleared every night for easy cleaning. Fresh paint brightened walls and toilets were refurbished. To avoid graffiti Duncan installed a blackboard, inviting the factory hands to use it for rude comments, an idea they scorned with pride. A telephone was placed strategically in full sight of the workshop to keep personal calls to a minimum. The pride of the British worker proved management's greatest ally.

Working seven days a week became the norm. For three long months Duncan saw little of his new house. When he did, it was usually through a haze of alcohol and fatigue. The strain of firing people who might find it difficult to get other work worried him but at the same time he was excited, exhilarated by the ambitions of his new colleagues. It was necessary to hold regular monthly meetings with the Swiss sales manager and Belgian factory manager which consisted of 24 hours of discussions and shouting. Grand intentions to visit Bermuda and other places south were torpedoed by Horning and the meetings were conducted in less exotic locations.

The new management lifted Duncan's spirit, fuelling the 'fire in his belly'. These American men of the world were nearer his age than Mr Robertson and their aims filled a larger canvas. Meetings were held in London at Vincent Square with the mysterious, elegant Coape Arnold, rumoured to be enormously rich with a house in Cheyne Walk. BTR's Owen Green was a largely unseen presence. The new buccaneering style exuded power and success, attracting admiration while at the same time increasing the distance between husband and wife.

The couple's sons were growing up into fine young men and spent more time with friends while their mother felt increasingly redundant. Joan was reluctant to join local groups or voluntary bodies for fear of missing precious time with Duncan if and when he arrived home while at the same time hating her own ambivalence, and his. Under intense pressure, he usually arrived drunk; it was the only way to forget the trauma of firing friends. Bizarre outbursts became increasingly common. On a summer Sunday afternoon he arrived home to find his parents waiting. The windows were wide open and the neighbours enjoying their gardens. Nextdoor the man was an accountant, not Duncan's favourite occupation. His mother tried to hush her son's

loud arrival with: 'Shhh....the neighbours will hear', only to provoke him into roaring at the top of his penetrating voice: Arsoles to beancounters. Arsoles to beancounters!

Duncan's frankly expressed views on the Common Market also earned the opprobrium of the neighbourhood and he was banned from local parties.

There was a refreshing interlude when he was summoned to Taunton by Horning for a week's idleness as a token of thanks for turning the factory round in the required three months. They spent the time leisurely looking in bike shops with the idea of Duncan's buying one for exercise; American bicycles were excellent value but Duncan couldn't make up his mind and returned empty-handed. He enjoyed doing nothing with Horning's approval. A visit to the corporate office in Providence opened his eyes wide, shocking him with its marble pillars and grand decor. So this was what it was all about! It was a far cry from the utilitarian shabbiness of Silvertown House. With puritanical disapproval Duncan couldn't help wondering what anyone on the shopfloor would have thought of it.

The British engineer was not alone in feeling the strain of the new regime. Older and less able to adapt, Tom Cooper was being given 'the runaround'. Instead of being able to set his own pace in Lausanne with the occasional trip abroad, he was being cajoled into travelling far more frequently. Within two years he looked grey, a shadow of his former chirpy self. His frank, lively arguments with Duncan continued, each battling for his own quarter, until he put down the phone for the last time. Within minutes he was dead. Shaken, Duncan had to fight for the widow to receive her dues.

More changes were taking place in the company structure with the formal takeover of Stowe-Woodward by BTR, climbing the ladder of multinational growth by leaps and bounds with an extraordinary cash purchase of 16/- shares for 49/-. The announcement was made to a select group that included Duncan and those present were sworn to secrecy until five o'clock, after the Stock Exchange closed. The strains of another takeover were almost as unbearable as the first and were suffered by everyone in their own way, giving rise to suspicions and backbiting, each person fearful for the future. Tensions ran high.

In 1975 the Belgian factory was put in Duncan's charge. Running both plants was a double challenge which he relished despite the extra strains on his personal life.

Soon man and wife were involved in another violent argument at home. After some pushing and shoving which caused Joan to gash her head on a bedroom wall, she left overnight in the company Granada while Duncan slept. She also took the joint bank account and emptied it before flying to Africa for several weeks to stay with relatives. Duncan carried on life as well as he could. The boys were old enough to look after themselves but he insisted on doing the cooking and was proud of the Christmas turkey dinner they had while Joan was finding her lost youth in Bulawayo.

Having plunged himself fully into work, Duncan's undivided efforts paid off in the

yearly results. With the workforce pruned back to a lean 38, turnover was £1,150,000, with 30% return on capital invested. If productivity was high, so were prices. Despite the government's price freeze, prices were raised 30%. Complaining customers were told to 'take it or leave it'. They took it and paid. Ingenious 'creative accountancy' ensured profits vanished legally beyond the pale of the Inland Revenue through methods such as inter-company exchanges of 'consultancy' services. Duncan found himself paying more tax than the company on his salary of £8,500. Mesmerised like a rabbit by a snake he was appalled, amazed and fascinated.

Now fully experienced in every aspect of corporate business, Duncan was responsible for legal matters, union negotiations, conferences, exhibitions, shipping, sales, advertising, purchasing, sub-contracting, stock control, not to mention the day to day running of two factories and engineering design. He was also required to prepare regular budgets and keep costs within strict limits. He ran a tight ship and a very productive one. Hints of another strike brought new maps to his office wall marked significantly with development areas in distant regions. A familiar face from Pickfords was invited to walk round the works, apparently estimating. The ploy worked, no strike. The General Manager was still a good poker player.

Fake sickness among the workforce was a rare problem soon cured with a pay-check delivered personally to the offender's door, on one occasion answered by a child with: 'Dad's out shopping'. There was nothing like the personal touch.

In the Seventies corporation taxes and foreign currency fluctuations were beginning to force companies to consider other ways to satisfy shareholders. The era of acquisitions, mergers and currency speculation signalled Full Steam Ahead for the dawning age of the Accountant.

Despite jibes from the Sales Department that engineers were no salesmen, Duncan had proved them wrong, having been given the task of 'sorting out' the Sales Office and completing the project efficiently. He had acted as salesman when abroad, surprising Tom with his ability to talk to customers despite severe nerves. Moreover he was beginning to put on weight and to look the part of senior executive rather than the pale, callow youth of his earlier days. Joan's return five months later found Duncan poised for even greater success.

He enjoyed a generous but not profligate expense account, entertaining customers at good restaurants at home and abroad, staying at comfortable hotels, suffering intense irritation at demands from the Inland Revenue for details of every petty transaction, even a haircut, when companies were being urged to Export or Die. He then made a point of keeping every receipt, however small, for official inspection, hoping to wear them down.

At Christmas man and wife were invited to company parties in Scotland, Wales and Belgium as well as the customary Dartford and Lausanne events (the latter still employees only). Duncan's credit cards formed an enviable stack including international telephone calls, access to privileged lounges, frequent traveller clubs

and many other facilities; there were few jokers in the pack. His proudest acquisition, however, was a ticket for New York via Concorde.

But he had reckoned without George.

George Scobie was a blunt Bostonian lacking the sophistication of Bob Horning, doyen of Royal Garden Parties and civic functions in Edinburgh, whom he replaced. British employment law seemed unnecessarily complicated and frustrating to most Americans but to George it was no problem at all. He ignored it. There were still too many counterproductive people in the company, according to George. His methods of disposing of them were brutal but effective. When they arrived for work on Monday morning they found someone else already sitting at their desk. Too bewildered and crushed to fight it out, like the young accountant, Ray Everest, they would resign, thus saving redundancy payments and the embarrassment of being fired. Socialist legislation was a mere irrelevance.

For Duncan the sky was beginning to darken as he saw some of his oldest and most loyal colleagues 'let go' in this manner. Tom's death had shaken him, but the company's lack of social conscience shocked him even more. Not only were employment laws flouted but financial and legal obligations were treated with equal contempt. Duncan almost believed the jokes about George's connections with the Boston Mafia as he found himself being forced to submit documents crudely forged for the express purpose of defrauding the Exchequer. Suppliers were 'persuaded' to supply letterheads to be completed according to George's diktat, thus convincing official departments of their authenticity. Duncan hated it. He crawled out of bed in the morning dreading what lay ahead. Joan had never seen him reluctant to go to work before; this was something new and serious.

Having seen many former friends leave the company Duncan was dismayed but not too surprised when his oldest and closest team-mate was marked for disposal. Wally must go, said George. There was shortly to be a meeting in Holland. Before leaving home Duncan discussed events with Joan. 'Are you sure you don't mind if I chuck it all in?' he asked over and over again. She assured him it would be a happy day for her. Several hours later she received a call. It was over. Would she pick him up at the airport? Joan felt nothing but relief for herself; but for Duncan she mourned.

At the Dutch hotel George had invited Duncan to his room for a 'frank discussion'. Duncan told the American: 'I'm working under protest.' George's reply was: 'In that case you're fired.' As if court-martialled, Duncan was ordered to hand over credit cards, office keys and car keys, and forbidden to go back to his office or to speak to any employees, some of whom were waiting in the bar below. The unused Concorde ticket was returned later. Stripped of all his company accoutrements, Duncan passed through the hotel lobby on his way out, stopping bravely but briefly for a token drink. Outwardly cool as ever, nobody could have guessed how he felt. At home his grief was total.

Company staff organized a farewell party. Calling Joan to ask her advice about the

venue, Duncan's loyal, hardworking secretary, Hazel, expressed her sadness, how much she had enjoyed working for him. Despite Joan's deep resentment of the pub's place in her husband's affections she agreed that 'the Leaf' was the obvious choice. Old drinking friends commiserated and tried to ease the pain by assuring Duncan he would be awarded 'thousands' in compensation.

An industrial tribunal met to consider the matter. The final decision was a year's salary and his Ford Granada Ghia. Emotionally shattered and physically drained, Duncan didn't have the heart to fight. It was over.

Possibly the only engineer in history to have pursued his entire career literally 'single-handed', Duncan James Woolard, CEng, MIMechE, was an outcast, shunned by colleagues and neglected by his peers. For his determination to be true to his professional standards, he had been kicked out ignominiously, as if caught red-handed in a criminal act. He would boast that he never achieved promotion by sucking up to anyone, but only by sheer hard work. He remained loyal to the end.

Reports of Mount Hope's progress filtered through from time to time via Duncan's faithful secretary who continued working for the new regime. She was shocked and horrified by her new boss whose language and manners were coarse and unprofessional where Duncan had always been the perfect gentleman. Also the new General Manager did not seem to know much about engineering. The Dartford plant closed down two years later. One factory remained in Scotland.

After several months of unemployment while Joan enjoyed the challenge of working fulltime, Duncan found another job and was promoted within two years from Engineer to Director. Boredom drove him to retire to America in 1982 with Joan to realise another dream. After a decade of learning to live alone together and sampling new experiences, they returned to live reclusively and frugally in Lincolnshire, their three sons married with families. In 1999 Duncan approached the company for the first time in twenty years and was delighted to discover that his WEFTRON machines were still going strong after 25 years in situ, a tribute to his engineering skill.

As for 'the old man', J D Robertson lived to a great age, surviving his second wife by several years. Mrs Robertson fell victim to emphysema and the Taunton mansion was cluttered with oxygen cylinders and breathing apparatus, which accompanied her, even to the hairdresser. Her widower finally succumbed to old age at 97, rotting from the feet upwards. Black holes seemed to eat away his toes as he lay helpless in a cot in his living room. The sound of British voices brought the familiar wide smile back to the mindless features in a brief moment of recognition - and then it was gone.