

ANNUAL REPORT 1992



DEMAND

Design & Manufacture for Disability

DEMAND

Design and Manufacture for Disability

Registered Charity no. 1008128

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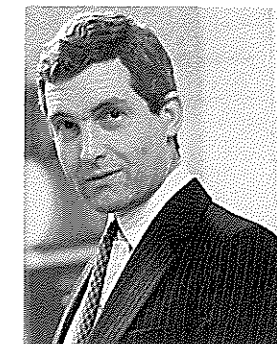
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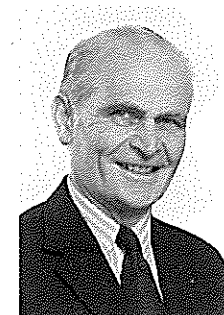
Priceless Gifts for People with Disabilities



I write to ask your support for a most practical and inventive charity which helps to transform the lives of thousands of children and adults. DEMAND Design and Manufacture for Disability provides unique items of equipment to meet their special needs.

The gift of a special powered chair can help a disabled person to live independently at home and affords them the dignity of not being totally reliant on others. The provision of a customised workstation may enable a disabled person to undertake normal employment or to return to employment, perhaps after a serious accident. DEMAND also designs equipment to benefit many people who suffer from more general disabling conditions: the walking/sitting frame and the Wolfson Stroke Chair are examples. These and many others can be found in the pages of this report.

Importantly, we carefully control the cost of administration and fundraising, to ensure the best possible use of your donations. Please help us to help more children and adults with severe disabilities.



Nigel Alington
Chairman

My late wife Paddy and I were involved in the problems of disability from early in our married life. Our youngest daughter was severely disabled physically and mentally from birth and now lives at the Ravenswood Foundation in Berkshire. In 1980 Paddy welcomed the opportunity to form and become Chairman of DEMAND, and she remained so until her death in 1986.

DEMAND was created to meet the special needs of disabled people, specifically by promoting the design and manufacture of appropriate furniture and equipment. Today this objective is fulfilled in two ways: first by designing and manufacturing furniture and other equipment for individuals with specific needs which cannot be met from other sources. Secondly by developing projects with a general application for the benefit of a large number of disabled people. In all cases the focus is on needs which are not being met by equipment produced commercially.

I warmly commend to you the work of DEMAND which I know from first hand is skilfully and conscientiously carried out by a team of dedicated designers and craftsmen.

The Lord Renton
Patron



Wolfson Stroke Chair

Her Royal Highness The Princess Royal was guest of honour at a conference "The Role of Occupational Therapy in Stroke Rehabilitation" on the 23 January, held at the Royal Society of Medicine, Wimpole St W1. DEMAND exhibited the Wolfson Stroke Chair which generated great interest from the 200 doctors, physiotherapists, occupational therapists and nurses who attended. In his address Sir David Atkinson, Director General of the Stroke Association, commended the Wolfson chair to the delegates. The photograph right shows The Princess Royal discussing the Wolfson Stroke Chair with Graham Dawkins, Designer, and Brian Greathead, Chief Executive of DEMAND.



The Wolfson Stroke Chair was specially designed for use by stroke patients who require postural re-education. The unique positioning features of the Wolfson assist the patient to adopt a mid-line upright symmetrical posture. This helps to prevent abnormal postural patterns from developing. The postural support provided can help to alleviate physical problems which often occur after a stroke, e.g. hypertonus and contractures, asymmetry, shoulder subluxation, tissue trauma and pressure sores. Correct posture also helps to re-educate a patient's sense of awareness and sensation. Use of the chair can aid the speed of recovery, so reducing bed occupancy and the need for prolonged therapeutic services.

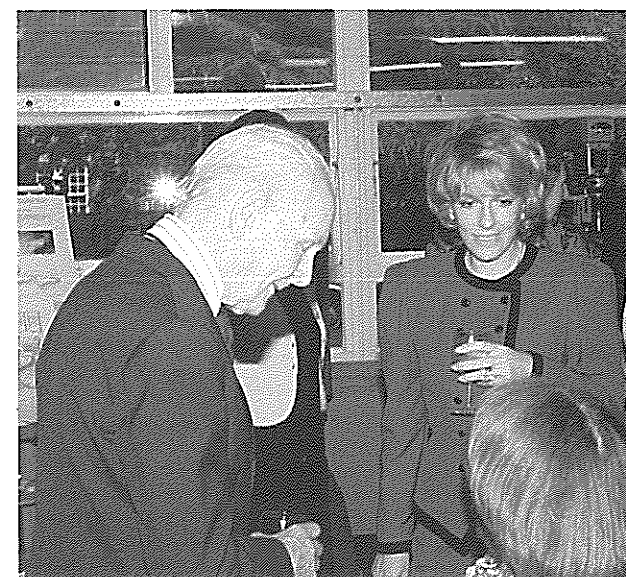
Because of generous help from the Wolfson Foundation DEMAND now distributes the chair for £950. This has greatly increased the number of individuals and institutions who are helped.

DEMAND will be pleased to demonstrate the Wolfson Chair to hospitals or other organisations to show at first hand the benefits which this chair can provide for patients recovering from a stroke. To arrange a demonstration please telephone Ron Currell, Operations Manager of DEMAND, on 0727 825506.



DEMAND Open Day

Esther Rantzen, Patron, was guest of honour at a DEMAND Open Day held on Monday 21 September. She was welcomed on arrival by Nigel Alington, Chairman, and Lord Renton, Patron, after which she toured the exhibition hall, design studio and workshops and expressed great interest in the projects being undertaken.



Over 100 sponsors, friends and supporters as well as doctors, physiotherapists and nurses, together with "League of Friends" from a number of hospitals, attended this very enjoyable occasion. The day provided guests with the opportunity to see at first hand the work carried out by DEMAND on behalf of disabled children and adults.



A wide range of products were on display with particular interest shown in the Wolfson Stroke Chair, motorised chairs and adjustable workstations. Also on display were projects by students from the Design Research for Disability Course at the London Guildhall University. These included a shower unit, designed specifically for users of wheelchairs and a special adaptable "Everybody" bed for elderly people living at home.

Miss Rantzen, in a speech to guests, said "I think this is a very important and unusual cause, and a very productive use of skills for people who need and deserve the best. Quite simply all types of design can make so much difference to the quality of everyday life". She went on to say, "what DEMAND does is to harness the skills of engineers and designers to produce these designs and to bring them together with the people who need them".

Miss Rantzen also received cheques on behalf of DEMAND from a number of its friends and supporters.

The photographs show Esther Rantzen, Lord Renton and guests enjoying the Open Day

The Talia Prone Board

The Talia Prone Board is one of DEMAND's early and most successful designs and is "The most widely specified Prone Board in the UK". It was designed specifically for young children with cerebral palsy. The board was designed in conjunction with the Bobath Centre and provides safe support through a range of angles between prone and standing. It is manufactured mainly from wood which gives it an attractive and non aggressive appearance.

The Talia Prone Board is manufactured and marketed by Nottingham Rehab with DEMAND receiving royalties on all sales.

From feedback from physiotherapists and parents it was thought that the board could be even further improved by the implementation of a number of modifications. Nottingham Rehab asked DEMAND if it would investigate the feasibility of introducing the improvements into the existing design.

The modifications which were incorporated were a new footplate mounting which increased the height range by 50mm; the trunk support and straps changed to give a wider range of positions; the size adjustment increased by modifying the body support. Further improvements were the addition of lockable castors and a carrying handle.

These improvements will allow the prone board to be used by a larger number of children than before and make it much easier to handle.



The BP Neurological Chair

In 1992 DEMAND completed the cost reducing evaluation of the BP Neurological chair and manufactured the first prototype. The modified design has maintained all the original features of the chair and in addition has made a number of improvements including a completely new legrest. The new legrest has infinite adjustment in both angle and length together with a fold away footplate. It is also easy to set and adjust even with the patient in position. Another improved feature is the split backrest, which together with the drop down armrest, allows nursing staff to more easily transfer patients in and out of the chair from their beds or wheelchairs. The main features that have been maintained are the reclining backrest, the seat height adjustment, the adjustable torso supports and the adjustable seat tilt. The simple adjustments have also been kept to allow the quick positioning of the patient to the best and most comfortable seating position for them.

The chair is at present with the National Hospital for Neurology, in London, where it is undergoing patient evaluation trials. When the trials are complete, and any further changes incorporated, the chair will be available to order.



Multipurpose Chair for Valerie



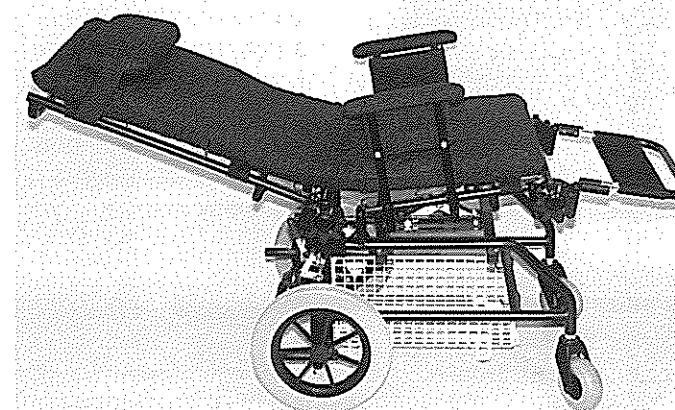
Valerie, who is 30, contracted polio as a child. She spends long periods in hospital undergoing specialist treatment for her severe breathing problems. Valerie is unable to walk and must lie or sit in a reclined position. She needs to adjust her position regularly to assist her breathing.

Valerie is married and tries as far as possible to lead a full family life. She enjoys holidays, shopping and visits to the theatre. Her family obtained a special minibus with ramps and the facility to accommodate a wheelchair. As Valerie is not able to use a normal wheelchair DEMAND were asked to help.

DEMAND designed and built for Valerie a mobile multipurpose adjustable reclining chair for indoor and occasional outdoor use. The chair gives her infinite adjustability to change her sitting position at frequent intervals to ease her breathing. It is light, manoeuvrable, well sprung and is upholstered with soft cushioning.

The chair, with Valerie in it, can be wheeled into her minibus and locked into the front passenger position so that she is able to have an unobstructed view through both the side and front windows.

Valerie can now enjoy long trips in the minibus, not previously possible, and is overjoyed with the freedom her chair gives her.



Armchair for Ian

Ian, who is thirty six, has been blind since he was twenty one as the result of a road accident. In the accident he also sustained a severe pituitary gland injury which has led to unchecked weight gain. Ian currently weighs 38 stone.

He lives in sheltered accommodation at The Royal School for the Blind. Because of his increasing weight he is unable to use a conventional armchair. He was using a dining chair but this provided him with little comfort and DEMAND were asked to help.

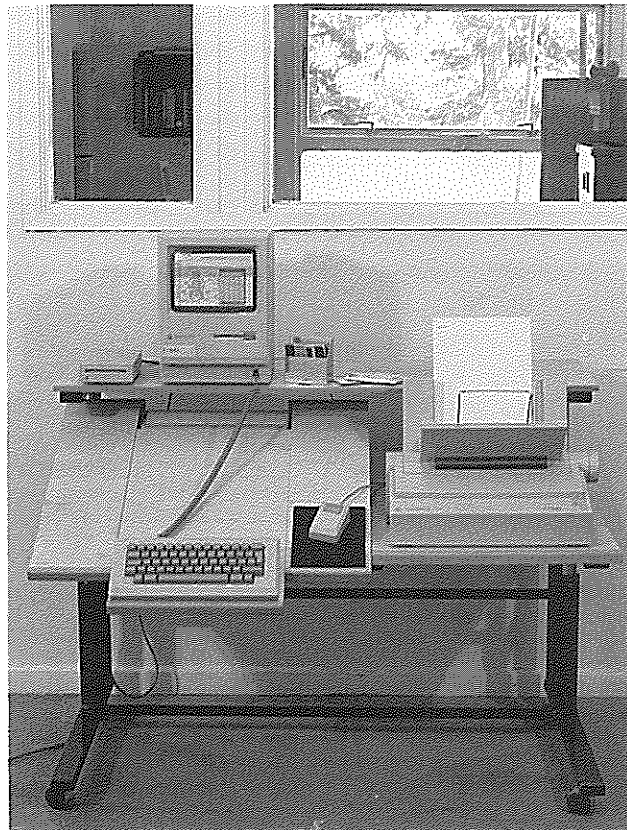
DEMAND designed and built for Ian a special armchair which dimensionally provided correct postural support. Ian is able to get in and out of the chair without help and it has greatly enhanced his quality of life.



Adjustable Computer Workstations

During 1992 DEMAND designed and built customised workstations for pupils with variable disabilities attending Grove Park School, Kingsbury NW9; Phoenix School, London E3; Coney Hill School, Bromley; Greenmead School, London SW15 and Breakspeare School, Abbots Langley. A further workstation was provided for Jacinth Molyneux who suffers from kyphosis, scoliosis and has a serious hip deformity. Jacinth works at Hackney Town Hall and was provided with a special chair by DEMAND in 1990.

All the workstations incorporate a keyboard tray adjustable through 15 degrees. This allows wheelchair users to slide the keyboard tray close to them between the arms of their wheelchairs. They also include height adjustable work surface and printer/monitor shelf; a cable management tray which safely stows the interface and power cables; a frame constructed of welded box section for durability and strength and a beech trimmed plywood working surface finished in durable clear lacquer. Finally four large lockable castors are fitted to provide a solid base and easy manoeuvrability.

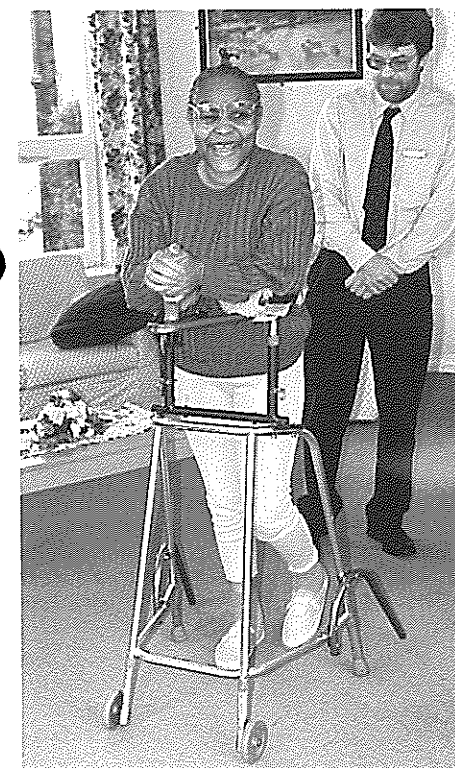


Therapy Apparatus for Henry

Henry, who is 5 years old, has cerebral palsy. Medical assessments last year suggested that he would benefit from a course of "Conductive Therapy" at the Peto Institute, Budapest, Hungary. This course was heavily oversubscribed and Henry was fortunate to be chosen, as only 1 in 10 applicants are accepted. He attended the 6 week course accompanied by his mother and father so that they could be taught the ongoing therapy necessary to ensure his continued progress. Because of the treatment Henry showed remarkable improvement in his mobility and his desire to learn was also greatly stimulated.

On returning home Henry's physiotherapist became concerned that his excellent progress at the Peto Institute would not be sustained as he did not have the specialised equipment required. The physiotherapist and his parents asked DEMAND to help.

From drawings and specifications of the equipment used at the Peto Institute, supplied by his father, DEMAND manufactured the apparatus needed for Henry to continue his therapy. The photograph shows him with his physiotherapist happily using some of the conductive therapy apparatus. Henry's parents and his physiotherapist are very pleased with the continued progress he is making.



Walking Frame for Mrs C

Mrs C is a patient in the Brain Injury Unit at Napsbury Hospital, London Colney. She uses a walking frame but unfortunately she sometimes has a tendency to be a little unstable and therefore required close supervision when using it. She also walks extremely fast which added to her instability.

Mrs C is a tall lady and in addition to the instability problem she tended to adopt a poor posture when using the frame. The frame was fitted with a special raised pulpit with arm rests and a single vertical handgrip allowing Mrs C to walk more upright and adopt a better posture. To give the frame additional stability DEMAND designed and fitted a pair of stabilisers to the rear legs which prevented the frame from accidentally tipping backwards.

Mrs C can now use her walking frame with confidence and without constant supervision.

Teaching Aid for Mandeville School

Mandeville School, in Northolt, Middlesex, specialises in teaching children with cerebral palsy and other serious neuro conditions. Many of the pupils have difficulty with eye and hand co-ordination and motor skill, e.g. gripping and letting go of objects. The school physiotherapist had an idea for a teaching aid which she believed would help her pupils to improve their skills. She asked DEMAND's help to develop her idea and design and build the apparatus.

The overall shape is of an old style "fruit machine" operated by a handle. Wooden parcels, with adjustable shapes, are posted into the top of the machine. When the right shapes are offered up correctly to the slots the parcels drop into a recovery bay when the handle is pulled. The apparatus can be simply reset to provide multiple posting combinations to challenge and stimulate the player. The Teaching Aid is made from wood and is finished in bright red, yellow and blue to give it an interesting and attractive appearance.

The children love to use the apparatus which is fun to play. It also helps them to develop their hand and eye co-ordination and improve their gripping and releasing motor skills.



Access Ramp for Cynthia

Cynthia, who is 35, has multiple sclerosis and is a wheelchair user. She spends a lot of the time alone as her husband is out at work during the day. She has two children who attend school and as she drives a car she is able to take the children to and from school and go shopping.

The family recently moved into a small bungalow with a garden, which she much enjoys. However, Cynthia did not have safe and easy access to the garden. The only commercially available ramps gave a too steep a gradient when fitted between her back door and the patio, causing her to feel very insecure.

DEMAND designed and built for Cynthia a 16 foot wooden ramp with a flat area in front of the door to enable her to turn the door key without fear of running backwards. The ramp has a smooth gentle gradient built into the contours of the garden. It also clears the rain lip of the door to give a 'non bump' entrance and exit. The ramp is also fitted with a non slip surface and a kerb for additional safety.

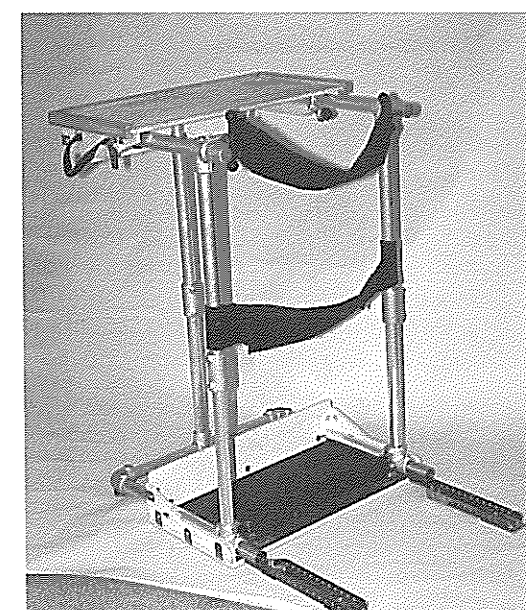
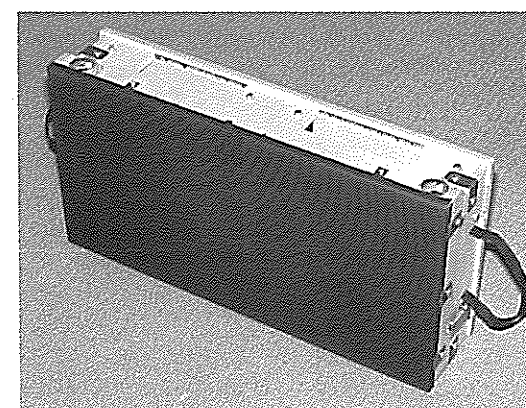
Cynthia now regularly and confidently goes into the garden and her garage with safety and independence.

Walking/Sitting Frame for Jenny

Jenny, who is 34, has multiple sclerosis and uses a wheelchair. She is too weak to stand unaided and is reluctant to use a conventional walking frame, even at home, as she is afraid of becoming fatigued and perhaps falling. Jenny is able to use normal seating but cannot go from one room to another without help from her husband. Unfortunately when he is at work she is unable to move. DEMAND was asked to help Jenny by her occupational therapist.

DEMAND designed a Walking/Sitting Frame with a swivel seat to enable Jenny to sit and rest when necessary. The seat engages when a sitting position is adopted and disengages when she stands up. It is not necessary to turn around to sit down, as with existing frames.

The frame allows Jenny to move about her home independently, even when she is alone, without the fear that if she becomes fatigued she may fall down.



Portable Standing Frame for Lee

Lee, who is 32, is a paraplegic as a result of a motorbike accident. He is six foot three and weighs sixteen stones. If he is not able to stand up for two or three hours each day he suffers from backpains and digestive and bladder disorders. When he is at home Lee uses a fixed standing frame to alleviate these problems.

Lee is very involved in voluntary organisations concerned with disability and attends and speaks at seminars and conferences throughout the country. As his existing frame was not portable, and he was unable to obtain one commercially, Lee asked DEMAND to help.

DEMAND designed and built a portable standing frame. It fits neatly into a carrying case which forms the footrest and tray of the apparatus when it is assembled. The frame is easily carried and Lee can assemble it in a few minutes unaided.

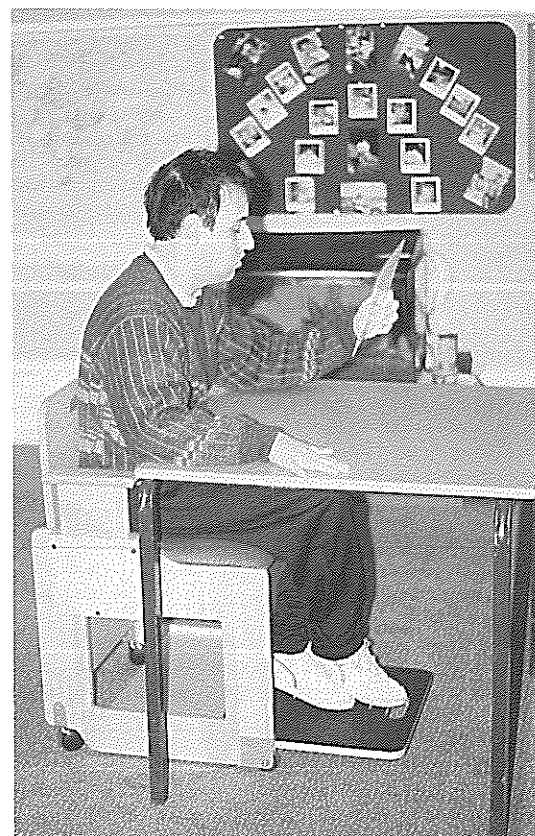
Lee says that apart from giving him great relief the standing frame makes an excellent lectern when he is addressing meetings. The frame has worked well for him and has aroused a lot of interest. DEMAND will exploit the potential of developing the design for general use by paraplegics.

Activity Chair for Chris

Chris, who is 22, has extreme learning difficulties. He has severe postural problems and cannot walk or even stand without assistance. He attends the Rosa Morrison Centre, Barnet, where he receives help to cope with his difficulties. Chris needs to spend time each day out of his wheelchair to help with his postural education. After a fruitless search by his physiotherapist for a seating system which would meet his needs DEMAND were asked to help.

Working in close collaboration with medical staff DEMAND designed and built a special chair for Chris. The chair has special arms and backrest which can be folded away individually to provide any combination of support when Chris is receiving postural therapy. It is fitted with castors and a slide away footrest to enable the chair to be moved from room to room in the day centre. The seat has comfortable customised cushions to enable him to spend long periods in the chair.

The chair also enables Chris to sit at the dining table and the activity table, which greatly assists the physiotherapist to carry out Chris's postural therapy.



Motorised Chairs

In 1992 DEMAND received a number of requests for help where people had a need for a motorised chair. Unfortunately, for various reasons, they were unable to obtain a suitable one commercially.

DEMAND were able to satisfy these needs by designing and building chairs which were dimensionally correct for a particular user as well as having cushioning to the correct shape and firmness they required. These chairs were built around commercially available, one or two function, motorised bases depending on the individual requirement.

The chairs have proved a great success as the user receives one which exactly meets their needs, whether it be the chair size, cushion shape, cushion density or its motor function.

The picture right shows one of the chairs designed and built by DEMAND and below is an example.



Special Toilet Supports

The Dacorum and St Albans Trust provides two sheltered accommodations for young adults with extreme physical disabilities and learning difficulties. These young people need support when using the toilet as they can be vigorously active and may slump forward or throw themselves from side to side. The existing toilet supports were inadequate for their special needs. No other supports could be found which would provide the appropriate security and it was necessary for the carers to assist them when they used the toilet. The Trust managers believed that young adults should have privacy when using the toilet and asked DEMAND for help.

DEMAND designed and manufactured three special toilet supports. These supports were made from tubular steel frames which were bolted firmly to the wall. A full length, comfortable moulded back support was fitted to the frame together with a full, quick release, harness. The frames were finished in white to harmonise with the other bathroom furniture. The supports are robust and give full support and security to the user without damage to the toileware.

The toilet supports have proved very successful. Their provision gives these young people much greater dignity when using the toilet.



Motorised Chair for Katherine

Katherine, 72, is a widow and lives alone in a small specially adapted bungalow. She has Parkinsons Disease and also suffers from severe arthritis. She frequently needs to be able to adjust her seating position to gain relief. Katherine is also very small and weak. She tried several commercially made chairs but was unable to find one that gave her comfort and relief from her severe arthritic pains.

Katherine wrote to DEMAND and asked for help. She believed that if she couldn't find a small chair which she could get in and out of herself she would not be able to continue to live independently at home.

DEMAND designed and built a custom made fully adjustable motorised reclining chair for her. The chair, which is much smaller than usual, enables her to sit comfortably. At the touch of a button, on a simple hand control, Katherine can adjust the chair to an infinite range of sitting or reclining positions. By raising and tilting the chair she can now get in and out of the chair unaided.

Katherine is delighted with the chair. She says that it has greatly improved her comfort and enables her to continue to live independently.

Customised Chair for Carol

Carol is 32 years old. She has severe mental and physical disabilities and has been a permanent resident at a Community Care Home for the past twenty years. She was using a commercially made chair which was entirely unsuitable for her special needs. A main problem was that Carol can be vigorously active and repeatedly throw her head and upper body forward and from side to side. These severe movements disengaged the settings of her chair so that it was uncomfortable and unsafe. DEMAND were asked to help.

Our designers visited Carol at the Community Care home and used the DEMAND test chair rig to assess her needs. In consultation with her physiotherapist and carers, it was agreed that Carol urgently needed a customised chair strong enough to resist her vigorous movements.



DEMAND designed and built a chair constructed with a solid beech frame for strength. It was upholstered with specially contoured cushions to give her maximum support and comfort. A velcro thoracic belt with easy release was fitted to prevent Carol from injuring herself during her periods of vigorous movement. A tray was fitted to the chair to facilitate eating and social activities. A footrest and lockable castors for ease of movement were also incorporated into the design.

Carol's physiotherapist reports that the quality of Carol's life has been enhanced by the comfort and safety which this special chair provides.

Protective Television Cabinet for Gerard



Gerard, 32 years old, is autistic. He has a mental age of three, but his mother Ann says that unlike a three year old child "Gerard has thirty-two years experience of life".

Two years ago Gerard had a depressive breakdown which caused him to become very destructive at home. He was eventually admitted to a psychiatric hospital. Now recovering, Gerard is allowed to be at home with his family at weekends. However Gerard still has serious behavioural problems. These centre around his obsession with the television. He does, in his father's words "get a little bit involved with some programmes". This can lead to him being over excited and breaking the television.

His parents believed that if the television were accessible to Gerard, but fully protected against damage, it would cease to be a target for his tampering. DEMAND were asked to help.

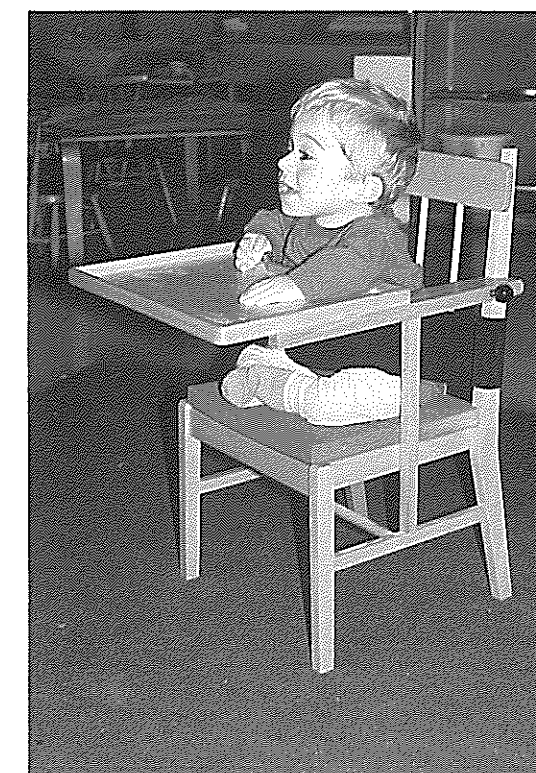
DEMAND designed and built a tamper proof cabinet with a transparent, unbreakable cover for the screen and doors to prevent the screen from being seen when not in use. Special controls that Gerard cannot abuse together with fully protected cabling add to its security and safety. The final design harmonises with existing furniture.

School Chair for Dominic

Dominic is 4 years old. He has brittle bone disease and his arms and legs have little growth and are disproportionate to his body size due to the large number of fractures he has experienced. DEMAND has previously adapted his powered chair as well as making him a drawing board and a special chair for use at home. He attends the Opportunity Class at Mandeville School, St Albans, and needed a chair which would enable him to take full part in school work. DEMAND were again asked to help.

The chair was designed to give Dominic maximum comfort and security to prevent him from incurring further fractures. The chair is fitted with an adjustable tray so that Dominic can use it to take part in school activities and also when eating. It is fitted with a wide bodystrap to give upper body support. Cushions were supplied which can be varied to suit differing heights of work surfaces and allow for his growth. The chair was made from beech with a conventional appearance to blend with the existing school furniture.

The provision of this chair has enabled Dominic to take part in many school activities. He now needs far less supervision as his teachers are not so worried about his falling and so sustaining further fractures.



Special Wheelchair for Rosa

Rosa, who is 75, contracted poliomyelitis forty years ago and has since been confined to a wheelchair. She is a widow and lives with her son who is out at work all day. Rosa's wheelchair, which she had for many years, was badly worn and unsafe. She had continued to use it as she was unable to obtain a replacement which gave her the comfort and manoeuvrability she required. After seeing Esther Rantzen's TV appeal on behalf of DEMAND, Rosa asked for help.

DEMAND's designers visited Rosa at home and subsequently designed and manufactured a new wheelchair to meet her special needs. The customised chair has firm contoured cushions to provide support and comfort. The wheel lay-out of the chair is designed to enable Rosa to propel and manoeuvre the chair even though she is now weak and rather frail. This was achieved by two large lightweight driving wheels to the front and a small wheel, on special bearings, at the rear. Special attention was given to the appearance of the chair as it is used entirely at home.

Rosa is delighted with her chair.

Footrests for a Day Centre

Rosa Morrison House, Barnet, is a day centre for young adults with extreme learning difficulties and a wide range of physical handicaps. Most of the young people use wheelchairs and are unable to walk or even stand without assistance.

While at the centre the young people are involved in a number of activities and therapy sessions, most of which require them to use seating other than their wheelchairs. Their therapy sessions, recreation periods and meal breaks are all taken at various locations within the house. This requires them to be wheeled from place to place in their alternative seating. Unfortunately, due to the nature of their handicaps, some of the young people were suffering severe bruising of the ankles, as it was impossible for the helpers to support their feet and wheel the chair at the same time.

The physiotherapist at the house asked DEMAND to look at the problem.

DEMAND designed and made sturdy retractable footrests which were firmly fitted to the underside of the chairs. The footrests were covered in a non slip rubber tread and had restraining straps to ensure the user's feet were safe and secure when the chair was being moved. When not being moved the footrests could be retracted to a stowed position under the chair.

Having these footrests means that the young people can be moved about the house without having to be transferred back and forth to their wheelchairs.



Chair Bed for Mrs. G.

Mrs G, who is 62 years old, has had severe spinal problems for a number of years. To alleviate pain she has undergone a number of operations which unfortunately have left her with limited mobility. She could stand and walk for very short periods but could not climb stairs. For most of the day she needed to lie flat or sit in a very reclined position.

In 1988 DEMAND designed and built Mrs G a fully reclining chair with contoured cushions to a firmness to meet her requirements.

The chair proved successful and Mrs G used it during the day for both sitting and sleeping.

Since then she has had rehabilitation therapy which has improved her sitting posture. In 1992 she asked DEMAND to rebuild her chair to meet her changed needs. All the existing cushioning was replaced with new cushioning of a different firmness and contour. Further modifications were carried out to the chair and footrest to meet new dimensional requirements.

With these modifications and her improved posture Mrs G is now enjoying a degree of comfort she has not had for a number of years.



Computer Interface and Switch

Richard, who is six and has cerebral palsy, is a pupil at Mandeville School in Middlesex. At school he was using a computer, together with other electrical communication and learning aids. Unfortunately he was having extreme difficulty in operating the switches due to his lack of hand co-ordination. Although a special switch was made for Richard it was declared unsafe by the local Electricity Board.

The school physiotherapist wrote to DEMAND to ask if we could help.

Other Projects

In 1992 DEMAND helped many more people than we are able to highlight in this report. Among the other projects were modifications to clients' equipment previously supplied by DEMAND and also equipment which had been purchased commercially. These modifications were usually required for reasons of comfort and safety. In some cases they were adaptations of existing equipment for another user. Other work undertaken was the refurbishment of chairs and equipment.

A motorised chair, originally made for Mrs Eve Castle by DEMAND, was refurbished. Her husband Roy's manual recliner was also refurbished. Eve and Roy, who are both wheelchair users, continue to live independent lives in their specially adapted bungalow.

Customised, motorised chairs were made for Mrs Milton of St Albans and Mrs L of Essex, who both suffer from severe arthritis.

DEMAND acknowledges the assistance given by:

Herbert Pepper & Rudland, accountants
The Disablement Advisory Service
The Charities Aid Foundation
The Directory of Social Change
The Disabled Living Foundation
The Kings Fund

DEMAND designed and manufactured a special switch housing from a high density wood into which was fitted a large easily operated switch. The housing was made from a solid piece of wood with the switch position being machined out. The external interface cabling was soft pliable PVC to avoid kinking or fracturing. The result was a safe switch which Richard could easily operate himself and which gave him independence when using his electronic aids.

Sarah lives in Mencap sheltered accommodation in Harpenden. Her chair was modified to make it more comfortable.

Miss A's office chair, which DEMAND designed and built some years ago, was refurbished with new customised cushions to meet her changing needs and re-upholstered. The chair will now give many more years of valuable service to her.

DEMAND also helped many other disabled people to locate the special equipment they needed. By searching through our large data base of equipment for disability we advised over a hundred clients. Advice was sometimes given in reply to a telephone enquiry but more frequently resulted from our visiting the client at home and assessing their needs.

Staff Associates

Ron Currell, Operations Manager
Alan Stokes, Finance and Fundraising Manager
Beryl Cresswell, Administration
Brian McGirr, Designer
Graham Dawkins, Designer and Craftsman
David Gold, Craftsman
Frank Flanagan, Craftsman
Kelvin Scott, Craftsman
Derek Bone, Craftsman

Design Research for Disability at the London Guildhall University

Since DEMAND was launched from the London College of Furniture in 1980, education in this country has undergone many changes. During this period the London College of Furniture became incorporated into the City of London Polytechnic. However, since the Government decreed that institutions that award degrees should have university status, we are now the London Guildhall University.

We are happy to report that students who were successful on the postgraduate course Design Research for Disability in 1992 have been awarded their degrees from this new university.

All students on this course get involved in project work that benefits people with disabilities. They also emerge as well qualified designers or therapists with special knowledge, able to make a contribution to the professions and manufacturing organisations concerned with disability. Some of the research activities are described below.

Attracta Durkin, an occupational therapist, recognised from her clinical practice that many people with disabilities could not travel abroad by air. This is because the Civil Aviation Authority regulations are very strict about the position of passengers during take off and landing. Seated passengers must be able to maintain an upright posture. Passengers who can not maintain control of the upper trunk are allowed to travel on some airlines if they occupy three seats lying down and are accompanied by a carer, all of which has to be paid for.

Attracta carefully researched this problem by making contact with all major airlines. After conducting experiments with harnesses and aircraft passenger seats, she designed and developed a series of posture supports that can be worn like a waistcoat.

Final prototype supports were flight tested by kind permission of British Midland Airlines. Passengers with disabilities who flew from Birmingham to Edinburgh and back found each support to be successful, as did the members of the cabin crew.

Attracta is now back in professional practice and hopes to see this innovative design go into production.

Attracta was awarded the Irene Mould prize for this work.

Robert Aley, a designer, joined the course with a bursary from the Spastics Society. Robert designed a modular shower unit that can be assembled to fit into adapted premises to meet individual needs. The controls, which have braille markings, are designed to be used easily in a variety of positions. A swivel seat on a pivoting arm allows for easy transfer from a wheelchair.

The full size mock up of this unique shower unit was built using the DEMAND workshops prior to testing at Hackney Hospital.

This well researched design is now available for manufacture.

Elizabeth Shaw, an occupational therapist, was aware of the isolation that some blind and partially sighted children feel because they cannot integrate easily with their sighted friends.

During her postgraduate studies, Elizabeth designed and developed a series of games that can be played by both blind and sighted children together. The principle of learning through play is well established and this particular design has the unique feature of being based on smell and texture. This means that blind, partially sighted and sighted children can play together on equal terms.

The final prototype was successfully tested at a school for the blind and partially sighted children at Sevenoaks. In order to keep manufacturing costs low, production of this design is based on the use of computer controlled router techniques.

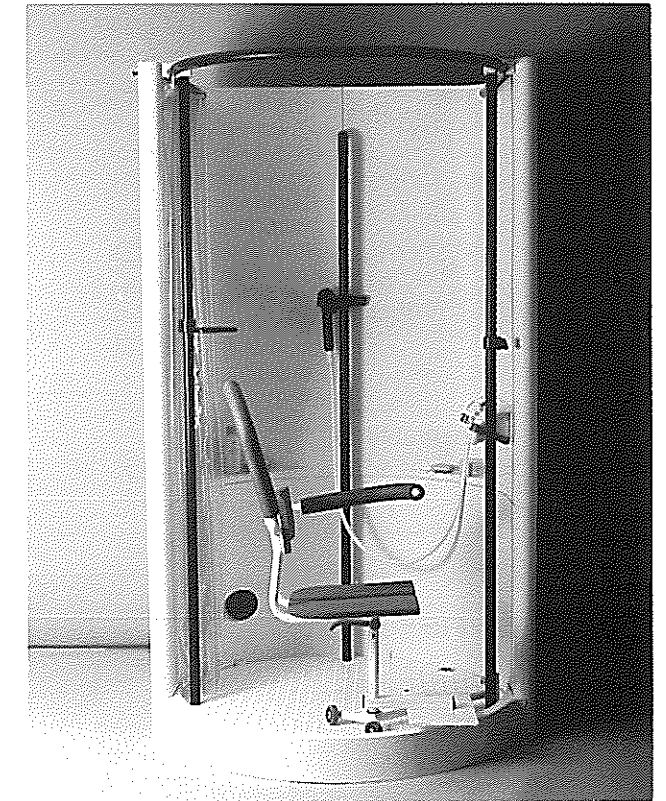
Mel Leggett is a part time Diploma student on the course. At the moment he is developing a range of seating components that can be fitted to standard school furniture. In the early part of his course at the university, Mel submitted work for the Royal Society of Arts Design Awards. He was selected for interview and won the 1992 Helen Hamlyn Foundation Travel Award. Mel is using this prize money to visit Sweden to further his design research work.

Currently, many other projects are being undertaken on the course and will be presented to distinguished external examiners during 1993.

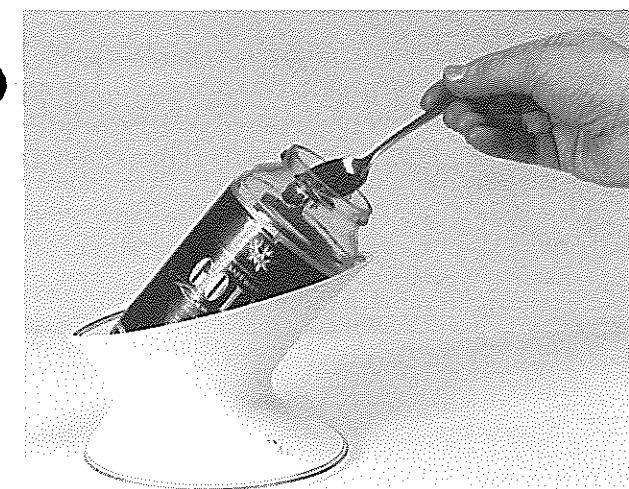
Examples of Student Work



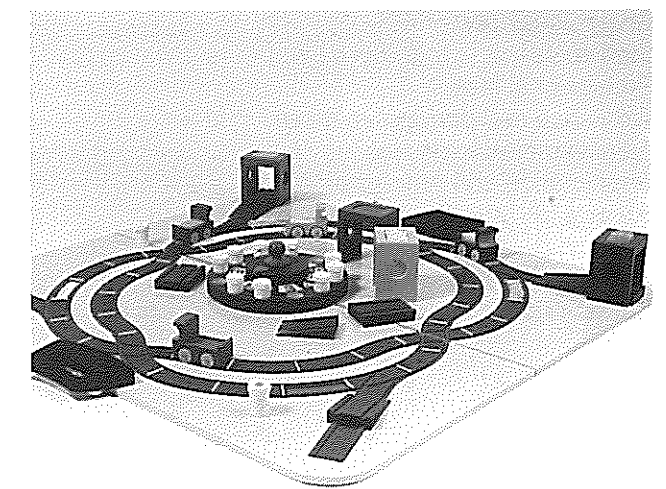
Posture support for disabled airline passengers
Designed by Attracta Durkin



Modular Shower Unit
Designed by Robert Aley



A working model of a jar gripping device
Designed by Mel Leggett



Game to teach special awareness to blind and partially sighted children
Designed by Elizabeth Shaw

DEMAND

Design and Manufacture for Disability

Income and Expenditure Account for the year ended 31 December 1992

	1992		1991	
	£	£	£	£
INCOME				
Donations		141,770		174,328
Opera Evening Event		21,896		—
TV Appeal		—		36,586
Untaxed Interest		16,293		22,612
Royalties		5,074		7,802
Income Tax recoverable		319		1,283
Sales		4,076		—
		<u>189,428</u>		<u>242,611</u>
Paddy Renton Fund				
Donations and covenants	500		600	
Income Tax recoverable	167		167	
	<u>667</u>		<u>767</u>	
Less: Expenses	(3,355)		(3,678)	
Per Balance Sheet	<u>(2,688)</u>		<u>(2,911)</u>	
EXPENDITURE				
Cost of sales		8,249		8,444
Opera Production Expenses		13,888		—
Students support		1,659		937
Staff costs		125,405		121,445
Professional fees		7,392		3,990
Workshop and design expenses		30,870		49,921
Administration expenses		9,706		10,455
Depreciation and Amortization		26,493		25,599
		<u>223,662</u>		<u>220,791</u>
(DEFICIT)/SURPLUS		<u>(34,234)</u>		<u>21,820</u>

DEMAND

Design and Manufacture for Disability

Balance Sheet 31 December 1992

	1992		1991	
	£	£	£	£
FIXED ASSETS (net of depreciation)				
Leasehold Property Alterations		—		15,803
Tools and equipment		45,913		54,669
Motor vehicle		2,342		—
		<u>48,255</u>		<u>70,472</u>
CURRENT ASSETS				
Debtors and prepayments	7,180		7,490	
Cash and bank balances	194,897		193,974	
	<u>202,077</u>		<u>201,464</u>	
CURRENT LIABILITIES				
Creditors	54,181		38,863	
	<u>147,896</u>		<u>162,601</u>	
	<u>196,151</u>		<u>233,073</u>	
FINANCED BY:				
GENERAL FUND				
Balance brought forward		213,383		191,563
(Deficit) Surplus for the year		(34,234)		21,820
		<u>179,149</u>		<u>213,383</u>
PADDY RENTON FUND				
Balance brought forward	19,690		22,601	
(Deficit) for the year	(2,688)		(2,911)	
	<u>17,002</u>		<u>19,690</u>	
	<u>196,151</u>		<u>233,073</u>	

Hon Treasurer/Trustee
A Cussins



REPORT OF THE AUDITORS TO THE TRUSTEES OF DEMAND

We have examined the annexed balance sheet and income and expenditure account which have been prepared under the historical cost convention. In our opinion, the accounts give a true and fair view of the state of affairs of DEMAND at 31 December 1992 and of the income and expenditure for the year ended on that date.

2 South Audley Street
Mayfair, London W1Y 6AJ

HERBERT PEPPER & RUDLAND
Chartered Accountants
Registered Auditor

Principal Donors to DEMAND and the Paddy Renton Fund in 1992

Abbey National Charitable Trust Ltd
The Airflow Community Limited
The Alchemy Foundation
Anonymous
Laura Ashley Limited
The Ian Askew Charitable Trust
The Astor Foundation
Mrs G K Aujla
Bank of England
Barclays Bank plc
Benham Charitable Settlement
The Sydney Black Charitable Trust
The Hubert Blake Charitable Trust
Chas A Blatchford & Sons Limited
Boots Charitable Trust
The E G & M A Bousfield Charitable Trust
The British Petroleum Company plc
David Brooke Charity
BUPA
The Edward & Dorothy Cadbury Trust
Canon (UK) Limited
Cazenove & Co
Chapman Charitable Trust
The City & Metropolitan Welfare Charity
Miss Clements
The Clothworkers' Foundation
The Clover Trust
The Joseph Collier Charitable Trust
Cornhill Insurance plc
Courage Charitable Trust
The Coutts Charitable Trust
Cripplegate Foundation
Miss V Davis
D M Charitable Trust
The D'Oyly Carte Charitable Trust
The R M Douglas Charitable Trust
Alfred Dunhill Limited
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The John Ellerman Foundation
Electrolux
Employment Service
The Worshipful Company of Engineers
Enid Blyton Trust for Children
The Esme Fairbairn Charitable Trust
Esselte Letraset Limited
Claude Fenton (Holdings) Limited

Fine Art Developments plc
The Gerald Fogel Charitable Trust
Lueen Francis
G T Management plc
Glaxo(1972) Charity Trust
The Penelope Gluckstein Charitable Settlement
The Glynwed Charitable Trust
The Godington Charitable Trust
Gombards
The Grut Charitable Trust
The Haberdashers' Company
The Eleanor Hamilton Educ'l & Charitable Trust
Hartwell Plc
The Hawthorne Charitable Trust
HCC Social Services
John Heyer Paper Limited
Henderson Administration Group plc
Lady Hind Trust
Hobson Charitable Trust
The Anthony Hornby Charitable Trust
Alexander Howden Group Limited
David Hyman Charitable Trust
ICI Charity Trust
Ironmongers Company Charitable Trust
Jardine Insurance Services Limited
Ian Karten Charitable Trust
Mr & Mrs Kaye
C M Keyser Charitable Trust
Mrs King
Kleinwort Benson Charitable Trust
The Maurice Laing Foundation
Mrs Lapworth
Rachel & Jack Lass Charities Limited
Mrs F B Laurence's Charitable Trust
Edgar E Lawley Foundation
Lazard Bros and Company Limited
D F Leyhane
The Leopold Muller Estate
Sir Edward Lewis Foundation
Lilly Industries Limited
The Members of Lloyd's and Lloyd's Brokers
Lloyds Bank Charitable Trust
The London Hospital Clubs Union
London Metal Exchange Limited
Macallan-Glenlivet plc
Marks & Spencer plc

Marks and Spencer plc, Banbury
D W Masters
The Miss Marsh Charitable Trust
Matthews Wrightson Charity Trust
The Maxwell Trust
The Medical Insurance Agency Charity
The Worshipful Company of Merchant Taylors
The Miller Insurance Group Limited
The Ministering Children's League
Monsanto plc
Arthur Morphy Memorial Fund
Victor Mould Esq
National Westminster Bank plc
News International plc
Bernard North
Norwich Union Insurance Group
P.F. Charitable Trust
The Priory Foundation
Mrs Katherine Reed
Mrs E R Rigby
N M Rothschild & Sons Limited
The Peter Saunders Foundation
The Rayne Foundation
The Christopher H R Reeves Charitable Trust
Lord Renton
The Robertson Trust
Rowan Bentall Charity Trust
Royal Bank of Canada
The Royal Bank of Scotland plc
Royal School for the Blind
S P Van der Steeg
Sandoz Chemicals (UK) Limited
Scandinavian Bank
Schroder Charity Trust
The Scott Bader Commonwealth Limited
Ada Marjorie Scott
Mr and the Hon Mrs Tim Scott
Miss A M Sizer
Freddy Smith Trust
Mrs M A Smith
W H Smith Limited
The Sobell Foundation
Sony (UK) Limited
Miss J Thatcher
The Thompson Corporation Charitable Trust
The Sir Jules Thorn Charitable Trust
The Toronto Dominion Bank
J Walter Thompson Company Limited
The Towry Law Charitable Trust

TSB Foundation for England and Wales
Unigate Dairies Limited
Unilever PLC
United Biscuits (UK) Limited
United Glass Limited
United House Limited
The Vandervell Foundation
The Variety Club Children's Charity
Lady Ward
A J & D L Warman
Ann & Gerry Whitehead
Miss N L Wilson
Michael & Anna Wix Charitable Trust
The Maurice Wohl Charitable Trust
D L Wright

