

## DESIGNERS – PART 3

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# DESIGNERS – PART 3

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# CHRISTOPHER DRESSER

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Dresser is known for his role in the Aesthetic Movement and later the Design Reform Movement. The Design Reform Movement was concerned, with the lack of design quality of British products, compared to European competitors. The Movement believed that shape and form should take precedence, over elaborate decoration and that form was determined by the function of a product. Ornament / decoration should be simple. Dresser followed this set of principles for many of his designs / products.

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# CHRISTOPHER DRESSER

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Dresser designed products that were manufactured from a variety of materials, including ceramics, textiles, carpets and a variety of metal products.

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TOAST OR LETTER RACK  
1884



WAVE BOWL  
1885



WALLPAPER  
1876



PITCHER  
1882



CAST-IRON GARDEN SEAT  
1890



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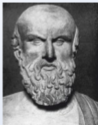


# ARCHIMEDES - 287 – 212 BC

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Born in Syracuse in Greece. He revolutionised geometry and calculus and is regarded as one of the greatest mathematicians in human history. He defined the principle of the lever. Archimedes was also an inventor, developing a number of mechanical machines, including the Archimedean screw, a device for lifting water up hill. His work gave rise to the sciences of Mechanics and Hydrostatics. He also determined the laws / mathematics of levers and pulleys, which are still relevant today. Furthermore, Archimedes was the first to understand the relevance and significance of the 'centre of gravity'

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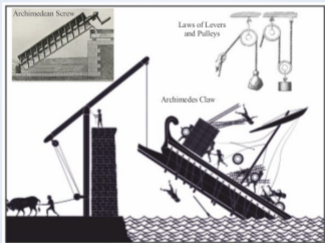


# ARCHIMEDES - 287 – 212 BC

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It is believed that he devised a mechanical device that was used during the siege Syracuse (250 BC), to lift and destroy a fully armed and crewed Roman warship. This was called the Archimedes Claw. It is the first recorded use of compound pulleys.

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# CHARLES AND RAY EAMES

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The classic chair seen below, was designed by Charles and Ray Eames in the 1950s. It was first manufactured for sale in 1956.

New materials and techniques were used in its construction, such as the use of laminated plywood (layers of veneers) which was extensively developed during the Second World War, for military purposes.

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# OWEN MACLAREN

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Owen Maclaren is best known for his innovative design of a lightweight folding baby carrier.

However, his earlier design work for the aeronautical industry, proved vital for the war in the air, during the Second World War. He designed the undercarriage of the famous

Spitfire. He had been a test pilot for the Supermarine Spitfire. The new undercarriage design, allowed the plane to manoeuvre whilst on the ground. In 1944 he founded a company manufacturing aircraft parts, mainly for the thriving British Aeronautical industry.

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# OWEN MACLAREN

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He saw an opportunity to apply his skills, when watching his daughter struggling with a child's push chair. Existing push chairs were heavy and very difficult to lift and manouvre and lacked style. He applied his knowledge of folding lightweight tubular structures, to that of children's push chairs. He designed the Maclaren B-01 Buggy.

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# DAVID CONSTANTINE

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David Constantine entered a competition in 1989, to design a wheel chair (along with a colleague Simon Gue), that could be used in a range of terrains. David had already been a wheel chair user for several years. The wheelchair had to be manufactured from locally sourced materials and employ local technicians. They won the competition and formed an organisation called 'Motivation', in 1991.

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# DAVID CONSTANTINE

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In 2012, the International Paralympic Committee, asked Motivation to design an affordable sports wheelchair, that athletes from around the world could purchase. The wheelchair was to be at the fraction of the cost of those supplied by other 'specialist' wheelchair manufacturers. The result was Motivation's Multisports Wheelchair, which has been designed for a wide range of users, from school children to adults.

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# OTTO LILIENTHAL

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Otto Lilienthal designed and manufactured gliders in the nineteenth century, in Germany.

He was a Professor of Engineering. His designs worked, enabling him to glide, although they were very dangerous. He died in 1896 when a sudden gust of wind caused him to lose control of his glider. He should be regarded as a daring inventor, designer, 'biomimicrist' and innovator..

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# BARNES WALLIS (1887 –1979)

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Barnes Wallis studied Aviation Design after an earlier career in engineering. He is remembered for the bouncing bomb, used on the night of the 'Dam Buster Raid' by the RAF, in May 1943. He invented /developed several innovative designs, including the innovative 'geodesic' structural design (triangulation), for the Vickers R100. During in World War Two, his success with the bouncing bomb led to further bomb designs, including the Tallboy and Grand Slam bombs

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# BARNES WALLIS (1887 –1979)

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# ALI IBN KHALAF AL-MURADI

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He lived in Islamic Spain and was a scientist and engineer. His mechanical designs were advanced compared to European water mills..

He designed complicated clocks and other innovative devices. All his devices required complex mechanisms (including gears, syphons and float valves) and were driven by a constant flow of water.

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# SU SONG 1020 - 1101 AD (CHINA)

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A mechanical and architectural Engineer, as well as a Scientist. He designed the first mechanical clock, powered by water and having a chain drive mechanism. The clock was designed to predict astrological events for the Emperor, ensuring that the Emperor could be seen as being able to predict the future.

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# VLADIMIR SHUKHOV 1853 - 1939

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A renowned Engineer and Mathematician. He designed a series of pioneering towers, based on hyperboloid structures. Existing towers such as the Eiffel Tower, had a wide heavy base, to secure the structure in position. They were also very bulky and over engineered.

However, Shukhov used his Mathematical knowledge, to design curved lightweight hyperboloid structures.

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# NICOLAS-JACQUES CONTÉ

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Everyone owes a debt of gratitude to Nicolas-Jacques Conté, the creator of the first recognisable 'pencil'. Pencils have made it possible for anyone to write, draw, sketch, present ideas, record facts and fiction and much more. He was passionate about the mechanical arts (engineering) and science.

He was interested in gas balloons and formed the first airborne battalion. It was during this era that he lost an eye, during an experiment with gas. He was an innovative engineer and also an accomplished artist.

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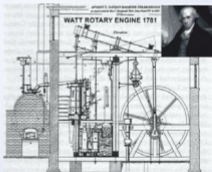


# JAMES WATT

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A Scottish engineer and instrument maker. His innovative thinking led to improvements to the steam engines. His interest in engines was stimulated, when he was sent one of Newcomen's steam engines for repairs. He realised that it's efficiency could be greatly improved, by the addition of a separate condenser. He went on to design a rotary engine, which could be used to drive a wide range of machines, such as those used in textiles factories.

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