

Geddes Research Fellowship

The Studentship and the Process

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Dorothy Ann Malcolm Geddes OBE

Dorothy Ann Malcolm Geddes was the former Dean of the Faculty of Dental Surgery of the Royal College of Surgeons of Edinburgh and Professor of Oral Biology, University of Glasgow.

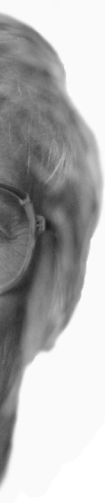
Professor Geddes was born on 8 May 1936 in Alloa and educated at Brechin High School. Despite being both left-handed and dyslexic she chose dentistry as a career; all the more surprising since early indications of her abilities had pointed towards an arts degree. She overcame her handicaps and after a distinguished undergraduate career graduated from Edinburgh University in 1959.

In 1963 she 'took her seat' as the first lady to be awarded the fellowship in Dental Surgery of the Royal College of Surgeons of Edinburgh.

She made a career change and moved to the Eastman Dental Centre in Rochester, New York, where she carried out research into dental caries. She made a life long contribution to caries research that culminated in the highly prestigious award of the European Organization for Caries Research Rolex prize.

On returning from New York she worked with Professor Neil Jenkins in Newcastle prior to being appointed to a Lectureship at Glasgow Dental Hospital and School and in 1990 she was appointed to a Personal Chair.

After 10 years of committed service on the Dental Council of the RCSEd she was duly elected Convener of Dental Council and Dean of the Faculty of Dental Surgery. In this she completed a unique triple as the first female; FDS RCSEd, Professor in dentistry in the United Kingdom and Dean of a Faculty of Dental Surgery of any Royal Surgical College in the United Kingdom and Ireland.



The Dorothy Geddes Studentship

The Studentship supports a postgraduate student undertaking a higher degree. In addition to providing financial support, it was agreed at an early stage that recipients should receive a medal to mark their achievement. The Glasgow School of Art was commissioned to design and produce the medal, which would reflect some of the processes used in dentistry.

Has been awarded the Dorothy Geddes Fellowship Medal

Process

The process of the medal follows the methods taught in Product Design Engineering, the groundbreaking course jointly taught by the University of Glasgow and the Glasgow School of Art. The basis of this process is human centric. So, how can a medal be human centric? Well, a sense of ownership and an artefact that is fit for purpose are a good place to start. The biggest challenge was to deliver a medal that did justice to what Professor Geddes stood for.

The discussions that were held provided an insight into the profession. The Golden Ratio and its use in restorative

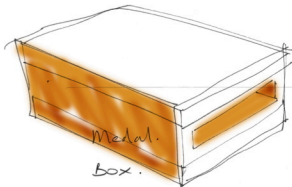
dentistry provided a system for the proportions of the medal.

Existing and emerging manufacturing techniques used in dentistry were considered. The marriage of these and product design methods provided the means to build the prototypes.

Rapid Prototyping methods such as Direct Metal Laser Sintering were tested in addition to the traditional methods of Lost Wax Casting and Machining. Lost Wax Casting was selected due to its relevance to dentistry.

Concept Development

The following images provide an insight into the Concept Development process.



Medal.

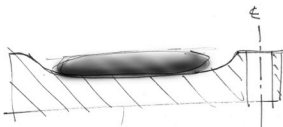
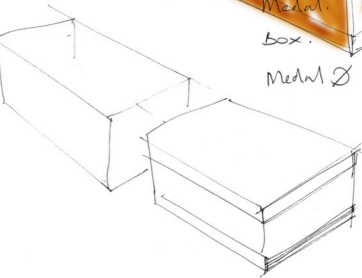
Box.

Medal \varnothing 44.6

0.45	1.53	
0.58	2.47	
	4.0	26.4
		6.5
		10.5
		16.91

\rightarrow
 + 44.5
 72.16
 116.75
 188.91
 305.67

GR =









Prototypes

The following images provide an insight into the Prototyping process.

Techniques that were used:

Traditional Modellling

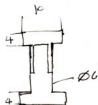
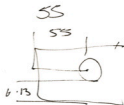
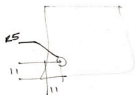
CNC Machining

Relief Mapping from Black & White Imagery

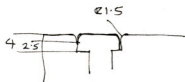
Fuse Deposit Modelling (FDM)

Direct Metal Laser Sintering (DMLS)

Lost Wax Casting



59×67
 $44.5 \quad 33.5$
 $22.25 \quad 16.75$
 $11.125 \quad 8.375$



11.7
 8
 19.7

7.1. B+W 500 DPI
 100 S 15 P
 Vector Normal.
 Enster Jervis

7.2. 10 600 DPI
 100 S 10 P
 All Enster
 Error Flgnd.





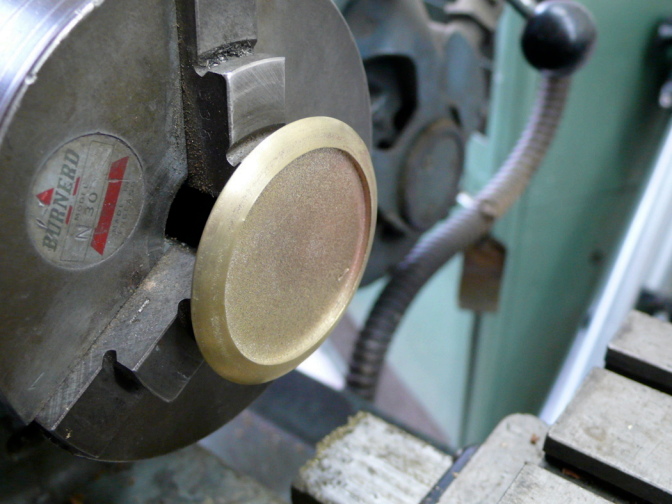


Production

The following images provide an insight into the Production process.

Components:

Medal	Nickel Silver, Lost Wax Cast, Machined and Hand Finished
Insert	Laser Etched Acrylic
Box	Scottish Oak, CNC Machined and Hand Finished
Pivot	Machined Brass









OBE 1938-1998

Geddes Research Fellowship

Dorothy

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