

POLYTECHNIC OF TORINO
FACULTY OF ARCHITECTURE 2
Degree in Architecture
Honors theses

The role of design in quality watchmaking

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This thesis aims to analyse mechanical watches, wrist watches in particular, from the design point of view.

In the first section we identify two different, mutually dependent values present in the development of the mechanical watch: one historic, the other symbolic.

Our analysis begins by considering the collective and individual perception of time at three different eras in social history: pre-industrial, industrial and post-industrial.

From the sundials and hourglasses of the classical period, we continue with the introduction of the mechanical watch, first on a monumental scale, with public clock towers, then getting smaller and smaller to reach portable watches, ending up at the wrist watch.

The acknowledged symbolic value of the watch goes beyond its mere utility as a measuring instrument: the timepiece has come to play a precise role in human relations. The design of a watch makes a statement about its wearer, and enables the individual to interact with his peers for all aspects of time management.

The second section deals specifically with the form of portable watches. This part opens with a critical examination of the various types of interior timepieces present from the XVI to the XX centuries; from the domestic clock to an analysis of portable models, up to the 19th century pocket watch.

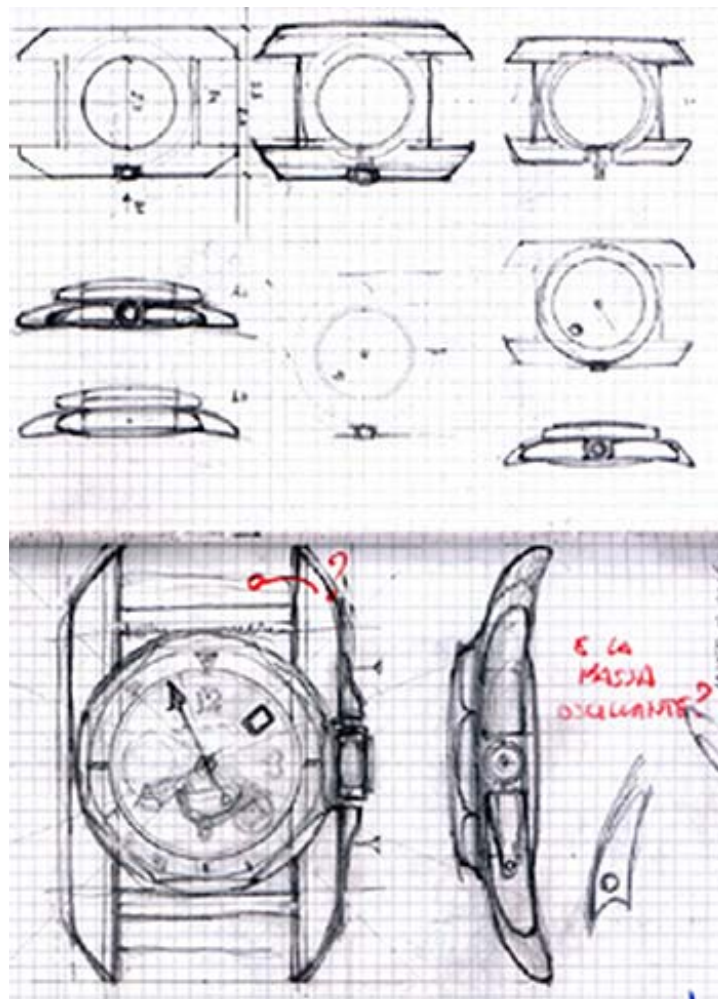
The twentieth century heralded the advent of a completely new type of timepiece: the wrist watch. The reduction in size of the technical components and the new position (no longer in the pocket but now on the most exposed part of the human body) obliged watchmakers to rethink the nature and design of their products: during this phase the work on the design of the watchcase acquired great importance for adapting the old timepieces to the new conditions of use.

Firstly, the delicate mechanical components had to be given better protection than before, above all to protect the watch from accidental knocks and the infiltration of moisture. Secondly, it was necessary to adapt the shape of the watchcase to the anatomy of the wrist.

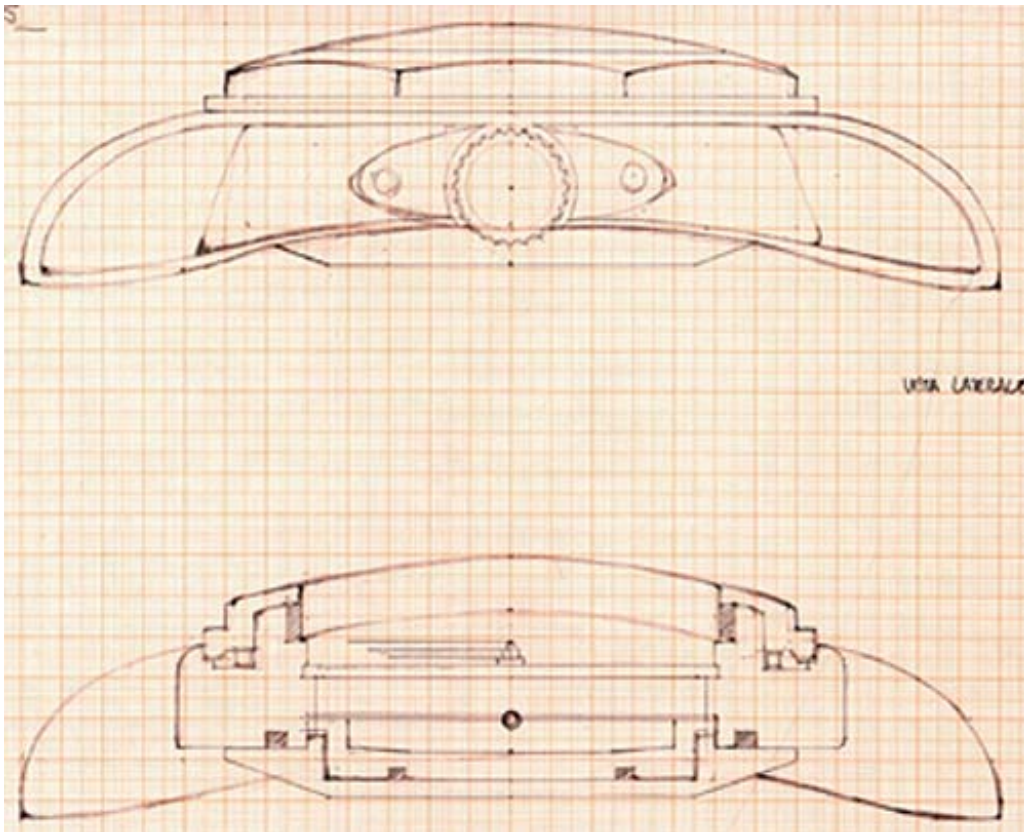
Together with the design, which we intend as a combination of technology and function, the look of the watch took on great importance: compared to the pocket watch, the wrist watch acquired a greater symbolic value due to its increased visibility on the wearer. The style of the watch thus came to represent a link between the object and the socio-cultural environment where it came into being and was used.

The chapters dedicated to the wrist watch examine the various stages of technological development and the different types of watch. The final part of this section looks at five classic models which illustrate the key characteristics of the wrist watch: the Cartier *Tank*, the Rolex *Oyster*, the Jaeger-LeCoultre *Reverso*, the Patek Philippe *Calatrava*, the Girard-Perregaux *Toubillon under three gold bridges*.

The third and final part of the thesis includes a design project for a mechanical diving watch. This aims to simulate the design process which is normally undertaken by a Swiss watchmaker when creating a new product. This project had to take into account practical requirements (the demands of professional divers), technical features (the size of the watchcase is calculated to house a normal mechanism) and styling (according to the canons of quality watchmaking traditions).



Preliminary sketches



Design proposal, side view

The exercise concluded with the creation of a brass prototype, without the mechanism (in order to keep the costs of the project low), which could realistically be mass produced, thanks to the collaboration of the technical staff of the Swiss manufacturers Girard-Perregaux.



Prototype, front view

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