Functional or Appealing? Traces of a Long Struggle

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Nowadays, the large majority of computing devices are mass market products. We are speaking of *smart–phones*, *tablets* or video-game *consoles*: they all are true computers, even if "specialized" (as the advertisements would say) to run only a subset of applications. However, their noble nature of *universal machines* is largely irrelevant for their success as products. They are *accessories*, more technological, "smart" and "innovative" than dresses, shoes, handbags and so on, but still accessories that people buys not only because of their functional purposes.

On these kind of mass products, the marketing strategies rely on non–functional qualities like the external design, the name of the brand, the perception of the product as a status symbols. These *emotional* qualities make the product appealing for the potential buyers and they are, naturally, part of the design process of the product.

However, the computing devices are related to science and engineering more than other products: many insiders feel uncomfortable with such market situation, even a bit disappointed. They (we) assume that *rational* and measurable characteristics related to functional usefulness should prevail on other "fatuous" features.

As a sort of *transference* to help the acceptance of the status quo, we may look at history to find the early traces of emotional qualities in the marketing of computing devices. Some events are well known, like the "1984" Macintosh TV spot. Directed by Ridley Scott and aired during the Super Bowl, it is an acknowledged masterpiece in the annals of advertisement. The depiction of the competitors (the IBM compatibles) as the evil, the absence of technical details about the product (only 128 KiB of RAM, not really exciting), its clear depiction as the mean to be different from the mass (despite the usefulness of standard platforms): they are all signs of a definitive change in the advertising of computing devices.

The paper presents a few examples back in time that can be seen as forerunners of the Apple master–stroke – focusing on the ones related to the history of Olivetti.

Computers, i.e. fully programmable machines, appeared at the end of the Forties. However, computers started to become mass products only when electronics was small enough, at the end of the Seventies.

If among computing devices we include also the calculators, i.e. machines able to perform the arithmetic operations, then we find serially produced machines since mid XIX century, when De Colmar started to manufacture *arithmometers*. Rapidly, many competitors of the pioneering French firm arose in Europe and in US and, at the beginning of the XX century, the market of mechanical calculators was already measured in millions of units: here is when our analysis begins. In details, we will discuss the examples summarized in the following.

- **Full keyboards vs. ten–keys keyboards**. At the beginning of the XX century the most common way to enter operands in calculators was the "full" keyboard, with

keys for all digits (in rows) and for each decimal position (in columns). Introduced several years before by the *Felt & Tarrant Comptometer*, this layout was adopted by others manufacturers, *Burroughs*, *Mercedes–Euklid*, *Marchant*, *Monroe* to cite some, and on different models of calculators adapting it to various inner workings. In the same years appeared also the keyboards with only ten–keys, in the layouts *Dalton* or *Sundstrand* – the latter is the one we are used today. The new "reduced" keyboards were mechanically more complicated and less efficient for the user; the only benefit seems to be related to the smaller footprint on the desktop.

- **Olivetti calculators**. Olivetti began to produce calculators only in the Forties after a long experience in typewriters, yet its entrance was noteworthy. The adoption of a ten–keys keyboard was one of the characteristics set a priori, when Olivetti decided to enter the business of calculators. Moreover, the Olivetti machines, from the early *MC 4 Summa* to the successful *Divisumma 14*, exhibited a completely different look from their competitors: the body was regular, the shape smooth, the color soft. The engineer that was designing the inner mechanism of the machine had to reach an agreement with both the architect that was designing the exterior and the marketing division that was devis-

ing the product selling strategies.

- **The Programma 101 and Riccardo Musatti**. In Italy (mainly) the 101 is claimed as the first personal computer. National pride aside, it was a programmable calculator, it had interesting features (like the magnetic card for permanent storage of data and programs), and it was advertised better than other contemporary machines (for some aspects technically more sophisticated, like the *Mathatron*). The particular novelty was to present the 101 as a piece of "the world of tomorrow" that everyone must have. In 1965, the year of the 101 début, Musatti was writing on the corporate magazine about the need to adopt for the office machines the same selling strategies used by the fashion industry. Perotto was the engineer who conceived and technically designed the 101; according to his memories the 101 was argument of intense debate with the architects in charge of the external design of the machine.

The discussed examples sketch out some steps of the long process in which appealing, non–functional characteristics become part of the design of computing devices for the purpose of obtaining a marketing advantage. The grumblings on the part of the engineers (the critiques by Wozniak regarding the Apple III design are probably the best known example) are a colourful part of the history.

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