Innovations in glass making and their evolution from antiquity to the 21st century

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Innovation is at the center of contemporary industrial society. Today this appears to be a principle challenge to European countries which played a major role in the exponential growth of innovation during the second industrial revolution but whose dynamism seems today to be slowing notably what has become international competition. In order to better understand the present situation, it is useful to understand the processes of innovation. Effectively, far from being limited to contemporary situations, innovations are consubstantial with techniques and the history of man.

It is in this rather vast perspective that the specific theme of innovations in glass production seems appropriate. The techniques related to glass making have been developed from Antiquity onward where numerous innovations in production, chemical composition and objects produced not to mention methods of sales and distribution, or packaging, are sufficient to furnish many themes of research. However, attempts to observe different innovations as such are rather rare and all the more so as proposed in this project by considering the traditional divisions of glass production; shaped hollow glass, flat glass, mirrors, etc. It seems to us useful to gather specialists from different fields in order to arrive at a general perspective and a confrontation of different types of innovations and their implementation where we can ask different questions concerning their place in society.

To this end we have defined four directions of reflection concerning glass making and innovation:

Recognition and valorisation of innovations

Recent studies have indicated that one should distinguish between innovation and invention. On the one hand the history in the inscription in societal activity concerning technical changes and on the other hand the frequent myth of a heroic individual which allows one to give a name to a new and novel practice. We attempt to isolate innovations, using taxonomical methods, where we are as interested in legends and myths as well as the complex relations between privileges associated with invention and secret practices so frequent in the world of glass making. Here we would try to understand how an innovation is used, how there has been a distinction of privilege and professional secret, between publicity and safeguard of the secret, and between patent and secret. Why has an entrepreneur or industrial company chosen one or the other strategy in exploiting the new knowledge? Is either choice a safeguard? How does one or the other choice affect the social relations in the enterprise, particularly concerning the mobility of workers?

Types of innovations

Here the question of classification and recognition of the innovations is of prime importance. We would like to summarize the numerous innovations which glass making in its various branches has and continues to experience. An effort will be made each time to relate the discovery to its application and importance in the context of social practice.

Innovations and markets

The two questions are intimately related once one distinguishes between exceptional discovery and more prosaic innovation. In order to understand the logic of implementation of innovations as well as their success or failure it would appear necessary to analyse the social needs to which they respond or satisfy or perhaps stimulate. How do innovations penetrate a market? But also why do they fail? The socio-economic history of failure would seem as interesting to study as the successes of innovation. Further the financial aspect of exploiting an innovation is a very important theme.

Vectors of innovation

Studies of technical transfer are classical. However one can look again at this theme by considering specifically the vectors of innovations: for example the movement of people which do not necessarily lead to a transfer of knowledge and its implementation, the use of books, privilege, etc.

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