

**Francesco De Larderel: a critical analysis of a manager by the
"REGOLAMENTO GENERALE DELLO STABILIMENTO DELL'ACIDO BORACICO"**

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ABSTRACT

This paper gives a critical analysis of the document "Regolamento Generale dello stabilimento dell'acido boracico" with a view to the historic, social and political situation of the 19th century in Europe. All the forms of management of the geothermal industry of that time are analyzed.

In particular the efforts made to involve the working personnel in the optimization of production with a view to increasing the standard of living is examined.

Francesco De Larderel created a guide line for a new social and economic reality in the "Regime Boracifera" of Tuscany.

1. INTRODUCTION

The General Regulations (henceforth called **Regolamento**) about which we shall make some modest but significant reflections, "*...drafted by the owner Cavalier Priore Francesco De Larderel Conte di Montecerboli...sanctioned and enacted on December 20th in the year of 1849,*" is the culminating act of a project and of an imprenditorial activity started in 1818.

Francesco Larderel ~~born~~ in Vienne in the Dauphine (France), arrived in Livorno which had become a refuge for those libertarians with sympathies for the new ideas that had swept Europe in the wake of the French Revolution.

Thriving Livorno was an ideal city for these libertarians as it had already been a free port for **over 200** years following initiatives promoted by the Granduke of Tuscany Cosimo Ist.

Larderel together with his wife Paolina, began by trading embroidery imported from their native Dauphine. However he **soon** became dissatisfied with the routine of this successful activity and consequently looked for other "imprenditorial adventures".

He became interested in boric acid which was already extracted in small quantities from natural phenomena in the geothermal **area**.

Having appreciated the potential of this productive activity with the foresight of an entrepreneur, he became a partner.

In 1818, at just 25 years of **age**, he became Technical Director of the **firm** which in 1827 would become his property. This date marks the beginning of an authentic technological revolution based on the substitution by geothermal steam of the woodfires used in the process of evaporation of the boric water and the consequent development of new means of exploitation which even in the last century were designed to respect the environment.

Even in this venture Paolina had a significant complementary role, deducible from the feminine quality of **some** of parts of the document under examination.

Further evidence of this role can be found on an inscription on two memorial busts placed in the garden in front of the palace where the De Larderel lived:

"nuove arti e ricchezze nuove ebbe da lui Toscana" and "ove egli pose l'ingegno, ella il cuore",

"Tuscany had from him new arts and new wealth" and "where he put his intellect, she put her heart".

In the meantime, the founder of Larderello was awarded the title of Count of Montecerboli by the Granduke Leopoldo.

It is right that Larderello should be proud of the document known as "**Regolamento**".

The document is noteworthy in structure and **size**.

Its form has an originality which suggests the rare architectural talent of the author. At the top, the coat of arms (Fig. 1) follows the title (Fig. 2) with a complete and global presentation to whom it is directed: "*...Complex for the production of the boric acid composed of nine factories*". An imposing presentation of the

reality which our "manager" had been able to create in just **30** years.



Figure 1. Coat of arms of Francesco De Larderel

The authoritative and authoritarian presentation, which occupies the entire page, is followed by two columns in which the ethical and social economic principles are affirmed. The scope of these principles is to give a unified development to an industrial complex spread out over a large area. Four columns, headed by titles according to theme, give **full** details as to the organization of work and of the entire community related to the industry.

It is as if to say, **he** who guides must be clear, precise and immediate in giving orders, out of respect for those who work. This can already be considered a lesson in managerial skill.

2. PRESENTATION OF THE REGOLAMENTO

In the "**Regolamento**" De Larderel presents with evident pride the formation of his economic and productive unit, the regulations of which applied to those who had duties and those who had rights (the weak and needy, children, widows and the sick) and he indeed extended his policy to cover all those in need throughout the area, despite their not belonging to the "Larderel Company".

It is important to evaluate the size and importance of this industrial complex when considering the social impact on the area. Larderello

was the real centre of nine factories distributed over an area of some 500 square Kilometres. The factories had 108 employees in 1850 and their families (many of whom lived in the Company villages) constituted a population of 368 inhabitants. The entire population which resided in the area under the company's influence numbered more than 3000 inhabitants (to which must be added Pomarance with more than 2000 inhabitants).

The "Larderel Company" obviously contributed greatly to the development of what is termed today as the service sector. We need only to think of the kilns which produced the special apparatus and structures for construction and maintenance of the terra cotta pipes for the boric water, the bricks and chalk for the construction of factory buildings; the textile industry for the production of packing bays; the manufacturing of containers; transport....



Figure 2. Title of the Regolamento

Before De Larderel established his industry, the situation in the area was far from rosy. Although the area is dense in history and despite the presence of underground resources exploitable in the most various of uses, the region found itself at the beginning of the 19th century with the characteristics of central and southern Tuscany of the 13th and 14th centuries: landowners organized in farms and smallholdings worked in metayage or by the owners themselves producing just enough to guarantee subsistence for a family, reflecting a social order dating back to the Middle Ages.

The main settlements tied to ancient castles (Montecerboli, Sasso Serrazzano, Monterotondo, Castelnuovo, etc.) were economically dependent on those modest landowners producing mixed apiculture and stock breeding, and craftsmanship related to the agricultural and pastoral sectors. Because of the total abandonment of mining activity the area was very poor.

It is easy to imagine what De Larderel and the creation of his cultural industrial complex meant for the local communities: a true revolution which was to consequently afford the inhabitants and workers of Larderello respect and admiration, and in some cases a sense of inferiority by those observing the apparent difference in the quality of life in Larderello.

It was in fact different thanks to the original particularities of production, unique in the quality of the product and in the methods of production, which enhanced the quality of life.

With justified pride therefore the founder presents the numerical and territorial entity which he defines as "his creation" and for which he expresses love and zeal.

The style and the spirit of the "Regolamento" are undeniably inspired by a romantic paternalism and religious commitment, obviously and naturally fruit of the age in which it was produced even if we can sense determination, realism and a concrete view of life, which preannounces "positivism" towards which the culture of the day was directed, with all the excesses which always characterize a cultural movement, born in opposition to the precedent.

This dialectic conflict is however always ordered in the character of De Larderel, in complete harmony between a sense of the past and a design for the future. The key terms of the structure are already indicated in the first part in which, good administration and discipline constitute the objectives of the "Regolamento".

Let us now examine the most meaningful and typical passages from the text: "The distribution of interference being that which forms order in every administration, while I refer to each employee, the duties of their work, I feel obliged to arrive at this and, to inform that of the relative penalties for shortcomings and ... in the application of which I will be as fair as I am severe ...

the remuneration ... of each employee will be calculated according to the quantity of production in each factory".

Religious, Moral and Civil principles, creating peace and love, indicate that brotherly collaboration and mutual respect are at heart of efficiency.

The real body of the "Regolamento" is made up of a series of chapters dedicated to roles and responsibilities and presents a pyramidal structure with De Larderel at the top, alongside and substituted by the all powerful Minister Inspector General (Ministro Ispettor Generale), in charge of executing every part of the regulations.

Book Keeper (Computista): in charge of the keeping of the administrative books (with precise limits of interference to within the office) and additional powers finalized as to the improvement of all the activity within the company.

Storeman (Magazziniere): to note a precise list of tasks for the dispatch of manufactured boric acid (Fast) without delaying coachman within the factory: orders to accelerate the movement of material, to check the quality of the places and means of production.

Ministers (Ministri): the tone of this part dedicated to them was as such to indicate the weight of their responsibility. They were in charge of the various factories and were responsible for their functioning.

Factory Workers (Fabbricanti): the lowest position on the hierarchical scale but no less considered. For their part, together with recommendations of a technical nature, was a pressing appeal for "Religious, Moral and Civic observance" and "any lacking ... would result in a fine to the benefit of the Pia Istituzione di Beneficenza" (an institute that guaranteed assistance to widows, orphans and the needy in general).

Chemist (Farmacista): "the pharmacy, available to the advantage of all employees and dependents of the factory and for charitable assistance of the sick in need ... institution for public health and welfare". These should also effect the analysis of boric acid and inspect that the acid should be produced within the agreed limits of impurity.

The Chaplain (Cappellano): "among his attributions ... he is obliged to educate the youth of the factory and any other request by De Larderel to impart such benefits".

The Music Teacher (Maestro di Musica): to see over the musical instruction of the young people for their and instructive enjoyment and to direct the fanfare.

Primary school Teachers (Maestre delle Scuole Infantili): the schools for the education of the children of all employees of the factory and local inhabitants, were a philanthropic initiative of De

Larderel who was a *me* forerunner. The fixed subjects to study were "*reading, wiring, history, arithmetic, knitting, sewing and embroidery*". The scholastic timetable was different according to the months of the year and De Larderel reserves to fix during the month of October, a day for the annual examinations during which he would *partecipate* by questioning pupils and awarding prizes, thus evaluating the work of the teachers.

3. ANALYSIS OF THE DOCUMENT

We *can* but note some points which seem particularly interesting, above all taking into account that the document was drafted almost 150 years ago (a somewhat exceptional fact for Italy at the time) but which can be explained if we consider that De Larderel came from the post revolutionary France of Napoleon where each citizen acquired had unalienable rights to be safeguarded at whatever cost.

The Napoleonic campaigns had contributed to the diffusion of these potential ideals throughout the rest of Europe even to the so-called enlightened monarchies in Larderello *these* innovative notions become reality even if everything is granted from above more as a concession of the employer than as a right of the workers. In this case however the employer recognizes this concession by making a juridical act.

In contrast for example, the constitution *by* the factory owners of a fund to assist widows and orphans of factory workers, would have *been* totally unthinkable in England, the home of the industrial revolution. Yet the employer cares for his employees by providing schools for their children to attend. *A* totally new relationship was so created between employees and the owner in this *Small*

"Industrial Complex": the owner enjoyed greater respect because he was seen *as* a kind of benefactor. This *reality* was for example, far from the situation which existed in the south of the same Italy between tenant factors and landowners, where the owner *was* seen as an exploiter of labour.

While the Regulations were being drafted, the trade unions were only just beginning to come to life in Italy (the first congresses of the Società di Mutuo Soccorso were held between 1853 and 1859) and Europe was hardly more advanced. We need only think of Great Britain, the home of the industrial revolution, where legislation was induced only in 1847 which limited the working

day of a child to 10 hours. Even more unthinkable was a factory owner who would look after the education of his employees children.

In trying to explain the behaviour of De Larderel towards his subordinates, considering his own background, it is important to *note* that he was profoundly catholic.

The Catholic Church took up an official position of solidarity towards the more unfortunate only in 1891 with the "Rerum Novarum" of Leone XIII, but the experiences of "Le Monnaies" and of "Montalembert" also took place in France, by which an appeal was made to the ruling class and educated to alleviate the poverty of the masses, giving life to a truly Christian social movement, condemned at the beginning by the very Church under the reactionary Pope Gregory XVI (1831-1846)

4. CONCLUSIONS

The preceding considerations, even if fragmentary, bring us to reflect on how a positive relationship can be built between men - *given* their mutual betterment with the scope of creating an efficient and responsible collaboration on an economic level.

The improvement of the total quality depends directly and immediately on the means of production. De Larderel had undoubtedly understood all of this thus the significance of the Regulations.

In recognition his merits, the founder of Larderello was given the title of Count of Montecerboli by Leopoldo II°, Grand Duke of Tuscany.

The collaboration between these two men was a determining factor in the subsequent development of the industry. The name of the Piazza Leopolda in the heart of the urban and industrial complex of Larderello bears witness to this fruitful relationship.

A marble bust of *De* Larderel, situated in the eastern part of the gardens of the palace, looks towards the bust of the Grand Duke situated further west who seems to *be* moving away from the pages of history, as if to leave to De Larderel the merit of having founded the industry.

Some notions could provide a useful foundation for a project for civil life in which man is understood *as* a whole, as a person both object and subject to competence, responsible in his solidarity towards others.