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Statistics. Giovanni Montemartini's ideas and actions

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1. *The economic paradigm by Giovanni Montemartini*

In Italy, the 1890's ended with the theoretical affirmation of marginalism and the start of Nitti's economic policy - a policy aimed at supporting the growth of modern industry as a condition for the civil development of the Country through the use of numerous and sometimes contradictory tools.
Giovanni Montemartini was a professor of political economy at the University of Pavia and a student of Cossa's, along with other economists like De Viti De Marco. In Vienna, he studied with Carl Menger and through his writings he immediately introduced a culture where marginalism, reformism and socialism joined forces. In 1890, Montemartini, thanks to his job in the editing office of the "Giornale degli Economisti", became a member of the group of economists which, together with Ugo Mazzola, created the Italian medium of the new economic science (Faucci, 2000). He applied the "economic paradigm" to the model of public intervention in the economy. Marginalism and mathematical analysis formed his economic paradigm, meaning he completely accepted the disciplinary statute of the economic studies imposed by the neoclassic theories.
This statute included the idea of the political developer and the municipalisation of public services. Montemartini was certain that public intervention could be completely independent from the historical school and reinterpreted as an Anglo-Saxon economic model based on the balance and search of methodologies aimed at the efficient allocation of resources. Far from the paternalist frame of the Nationalekonomie, Montemartini also imagined a modern welfare system "supported" and "shared" by those subject to the policies. Although he never rejected the application of the abstract and mathematical method, necessary for the generalization of the economic phenomena, Montemartini was against a mechanical and timeless interpretation. He thought market balance

conditions were actually influenced by “the various production elements.” The conditions with a decisive role were “the different classes or economic groups, each one representing a productive factor and all of them trying to take hold of the possible maximum amount of the total product”(Montemartini).

Inspired by Fisher, he noticed that “a notion of usurpation and exploitation is at the base of complementary and cooperating relations”, which justifies the principle of class struggle in both phases of production and distribution. The terms of the social conflict described by Montemartini did not recall the Marxist theory of class struggle, which could not be generalized because of the particular historical context it made reference to.

This was enough to exclude its application from the numerous and heterogeneous organizational models of production that the developed countries were elaborating. However, there was something that Montemartini liked about the Marxist theory; it was the “gentle” way in which the method applied to that particular historical phase of capitalism when evident and unquestionable forms of exploitation existed in the relations between capital and labour. (ib. p.230).

According to him, a “logical” system had to be created that could recognise the marginal productivity of productive factors as well as the theory of distribution in such a way that the mechanisms of compensation or participation in the product could be explained.

Thus, the conflict or struggle between the economic groups (or social classes) originated from a tangible asymmetry of the phenomena that affected the market. This struggle could be understood and adjusted only through proper industrial policies and an effective control of the labour market that had to be implemented in a reformist and social perspective.(D’Autilia).

Montemartini realized that it was impossible to postpone contact between the political class and the real problems of the entrepreneurial class. A new “system of acquaintances” was needed and made possible by giving voice to associations of industrialists, engineers, and skilled technicians who had to collect, together with the working class, technical information on plants, work conditions, working hours and critical technical aspects of production.

He also noticed that the technological development that characterised the industrial revolution at the end of the 19th century was rapidly introducing new and more complex production modalities, increasing investments and production and directing trade towards new and wider markets. According to Montemartini, all this created in companies a new need for coordination between the productive process and the internal function of technical management carried out by engineers and specialized technicians. In fact, Montemartini doubted the fact that market transactions among different companies (*price system*) could lead to this coordination.

As a result, companies of his time would always have a hard time due to the conflict between engineers and technicians on one side, and businessmen on the other, engendered by technological and productive needs of the first and the ambitions for bigger profits of the second.

It was necessary to get to the heart of the productive system to analyse, check, evaluate, and probably also adjust it through constantly updated studies and data. In fact, it was important for industrialists, engineers and technicians responsible for production to use their diagnostic ability to create a statistic of the industry. Montemartini introduced the method of "shared statistics" developed by those who created it.

Influenced by the crisis of legitimacy involving the management classes towards the end of the 19th century, Montemartini started to elaborate –through statistics- a model of communicative action to share points of views and objectives of those working in the productive sector. In fact, Montemartini wanted to create a strong relation between the most specialized workers and the public institutions with regards to an important information project shared by all. The relation between the industrial associations and the representatives of the culture of modern and innovative companies was fundamental. Two important representatives were the engineers Ernesto De Angeli and Cesare Saldini, who had dedicated themselves to the Società Umanitaria of Milano ever since it was founded at the end of the 1800's. In particular, Saldini, who in 1881 was already promoting the need to create professional training schools in Milan for young workers, wrote that the entrepreneur "....dominates his machinery and recognizes their friendly screeching, he is able to properly evaluate and appreciate workers, he is aware of how much they cost him and, therefore, is able to get maximum performance from his scarce resources" (C. Saldini). In fact, according to Saldini the harmony between capital and labour was at the base of a linear and non-conflictual economical development that the Government was responsible for creating through the gradual integration of the various working classes in the new economic and social structures.

2. Inspectors, Engineers and workers take part in the creation of an industrial statistic

This led to the idea of creating a Labor Inspectorate at the Labor Office that had just been instituted at the Ministry of Agriculture and Trade (Law 29th June 1902) and led by Montemartini since 1903. The Inspectorate had to control the enforcement of social legislation, but had an even more important objective in creating an information database based on the conditions of industrial production interrelated to the work conditions of workers and management.

Since the very beginning, the Labor Office had the ambitious aim to become "an observatory of the social and economic facts that would punctually and precisely keep the Government informed on

everything (Maic, Work Office, Reports on Work inspection (1 December 1906-30 June 1908), p. XLIII). Thus, according to Montemartini, it had to become the main means of providing administration with "the necessary contact with real life, with the real needs of the Country , with the spontaneous waves of interests, from and to where the work of the State must be oriented".

Until that moment, the work inspection function was part of the security police activities and the results had been very disappointing because of poor personnel formation. In fact, they weren't ready to understand and describe the new world of industry and enterprises (apart from those sectors controlled directly by the Royal Corps of Mining Engineers composed mainly of engineers working for mining and metallurgic companies). According to Montemartini, it was necessary to turn the role of "Gendarme State" into the role of "Educator State" able to collaborate with industrialists and workers in the project of creating a modern industrial system made for respecting the rules, constant training and, above all, technological development. The dissonance between the political context Montemartini belonged to and the industrial managers he talked to was shown by the parliamentary incidents.

The bill for the constitution of a specific Corps of work inspectors promoted by Senator Rava in the 1902 and voted down by the Chamber by secret ballot had been supported, outside the Parliament, by that part of the industrial world that had to compete with the enforcement of the Italian law on the repression of infringements of workplace safety and also with the duties of the Italy-France Convention for mutual worker protection. Thanks to the Government contribution regarding the means required to carry out the inspection activity,- even if only experimentally, - the Labor Office immediately started recruiting industrial engineers (in addition to doctors, workers " with basic knowledge " and, for the first time, female inspectors).

Montemartini thought that the task to check industrial plants had to be assigned to "men already specialized in the service and able to assume responsibility for the performance of each unit and assure impartiality and seriousness" (p. XII).

However, the situation briefly described by Montemartini and considered "the most difficult part of the first setup of the inspectorate" showed that the model of collaboration among the world of the industries, the workers and the civil service could be created only if there were an agreement shared by common definitions. Being part of statistic information becomes the key to the inspection system.

3. Companies' archive for the creation of the industrial statistics

In the start-up phase, the organization plan that was developed for carrying out the inspection activities included the creation of four "Circoli" (sections): in Bologna, Brescia, Turin and Milan.

Each “Circolo” – located according to the “strong industrial density” and the centrality regarding train connections” – was responsible for carrying out inspection activities in the factories subject to the woman and child labour laws and identified according to the “denunce di esercizio” (mandatory reports released by the factory stating the starting date of employment of the workers) received at the date of recognition. In 1907, the four “Circoli” included, for example, 11,000 factories for a total of about 800,000 workers. The circular letter regarding the inspectorate activities, signed by Minister Cocco Ortu on November 26, 1906, specified that the “The supervision of the application of factory worker laws” was limited by the fact that similar supervision organs already created in the past for homogenous business groups (according to the specific economic activity), were authorized to carry out assiduous controls together with the proper periodic reports on these controls. In underlining the particular importance of the new service, the circular letter provided indications on the need to carry out further in-depth studies and checks that had never been done before and that could have brought to light facts that were little known until that moment and, therefore, not easy to control. The circular letter stated: “After having established in what order the locations should be visited, those in charge of doing so will find an initial guide to the plants in each location in the registers listing the existing statements declaring start of employment period that can be found in the Prefectures and Municipals; but it is pointless for me to remind them that they must also visit the industrial plants that are subject to worker laws but that have not submitted the mandatory statements declaring start of employment period, since their task is to track down those companies, which we believe are numerous, that have not complied with this law”. (Maic, Circ.26-4-1906).

The collaboration offered by the Italian Industrialists Association to prevent on the job accidents assumed a fundamental role from the very start in giving life to the project. The Association in fact, provided two of their inspectors, engineer Pietro Brunati who became responsible of the “Circolo” of Milan (with 3,652 factories and 280,319 factory workers) and Engineer Italo Locatelli who became responsible for the “Circolo” of Brescia (with 2,348 factories and 189,698 factory workers). Engineer Effren Magrini was sent to Turin (with 2,580 factories and 200,164 factory workers) because of his vast technical and economic culture” and for his well-known competence regarding work hygiene and professional diseases. Engineer Teresio Mussa was sent to the “Circolo” of Bologna (with 2,125 factories and 93,336 factory workers) after having carried out about three years of activity with the “Sindacato subalpino di assicurazione mutua contro gl’infortuni” (an accident insurance company for workers). Industrial engineers who could then be given limited time assignments, were recruited by direct requests made to the regional Polytechnic Universities where the work inspectorates were founded, so that they could “indicate someone among those graduating

from these Institutes who had the necessary requirements (…)". As a result, eight engineers were recruited, including four from the Polytechnic University in Milan and four from the Polytechnic University in Turin. As far as the choice of workers was concerned (those who would then represent the workers in the "Circoli"), those who had received their diploma from the Practical School of Social Legislation at the Humanitarian Society in Milan were selected. The resulting "Circoli" thus began carrying out their inspection activities in 1907 and producing reports containing important technical information in addition to economic and social information. The prefectures, as a result of the inspection activities organized in this way, were "requested", by a specific provision indicated in the Circular letter, to take a step backwards. "You must also remember – indicated the Circular letter – that the work of the new inspectoral organism allows for Public Security personnel employed by this Prefecture to be exempt from having to visit industrial plants as far as worker laws were concerned; as a result, this Ministry will no longer allocate funds for payment of relative allowances. It will also be up to you to decide what limit to give to the visits made by the Royal police force, considering the fact that, on the one hand, repeated visits to the same plant should not be made due to the controls already carried out by the technical inspection organs and judicial police, while on the other, the Royal police in any case always has the power to verify and report crimes" (Maic, Circ., cit).

Another step had been taken towards the creation of a culture of persuasion and "participated" form of information. Testimony of the positive welcome given to technical inspectors is described in the various reports written by the various "Circoli". These reports indicated the numerous requests made by the entrepreneurs for consulting services regarding the mechanical devices used in the factories, along with further analyses on the efficiency of the production systems of the various factories that were visited. Although it remained clear that a connection existed between the level of productivity and the organization of the production system, there was also a strong perception that better working conditions make relations between employers and workers easier, with positive results also on the internal organizational climate. Engineer Terenzio Mussa, head of the "Circolo" of Bologna, had this to say in the 1908 Annual Report: " Inspectors have one of the most difficult tasks. In order to realize this, all you have to do is think that in a detailed, yet not excessively long visit, the inspector has to get a clear idea on the particular nature of the various types of machining processes carried out, on how the machinery works and the relative degree of safety of each machine, he has to support contradictions with the industrialists, examine registries, control dates and travel to locations that are difficult to reach and not always supplied with the convenient means of communication (…)"(Maic, Relaz. annuale, ott.1907-giu 1908, p.51).

A system of capture and classification of data, gathered during the visits at factories and plants, was created around the inspection activity.

In 1909, they succeeded in organising two files of companies: one for the real industry and the other for the so called "Firms" (in minutes). The aim was to "find a firm of which people knew only the name, it was just like including all the plants of the same branch".

Montemartini wanted to create the first big companies' files (called "card indexes") in which not only was there information about the enforcement of social legislation, but also about salaries, strikes, work hours, and these are just some of the entries. According to him, they could manage to create an industrial statistic able to classify (as it can be seen in the survey models created by the inspectors) "the branches of the industry" depending on the economic activities. This system of classification was being adjusted, in those years, after a long and complex investigating work,

"with the main information about the potentialities of the plants and the conditions of the workers".

The updating of the data was ensured by the periodicity of the inspections during the years. Montemartini explained the importance of this ambitious project by mentioning the laws that "applied equally to all set industry groups" could require a more and more punctual "estimate evaluation of the extent of their effects and the amount of plants and workers.

He was an advocate of the importance of the statistic information as a medium of modernization of the political and administrative actions of the ruling class of the Country and used as an instrument of analysis of the impact of policies. He stated that: "the first practical result of those new plants will be the statistics regarding the companies subject to the 1908 laws on women and children's work and on accidents; statistics that could show a picture not far from the thoroughness of the big and medium Italian industry". (p.XVIII).

4. *Montemartini Participative Statistics*

Montemartini had no doubts on the role carried out by the Inspectorate as "administration consultant" and "organ of Study and Statistic Revelations".

According to him, a modern system of industrial relations should have had to rely on a proper diagnostic activity capable of allowing for the creation of information aimed at supplying "the perfect knowledge of industrial conditions". The key to the success of the operation lay – as can be read in the Board meeting minutes from 1904 to 1906 – in the organizational model carefully constructed by Montemartini and corroborated by an active debate among the representatives of the interests making up the Superior Council of Labor of the Ministry of Agriculture, Industry and Commerce.

Overturning a conception of information "revelation" for statistical purposes based on the "verification" activities, Montemartini introduced a "participative" method in line with the philosophy of an "equal dialogue among the various social parties" that participate in the construction of the information. By trying to use categories that J. Habermas placed in democratic systems, we can consider Montemartini as a precursor of the "procedural agreement" used as a method to – through the construction of authentic and share information – legitimately exercise the power of a managerial class aimed at overcoming the conception of a purely authoritarian State (J. Habermas).

The need to provide both industrialists and factory workers with a modern system of industrial relations came from the ability to cooperatively exercise a diagnostic role aimed at assigning the information constructed together, a strength legitimacy that was unknown to liberal statistics up until that moment. In fact, this meant giving statistical information, transmitted in this case by the inspective function, the ability to unhinge a mechanism based on a system of silence and omissions that created a dangerous complicity among workers and entrepreneurs that was able to block information on the actual production structure of the country. The speech given by Ernesto De Angeli, president of the Association of industrialists in Italy in times for on the job accident prevention, during the Superior Labor Council in May 1904 was emblematic: "…the violations of the law were due to bad working habits, out-dated systems made with very poor means, in times in which no one worried about hygiene and work safety, to economic difficulties that lead workers and owners to make agreements among themselves to extend working hours and exceed the limits established by the law. As a result, the observance of the precise and total compliance with the social laws should be conceived not only as a result of negative speculation, but as an educative action of both production factors."(Maic, Atti del cons. sup., III, sess. Maggio 1904, Bertero, 1904, p.78).

Experiences recorded by other countries such as England were quoted, where, although the inspective service boasted a long and consolidated tradition, the results showed a significant number of penal proceedings with regards to entrepreneurs who acted in an incorrect way or who did not comply with the law. According to De Angeli, coercion was not so useful. Italy, on the other hand, had the possibility of inaugurating a new tool based on a "moral propaganda that acted on owners and workers with persuasive methods(…)" (Ibidem, p. 79). The model proposed byt he industrialist from Milan, therefore, was aimed at creating a strong integration between the "private institutions" and administration, living the State the task of "organizing and integrating those prolific activities that have nurtured the same field they wish to cultivate and whose contribution were required in order to obtain positive results"(Ib.). Recalling the two control functions that

characterize the inspective function, De Angeli divided them into surveillance (a specific "police" activity) and supervision, which requires a special preparation and technical culture. According to him, supervision did not require the creation of a further technical body of State officials in addition to those already existing (for example, the Civil Engineering Office or the engineers of the Royal Corps of Mining Engineers or those of the Italian Railway System), but neither could the engineers of the Association of Industrialists be responsible for all the inspections. Collaboration with the "civil society" (sic!) needed to be created, involving the civil society in an intense and capillary process of awareness of the benefits resulting from the proper application of the worker laws. On the contrary, the non-compliance with these laws would have led to "negative and illegal competition". Recalling the example of the Professional Corporations of Germany,, De Angeli quoted the results achieved by the Industrialist Association of Italy that he led, with 3788 registered plants and about 400,000 workers and with 2611 inspections carried out between 1900 and 1903, upon instructions from the Ministry.

It was now a matter of transforming, based on the example of what was done in Germany, the action carried out by the Association in a sort of "partnership" (sic!) between the industrialist organizations and the workers' associations. .

In substance, De Angeli wanted to "unite active forces that were well distributed throughout the country, gaining the support of persons of good will who would then be able to put those still deaf to the voice of duty on the right track " (Maic, Atti del consiglio sup. del lavoro, cit., p.81). With a position typical of a moderate Lombardy-based entrepreneurship aimed at achieving social reconciliation where the effects of industrialization and urbanization tended to drastically modify economic and cultural behavior, De Angeli, together with Saldini, represented a conception of supportive and humanitarian relations among the social parties at the Superior Labor Council.

Saldini, who was more specifically focused on the proper revelation of information and the analysis of the phenomena for diagnostic purposes, underlined the need to permanently add the inspection service to the Work Office since he considered it as "a useful social and study mechanism, strictly tied, even for study purposed, to investigating how the laws are applied and what are the resulting effects" (Maic, Atti, cit, p.81).

Saldini also insisted on the need to add the organization of surveillance and information revelation to the network of Associations, suggesting the creation of new organizations in case those existing were not sufficient. The entire institutional architecture, in the model proposed by the representatives of the industrialists, was made up of specialized technical bodies already active with the State administrations (inspectors, Civil Engineering Office, and Mining Corps) and engineers or technicians registered with the major industrial associations. In order to allow for the "worker

class" to participate in the creation of a revelation and surveillance system based on an impartial method and that was shared by all, the presence of personnel represented by workers was foreseen in the "Circoli", even though some resistance was put up by the industrialists. This resistance regarding the presence of workers in the inspection commissions was caused, above all, by the fear that they might circulate confidential information regarding the technology used in the most modern factories: " often, an industry wins over the competition thanks to new devices and solution – explained Saldini – and it spends a lot in research, it copies what is done outside and so it cannot agree with putting all this at the disposal of someone who could use these new solutions for their own benefit or for others. The worker class could trust the Civil Engineering Office, the Mining Corps, but not the industrialist Associations. I would not be against allowing workers into the Associations if the right form were found, because this would prove the good faith and honesty that reign within the Associations and their intent to make sure laws are respected. In this way, these workers would be able to assure their colleagues the honesty of the intentions of these associations"(Maic, Atti, cit.).

The system of inspections made with the objective of monitoring, studying and correcting improper or even dishonest behaviour represented, therefore, an important occasion to create a common ground of action between industrialists and workers for the application of legislation, social legislation, which " faced stronger opposition from the workers than from the industrialists, because it is not a legislation made with the workers, but with the State", explained the Socialist Murialdi in a Council session.

The fact that the various social parties were able to jointly realize a system of statistical information to monitor the application of the law, but also to gain knowledge of a rapidly expanding industrial system that the liberal managerial class was unaware of, allowed Montemartini to realize his model. This model was based on the collaboration of all the subjects actively involved in the economical and social development of the country. The construction of statistical information was a way to define the relations that would have then given substance to figures and data that would no longer have been only "collected" by State "officials" but finally "proven" by those who were the main "constructors" of the data and figures themselves.

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