



Latin American Project

Course of Continuing Formation

Mapping of the Productive Process

***Recovering the labor knowledge
As a Method of the Trade Union Action***


TIE-Brasil
2006



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Copyleft is a generic concept; there are various forms to fill out the details and they will be always in evolution.



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Mapping of the Productive Process

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Mapping of the Productive process

Recovering the labor knowledge as a trade union method.

"The burghership cannot exist without revolutioning permanently the production tools, consequently the production relations, consequently the social relations".

Karl Marx y Frederich Engels
Communist Manifest, 1848

Production, rationalization and flexibilization, plants with small quantity of Workers, automotized, sophisticated work control techniques, CCQ, KAN-BAN, JUST IN TIME, outsourcing, systems of modules, work in group.

During a long time, the way of thinking and organizing the work has passed through several modification that, if analyzed, shows a tendency in the capitalist process of production. The modification has happened very quickly and affects several countries and sectors of activity, rising in the trade union movement the necessity of a deepen study of the strategies of Work and Production Organization.

To understand where the work is guided, today, it requires an analysis, mainly after the drop of the "real socialism" and from the capitalism attacks as a production system. In order for us to understand how the work can bring disastrous consequences to the Workers, to the environment and to the trade union movement, it is necessary to do a reflection on the role played by the work in the capitalist process.

With the emerging of the Industrial Revolution since the discovering of the steam engine (around 1760), the world started to follow deep and continuing social transformation. The production of goods of consumption, done until this moment by hand, individually or in a familiar way, used to happen in a small scale. The tools used

were manual, and usually made by the Workers themselves, and the work was projected and executed by the same person.

As the machines are introduced, the production starts, gradually, to be made in series, attending a market bigger each time. The work, its accomplishment and the way of doing it, as well as the way of thinking and organizing the productive process, go through the necessary transformation in order to execute the objectives of the new class in expansion: the factories' owners (the entrepreneurs), whose interest starts being to have a bigger revenue from the work in exchange of a salary.

It's established a logic of wealth accumulation that most of the time doesn't allow romantic thoughts, as the preservation of nature or a more human work. In the capitalist system, the Worker, the forests, the rivers or beaches, are treated as merchandises. Therefore, as soon as employed, the Worker starts accomplishing the work according to the employers' logic, being submitted to the work conditions (rhythm, day's work, shifts, salaries, etc.), new ways of production organization, and the work's itself, established by the employer.

Attending to the entrepreneur necessities, "schools of thoughts" start arising, and seek, each time more, the improvement of the ways of increasing the picking up of the revenue of work. Since 1900, the Taylorism, Fordism, Toyotism, other "Japanese methods" and the semi autonomous groups, are developed. These production strategies and little capitalism control, try to obtain, by one side, the increase of productivity and the reduction costs of production, and by the other side, aggregate the Worker and diminish the trade union movement's performance, or, in some cases, use the unionism as a manager in the introduction of new methods and businesses techniques.

The developed model imposed by the neoliberalism and by the "Third Industrial Revolution", has created various strategies in order to obtain a standard of efficiency.

The companies are restructured, modern systems of production are introduced, automatized, outsourced, the number of Workers are reduced, increasing in the rhythm of work, and the consequences can be observed in most of the different aspects: in the salaries, work's day, shifts, professional qualification, in the Workers organization, in

the work conditions, in the works' accidents, in the professional illness and in the environment.

Like this, the companies have a real obsession on the costs reduction and the productivity increase, with the objective of increasing its competitiveness.

If the Workers don't have a solid view of the class, they will tend to compete among themselves, plants and among professional categories. The trade union movement, as well as the social and popular, have therefore, a fundamental role in the construction of solidarity among all the Workers.

TIE-Brasil

What is the Map?

To do and to obtain a map of something

The map on the trade union's point of view

Why it's necessary to accomplish the Map?

The work cannot be seen as an individual activity and disentailed from the society. Above all, the work is a human and social activity. Presents, consequently, characteristics that were built historically, that is related to the society's evolution and to the ways of controlling and distributing power.

Because of this, the work today, must be analyzed at the same time that the capitalist system is studied, trying to understand the capitalism advances and retrocession, and the Workers situation as a social class that, as they sell their work force, they admit the loss of control, since the employer is the one who thinks and organize the production.

In this context, the workforce, which is considered as an acquired merchandising by the employer, starts being the objective of the exploitation in order to extract the more productivity as possible and impossible.

Mentioning some examples in Brazil, the 1st ABC Steelworkers Congress (1993), has defined among its resolutions "to prioritize, as a way of intervention in the work organization, the collection, systematization and evaluation of information gathered by the Workers in the work place". Besides this, "the work conditions should be the starting-point of all and any trade union action by the Plant Commissions (Internal Worker's Committee), Internal Commission of Accidents Prevention (Hygienic and Safety), Union Delegates and Direction.

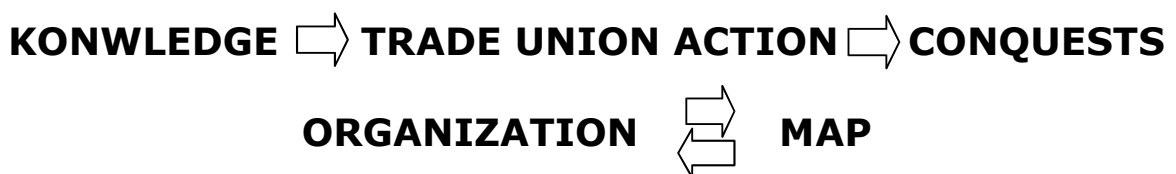
Objectives of the Map

The trade union movement has tried to develop in several countries, ways of analyzing and interfering in the Work and Production Organization, with the objective of neutralizing its consequences over the Workers and over the union's organization.

The first thing that has to be done is to be conscious of how the work is organized in the society, and from it on, try to built a proper alternative as a Worker class, that points out since the intervention and later to do a possible and necessary work and control of production. That is, recovering the capability of thinking and organizing the production and work, defining the group of conditions that we want to have in its accomplishment.

Like this, we can say that the formation, capacitation, the technical knowledge, and the access to information, are our main tools for fighting. We need to enlarge our knowledge on the different models of productive and work organization, overcoming the superficiality of our knowledge and the insufficiency of information acquired in the shop floor.

Among others, these information are essential in the tables of negotiation and can mean concrete conquests of demands of the category and of the trade union movement, as the whole. Besides this, they can allow definitions of the ways of fighting to be used by the trade union movement. Mainly, they can guarantee the enlargement of the political consciousness and the Workers' organization, and their capacity of interfering in the course of the national politics.



To change the work conditions it is presupposed, therefore, a qualification of our organization and a capability of interfering in the ways of work organization and production, having as an objective, among others, to contract the changes of this organization, since the Workers interests. For them, it is necessary to develop an investigation method that allows enlarging our range of information on the work and its execution, on the productive process and the concept of a productive chain.

Map of the Productive Process

Through the "collection" of the greater number of information as possible on the productive process, that systematized and analyzed, can reconstruct the reality of work, we can establish strategies and consequent actions, planned, that like this can enable the negotiations and contracting that can modify our reality.

If we analyze a company, a plant of vehicles, for example, as Volkswagen, we can observe that this company purchases the raw material and transforms it in vehicles, and then sell those vehicles in a consumer market.

Volkswagen represents a productive sector in the society. Establish, like this, many types of political and social relations.

Acts, like this, with the purpose of accomplishing its objective: to produce vehicles in order to sell, to achieve each time more revenue and to accumulate fortune.

Always trying to reach those objectives, defines through the "lobbies" politician elections and influences, the formulation of industrial, economical, financial, wages and foreign trade politics.

Interferes, like this, directly or indirectly in the countries' power relations where it is established.

And it is its role as a capitalist company, vehicle manufacturer, with plants in several countries, which will determine the way of thinking and organizing the Worker in the plant.

Volkswagen will define the company's policies. Therefore, the plant's flowchart, how many and which sectors, how many Workers, which would be the work's days, how many shifts, which will be the rhythm of work, which will be the products utilized in the process, among many other questions.

The Worker, in turn, as soon as he/she is contracted to work for Volkswagen, for a salary exchange previously established, will execute a work that was already projected and organized to attend determined interests by the company.

Is it possible that the Workers can figure out different ways of organizing the work and the production and interfere in the power relations inside and outside the companies?

To map organizing, Organize researching

The map of the productive process has been used by the trade union movement in several countries, mainly by the Workers from Italy and Germany. The map itself is accomplished by the Workers' Representatives, by the Groups of Support (plant's group) and militancy in general, and has oriented the negotiations mainly regarding the technological and organizational changes, furthermore to serve as a subsidy for more general political actions.

The Map of the Productive Process must prioritize work conditions analysis, considering that we are discussing a projected and organized under a capitalist view.

In this way, the Map of the Productive Process can allow:

- ✓ To open perspectives to the worker class in the sense of controlling the production, from constructing the liberty and unions autonomy, and mainly a way of reconsidering and organizing the work, the production and the society itself, since the workers' interests.
- ✓ To set a continuing system of information collecting, qualified, that are of the Workers interest, able to be the support in the negotiations and in the wide contracting.

- ✓ The practice of reflections that allows the qualification and capability of the Workers, from the trade union's training point of view.
- ✓ The information exchange with other Workers and other categories, which allows a larger unit and breaking up the non constructive collectivism (special interest groups), besides the class identity.
- ✓ Allows the evolution of the trade union action from the stage of only mobilization to a stage of organization.
- ✓ Encourage the combative trade union practices that prioritize the discussions and the organization in the work place.
- ✓ To understand the historical evolution of specific work processes, how they raised and how they were modified throughout the time.
- ✓ To understand the strategy that the company has established or can establish to a defined sector or production area.
- ✓ To observe the innovation or changes introduction in the work process, outsourcing perspective, cells formation, etc.
- ✓ Establish the plant's flowchart or from a defined sector and to understand the role that it represents in the production process.
- ✓ To analyze the various tasks that are accomplished in a defined sector, and on what their content is referred, and to the professional qualification necessary to be executed.
- ✓ To verify the work's rhythm alterations and to know when or in which period they occur or will occur, as well as to allow the formulation of preventing proposals regarding the environment impacts. (worker's health and environment)
- ✓ To qualify our discussions on the participation in the businesses techniques of salaries flexibilization , as with the projects that

want to implement systems to start paying according to goals and results.

- ✓ Many times the Workers have difficulties of proposing changes because they establish that the current way of organizing the work is untouchable.

Worker's health

The worker's health is a subject that has always concerned the trade union movement, mainly in the last 20 years when, since the introduction of the "Japanese model of production", the professional illnesses, as well as the accidents, started increasing frighteningly. Until this moment, they used to say that the workers' health problems occurred only with the whom operated computers, typing.

Tenosynovitis, bursitis, problems with spinal column, deafness, pneumonia, swollen legs, and feet, and stress, among others, started being part of the Workers quotidian in the shop floor. The industrial restructuring, result of the changes in the capitalism, with the objective of turning the companies flexible and competitive, with a high index of productivity, flexibilizing and rationalizing the production and labor, brought with it, or, made us assume something that until this moment we used to ignore almost totally: the impacts on the Worker's health, at least on what is referred to the reality of our Latin American countries.

In the specific case of Brazil, the way of facing this reality is different. In the most industrialized regions of the country, as the case of the metropolitan area of São Paulo, the ABC region, the Steelworkers Trade Union, cradle of the combative unionism arose by the end of 1978 and from where Lula came, has in its Collective Work Agreement clauses that protect and defend the Workers in this aspect, as the stability in the job for the rest of the worker's lives, that proves their professional illness. In other regions in Brazil, the illness isn't recognized and its existence isn't accepted and the Unions are obliged to go to the court, and in most of the time, even like this, they are not successful. The difference between this and the examples, is that in the case of ABC union, there is a great organization in the work place, that was built by the Workers, and in the rest of the country, instead of understanding that the fight is

political, they try to face the problem by a legal way, without an organization and without fire.

The different internal tendencies in the Brazilian trade union movement, have adopted different positions. ABC Union believed in an organization at the work place called ILO, while the left tendencies, according to our understanding, became lost in their speeches and practices in what confuses the strategic with the tactics; trying to face the problem through a legal way; creating associations of professional sick people; leaving the fault with the physicians and the security technicians; filling with thousands of companies requested statements of support and/or repudiation, as if the impacts on the Worker's health are no longer a product of exploitation and so, of the fighting class and could result through many wishing expressions that are similar, more than nothing, to a religious interpretation of the world.

All the productive area (plant, tent, bank, supermarket, etc) has a work organization, an organization of production and management techniques. Besides these, it has technology. All these, day after day, generate knowledge, generates instruction, produce knowledge, and produce instruction. Therefore, this productive area generates the knowledge production. What is the technique? The technique is the consolidation of a defined knowledge. But, since the moment that the internal situation in the productive area is imposed, dictatorial and despotically by the capital because the production ways have owners, the knowledge production subject starts being a controller and the techniques, instead of being a scientific method of work, starts being a social technique of control. Consequently, it happens low wages, professional disqualification, outsourcing, workers' rationalization, production flexibilization, and increase on work rhythms, accidents and professional illnesses. Therefore, the only way of facing the impacts on the Worker's health is interfering politically in the productive space, organizing the Workers, controlling the production and fighting to interfere in the companies' power of decision. That is, it is a fight for power and not an assistance or legal fight.

THE SOCIAL DIVISION OF WORK IN THE OPPOSITION (LEFT)

During the years, we have verified a serious error in the work done with the trade union movement. Some brothers or sisters believe that the technician or the university itself must accomplish a similar role as the one performed by the right (conservative party): of accomplishing the information systematization and elaboration. This big error only helps the remaining of the distance between thinking and doing, between deciding and accomplishing, and the correct is that the Workers themselves are the ones who must appropriate from produced knowledge by themselves so, like this, we can built a socialist society where the people will be the subject of the history and that it doesn't repeat tragedies from the past when there were created castes or burocracies. We must understand that today the knowledge that we have is fragmented, outcaste, alienated and superficial, since the ways of production were appropriated by the owners.

Concrete Experiences

Since the second half of the 80' and beginning of the 90' of last century, some important and valuable experiences has occurred in ABC area, regarding the confrontation with the employers, in order to improve work conditions in the companies.

The Workers in companies such as Volkswagen, Mercedes-Benz (currently DaimlerChrysler), Atlas Copco, Scania, Sachs and Maxion, among others, developed actions that has permitted them to advance considerably in the fight for better salary, work, and life conditions.

The Worker's health was the issue of the discussion, and the Internal Commissions of Accident Preventions, an open door to accomplish the work of organizing and confronting.

In the specific case of Maxion, ex Perkins Motors, the Workers Representatives brought for discussion with the company as the

main point, the organization of work, requiring the improvement of work conditions.

At the same time, they started to develop the Map of the Productive Process, believing that it should be accomplished by the workers themselves and that his map, besides the information that they would obtain, would be a formation method. The idea was that the workers themselves gather all information regarding the productive system and after, in the meetings, discuss and systematize those data. In other words, they would pass to the practice breaking up the separation between the empiric and the scientific. Those meetings were the beginning of the Group of the Plan, an integrated space by brothers and sisters who used to discuss every month the productive system, the plant, and which was the kind of work that we, the Workers, want to exist. Through the information as, for example, the company's daily production during one month, one can prove, even if closely, that with only one day of work, the Worker produces the sufficient to have his salary paid by the company. In other words, in practice and wonderful speeches, the Worker found out what was the capital gain (profit).

While this occurred, in the negotiation table and with all information obtained through the map, the discussion was politicized and they could break up the equality and start negotiating directly with Industrial Relations and even with the Superintendent Director. The method used was of to break up the employer's logic and to establish our logic as Workers. When the company used to say that they had to discuss the headphones utilization, the Workers' Representation affirmed that they should discuss about the noise itself, as well as the work's day, the breaks, the work rhythm, the lay-out, the work organization, the organization of production, the plant as a whole, showing them the main point of the problems. They did demand guidelines to improve the work conditions, which required improvement for the brothers in the outsourcing companies; definition of the structure of jobs and salaries, and career planning; all and any change or modification in the methods and techniques of work and production management, before being implemented, should be discussed, negotiated and contacted with the Representation and the Workers; and the implementation of one Commission of Work, Health and Environment Conditions, among other points.

All this work combined with the meetings, pamphlets and speeches during lunch time, sector by sector, Worker by Worker, made the Workers' organization grow a lot. In the case of Atlas Copco, from a total of 800 workers at the plant, 200 used to meet every month in the Plant's Group to discuss and define actions in the company. The strikes were interpreted by them also as a moment of formation, when they used to watch movies and then debate, at the end, their contents. In the meetings, in front of the plant and after the work, the Plant Commission (Internal Commission) spoke more than one hour, explaining the industrial modernization, and any worker left the meeting. The Commission's coordinator, Aleto, a labor, was the one who spoke about the modernization. Years later, he was the Secretary of Development of the city of Santo André, Great São Paulo, in the government of the Workers Party.

At Maxion, the company tried to deviate the main points of discussion, holding a brother's demand that wanted to change the side of the clothing garment door, and they did it.

In this same company, the Workers' Representation has discussed the accomplishment of a movement called "A minute of silence". In an established day the Workers would stop the plant and the machines. They would leave the yard in front of the building's Management and there, it would occur an act against the very bad work conditions, and specifically, against the noise; they would throw into the ground the headphones and after a brief and concrete speech they would approve the guideline demands, strictly political, pointing out tactically, the democratization of the power of decision in the company, that would be immediately delivered to Maxion's direction. As soon as this would happen, everyone would go back to their work and would turn on their machines. The improvement in the quality of fighting would be extraordinarily big, since the paralization occurred not for better salaries, but for better work conditions and intervention requirements in the power of decision.

Another divergence that happened in the negotiation table with the company was as they analyzed an accident, they wouldn't accept that it was qualified as an act or insecure condition of work. They affirmed that since the moment that the ways of working and producing were decided by the company, the accidents or

professional illnesses were exclusively the employers fault, and so, our analysis, as Workers, was wheather there was or not conditions of work.

How to do the map

Very simple and easy is to do a monthly calendar and to ask the Workers to fill it out every day, and after they might deliver it in order to be discussed in a meeting with them.

Let´s say that we are in June, 2005:

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			06.01.05	06.02.05	06.03.05	06.04.05
06.05.05	06.06.05	06.07.05	06.08.05	06.09.05	06.10.05	06.11.05
06.12.05	06.13.05	06.14.05	06.15.05	06.16.05	06.17.05	06.18.05
06.19.05	06.20.05	06.21.05	06.22.05	06.23.05	06.24.05	06.25.05
06.26.05	06.27.05	06.28.05	06.29.05	06.30.05		

In this board, the Worker must write down every day the production of his/her sector. By the end of the month, he/she must deliver it to the Worker's Representation and must set a meeting in which the Worker will show the collecting data that was done. Besides that, the Representation can ask the Worker how many brothers and sisters there are in that sector, which are the operations that are accomplished, which are the movements, which are the tools, which is the lay-out, what are the providers, if there is really a zero stock, what are the raw materials, if they know what are the fixed costs that the company has in this area, and so forth.

With those simple information, one can know or elaborate the following examples:

- ✓ The company's productivity index in this sector;
- ✓ To do a graph with the number of workers and the daily evolution of production;
- ✓ Where there are the production's obstacle points;
- ✓ To calculate the capital gain or profit, even if approximately if not having the fixed costs. For him, one needs the product's price, multiply it by the daily and/or monthly production and the rest should be the total Worker's salary. Certainly the balance is equivalent to one day or less of work.
- ✓ To link the productivity index to the accidents and professional illnesses index.

In this first meeting, it's necessary to schedule the others, making it clear that the Map is a continuous process that must be done always and that in the next meetings it is important that the Workers bring also other information.

The important in this process is to understand that the Map of the Production is not a technical work, neither with a spread sheet nor with papers, but a trade union conception that is trying to reconstruct the labor knowledge and to put in checkmate the way of the capitalist production.

It is important to understand too that always Worker must be the one who will gather the information. In order to understand how the exploitation occurs and that the responsibility of changing this situation is his/hers, together with his brothers and sisters.

He/she has to understand that this is a process of collective construction and so, it is desirable "to make a mistake together, instead of finding out by oneself".

One has to be aware that all of this is a part of a management and inclusion process. The Worker has to follow all steps very carefully. If there isn't any kind of organization in the work place of the acting area in a specific union, it's necessary the following, for example:

- ✓ To have a meeting with the Direction;
- ✓ To convoke a planning seminar, where it can be established in the collective, the main points, the objectives, the actions at short, medium and long term, the dates that one intends to obtain it and the responsible for the co-ordination of each work.
- ✓ To establish the ILO (Organization in the work place) as one primordial point of the entity;
- ✓ To establish the Map of Production as a trade union method that will be conducted.
- ✓ To create work commissions having this discussion in the seminar itself;
- ✓ One of the commissions must be the ILO'S;
- ✓ To do a ILO'S commission meeting and define the calendar and dates to start the work, as well as all necessary infrastructure to accomplish it. To establish also a calendar of periodical meetings of the commission;
- ✓ To approve the Map'S proposal in the direction meeting in order to all be responsible for the work and that they understand it rationally;
- ✓ To put the Map into practice;
- ✓ To schedule the date of meeting with the Workers that delivered the Map;
- ✓ To discuss, debate and systematize the information in the meeting, besides establishing new information to the next one;
- ✓ To enlarge the Map, through the workers requesting them to indicate other brothers and sisters to do the work all together;
- ✓ Those first and simple actions are the beginning of the Base Groups and ILO;
- ✓ TIE-Brasil in almost all meetings, seminars or expositions, affirms that today the right, in the face of the left'S paralización,

is more dialectics than all of us and use our historical flags, properly adapted to their interests, as management techniques.

If not, let's check other points:

- ✓ The horizontalness of the communication is the parallel of the deepness of the democracy;
- ✓ The deverticalness of the hierarchal levels – the parallel of the proletarian democracy;
- ✓ Work in Group is always accomplished by us in our activities;
- ✓ Less bosses always were our demands.

For this reason, we must politicize our speeches and our actions, having clear our class perspective, and assume that the reconstitution of the "labor knowledge" is the only way of starting to built power, through the ILO, and to plant our own logics.

Through the Map of the Productive System we can start creating the Base Groups that, by other means, is to plant the seed of the new, from the dialectics view of the history.

Taylorism: a scientific method of organizing the work or a social technique of domination?

It is practically impossible to live in our society without a total control of time, without watching the clock all the time, even when we don't have anything to do. At the moment we gave an extreme value to the "market time" and to the "time is money", we left aside the determination of time measured by nature. We could never say that the water takes less time to boil than one prayer or that one died before the next harvest time. This should be, in our society, ridiculous. We would have to define everything in hours, minutes and seconds.

We transformed time in merchandising and the leisure or the fact of doing nothing is now a problem. The leisure became "stopped time", being opposed to the "working time", demonstrating like this until what point the work is divorced from life. And the "stopped

time" was absorbed by the ecstasy of consumption that is never satisfied.

Taylorism

By TAYLORISM one can understand, a group of developed studies by Frederick Winslow Taylor (1856-1915) and utilized in the industries of all world, establishing the contemporary Organization of Work.

In his studies, Taylor seeks to find a scientific method of directing the industries: how to manage with best efficiency, obtaining the greatest performance. His objective, therefore, is to increase the revenue and productivity without any loss of time in the production. The capitals' concentration and centralization that occurs in this monopolist stage of capitalism (end of XIX century), is translated in the growing of plants, gathering thousands of Workers in a same work space.

Taylor is based on the principle that all Worker practices the "systematic indolence", or, produce much less than he/she could and that this is done on purpose. The economic depression at the end of the XIX century and the great number of immigrants that arrived to the United States looking for jobs, made the Workers think that the less they worked, more jobs there would be. According to this view, "to do nothing" was a solidarity manifestation of class, and also, the security of maintaining the job. This political position of the North American Workers was going to face the productivity theories of Taylor.

But, besides confronting this position, what they've done to the TAYLORISM distinguishing, was that it demonstrated that, according to the employer's view, it used to exist a form of "anarchy" in the production ways. It is important that the plant system has already implemented the division between the manual work and the intellectual work in the productive process; the specific tasks still were done by the labors. The Workers used to teach the work, between them, verbally.

Taylor will say that all movement and all work executed by the labors, has a science, a "professional knowledge", born from the labor creation. So, if each work has a science, the determinations couldn't happen through the workers themselves but classified, studied and systematized by the Scientific Management.

The intention is, therefore, to separate the planning, conception and direction stages of the execution tasks.

Looking for the "Ox Man"

For Taylor, all the problems were faults of the Workers "vagabondage", that he said, they should increase the rhythm of work and production. Because of these positions, he was threatened to death by the labors that he used to work, but Taylor continued implementing his ideas without caring with the labor's super exploitation.

The classical example that he utilizes is the iron ingot cargo. The right way of using the methods developed by him, made the carriers transport almost four times more ingots that previously.

In order to obtain those results, Taylor has contracted a Worker. He called him "bovine type", strong and sweet, to whom Taylor paid a higher salary in exchange of the accomplishment of his program of work. Taylor's words on this labor, shows with total clearness his depreciation on the worker's class.

"Regarding the scientific selection of the men, it is an achievement that in this group of 75 carriers, only one among eight was physically able to handle 47,5 tones per day. Well, the only man among eight able to do this work wasn't in any sense someone superior to the others that worked in the group. It has occurred only, that he was the type of ox species, that isn't so rare to find in the humanity, even if it's so expensive and difficult to find it. By the contrary, he is a man so FOOL, that wouldn't be useful to most of the work".

The basic principles of the Scientific Administration, the TAYLORISM, widely diffused in the industrial area and extending itself since 1960, to the third sectors of the economy, centralize the power

decision in the hands of the direction, excluding the direct producers of the production conception and planning. The labor must only accomplish the instructions, which means to submit himself to the plant's despotical hierarchy. The direction has the function of directing, controlling and watching the labor, impeding by all necessary his/her articulation and horizontal communication.

The Expropriation of the Labor Knowledge

When developing for each element the individual work, a science that replace the practical methods, the **TAYLORISM** seeks, as a necessary thing to the employers, to reduce the **LABOR KNOWLEDGE** complex to its simple elements, to study the time of each work to reach the necessary time to perform various operations. What will permit to accomplish this goal is the introduction of the chronometer in the laboratory.

With these information in hands, the administrator must gather all the **INFORMAL KNOWLEDGE** acquired by the labor and classify it, systematize it and register it as rules, laws and formulas, giving back all this as "the one best way"(the best way of doing it). Like this, the employers take the **LABOR KNOWLEDGE** to elaborate the more rentable method for them. The labor will have to execute the instructions of how and how much time he/she must accomplish the work. Through the implementation of hierarchical and despotical relations in the interior of the plant, it's formed a new field of knowledge that will represent a reinforcement of domination on the Worker himself.

Therefore, the **TAYLORISM**, understood as a "scientific method of organization" of production, more than a production technique, is in reality, a social technique of domination.

In this context the **TAYLOR** system appears as an employer strategy, that tries to transform the labor in someone politically sweet and economically rentable. The employer's purpose goes further than economizing time, since he/she wishes that the labor be transformed in a **WORK SOLDIER**, militant of the production. It is also an employer strategy to intensificate the exploitation.

The **TAYLORISM** seeks also “to sell” an image of neutrality and efficiency, as if the techniques would have proper laws, to which one cannot or must not oppose resistance.

All this shows that the technique that is, nothing more nothing less than the consolidation of a defined knowledge, can't be spited from the political content, in other words, from the social form of its utilization.

Taylor concludes that the **LABOR KNOWLEDGE** is a very powerful weapon in the Workers hands and that, consequently, must be expropriated by the employers to be transferred, systematized and classified by the Scientific Direction.

Note:: This text was reproduced from the journal “MAXION´S WORKERS”, biweekly publication, accomplished by the Workers Representation (Plant Commission / Internal Committee) and distributed to the labors, in São Bernardo do Campo, São Paulo, Brazil, in the base of the ABC Steelworkers Union . The elaboration of this material is a literal and free reproduction from the book “**O que é Taylorismo**” (What is Taylorism?), by the publisher Brasiliense, of which authors are **Luiza Margareth Rago**, graduated in History and Philosophy at the University of São Paulo (USP), student of Master in History at UNICAMP and Professor at the Federal University of Uberlândia, Minas Gerais State, Brazil; and by **Eduardo F. P. Moreira**, graduated in Businesses Administration at Fundação Getúlio Vargas, student of Master in Economy at UNICAMP and Professor of the Economy Department at the Federal University of Uberlândia, Minas Gerais State.

Fayol and the industrial and general administration

Henri Fayol(1841-1925) was a Civil Engineering that has dedicated his life to work in the Compagni Comenantry Fourchambault et Decazeville, where he was the General Director in 1888, position that he had until he resigned, in 1918.

He brings Taylor´s collaboration, utilizing a positivist philosophy, and a Cartesian method, which consists in observe and classify what have been done, interpret them, realize experiences if it corresponds

and to derive rules, develops an administrative theory and an administrative model, very well received in his time.

Fayol's administrative model is based in three fundamental aspects: the division of work, the application of an administrative process and the formulation of a technical standard that must orient the administrative function.

Fayol divides the operations in the companies in:

- ✓ **Administrative or of management:** prevision, command, organization, co-ordination and control.
- ✓ **Techniques of production:** production, raw material transformation.
- ✓ **Commercial:** purchasing, selling, market searching.
- ✓ **Financial:** search and capital administration
- ✓ **Accounting:** Admissions and exits registers, inventories, accounts, statistics, prices.
- ✓ **Security: Goods and people's protection .**

General principles of Fayol's administration

For Fayol, the administrative function only has as an organ and instrument the social body. While the other functions jeopardize the raw material and the machines, the administrative function only works on the personnel.

The administration principles more utilized by Fayol were:

- ✓ **The work division:** In natural order, the labor who produces every day the same piece and the chief who manages constantly the same businesses, acquire an ability, a self-confidence and a precision that increase their performance. Each change in the place or in the work implies an effort of adaptation that decreases the production.
- ✓ **The authority:** Consists in the right of commanding and in the power of being obeyed. In a chief, one can distinguish the legal authority inherent to the function and the personal authority formed by the intelligence, the knowledge, the experience, moral value, the command attitude, etc.

- ✓ **The discipline:** Consists essentially in the obedience, the activity, the presence and exterior signs of respect realized as per the established conventions between the company and its agents. To Fayol, this concept is expressed in the military world and one has to have in account the concept of an **accord** in order to reach the **harmony** in the organization and the whole accomplishment of the rules.
- ✓ **The unit of command:** For the execution of any act, an agent must receive orders from a chief. Fayol says: "this is the rule of the unit of command, that is from general and permanent necessity and which influence on the businesses process at least is the same, on my criterion in any other principle..."
- ✓ **The unit of direction:** This principle can be expressed as: A unique chief and a unique program for a group of operations that tend to the same end.
- ✓ **The subordination of the private interests to the general interest:** This principle reminds us that in a company the interest of an agent or a group of agents can't prevail against the company's interest.

From the interests on diverse order, but equally respected, can have results under conciliation.

The ways of accomplishing it are:

- ✓ Determination and the good example of the chiefs;
- ✓ Accords as equitable as possible;
- ✓ An attentive vigilance;
- ✓ **The salary:** Consists on the price of the work done. Must be equitable and all possible, give satisfaction to the personnel and to the company, to the employer and to the employee...
- ✓ The employees can be paid by work's day, by task or by piece...
- ✓ **The centralization:** As per the "work division", the centralization is an achievement of natural order, consists that

in all organism, animal or social, the sensations converge to the brain or in the direction and from this or that, leave the orders that put in movement all parts of the organism.

- ✓ **The hierarchy:** Is constituted by a many chiefs that goes since the superior authority to the inferior agents. The hierarchical way is how they follow, going trough all the hierarchy degrees, the communications that are delivered from the superior authority to the inferior ones.
- ✓ **The order:** one place for each thing and one think in each place...
- ✓ **The equality:** To Fayol, the justice is the accomplishment of the acquired accords; equality and equity anxiety are desires that one must have into account when dealing with the personnel.
- ✓ **The personnel stability:** An agent needs time to start in one new function and get to perform it well, admitting that has the necessary abilities. If the agent is displaced when just has concluded his learning stage, he wouldn't have had time to produce an appreciable work.
- ✓ **The initiative:** One of the most intense satisfactions that one intelligent man can prove is to conceive a plan and assure its success, it is also one of the most stimulated powerful of the human activity.
- ✓ **The union of the personnel:** union is strength...

As he introduced a hierarchical scheme and as he deepens in the theme on the work division, Fayol does a fundamental contribution to the development of the modern administration.

Sources: Carlos Eduardo Martinez Fajardo; Administration of Organizations, Productivity and Effic iency, Second Edition – National University of Colombia, Economics Sciences School, Business Management Department. Ed. Unibiblos.

* Henry Fayol – Industrial and General Administration

Elton Mayo and the "social man"

1. Introduction

"Human Relations" is an expression that it's used frequently to designate the ways that the managers interact with their subordinates. When the "personnel administration" stimulates the obtention of more and better work, we will have "good" human relations in the organization. When the moral and efficiency deteriorate, the human relations are "deficient". In order to create good human relations, it is necessary that the managers know why the employees act as they do and which social and psychical factors motivate them.

2. The experiments of Hawthorne

A famous series of studies on the human conduct in work situation was effected in Western Electric company, between 1924 and 1933. After awhile they became known as the "Hawthorne Studies", since many of them took place at the Hawthorne de la Western Electric plant, close to Chicago. The studies intended to investigate the relation between the level of illumination in the work place and the employees' productivity: the kind of question that Frederick Taylor and his colleagues have approached.

In some of the first studies, Western Electric investigators have divided the personnel in experimental groups that were submitted to intentional changes of illumination, and in groups of control, which illumination remained constant during the experiments. The results were ambiguous. As the illumination conditions of the experimental groups were improved, the productivity tended to increase according to the expected, even though the increase wasn't uniform. But the productivity tended to follow increasing when the illumination conditions got worse, and to complicate even more the situation, the production of the control groups also tended to improve when its illumination conditions were modified, considering that there weren't done changes in the illumination of the control group. It was evident

that something else besides the illumination, was influencing the workers performance.

In a new group of experiments, a small group of workers was placed in a separate room and some variables were changed: increase of the salaries, introduction of resting periods of different duration, the work's day and the labor week were reduced. The investigators that now pretended to be supervisors, have also permitted the groups to chose their resting periods and to express an opinion about other proposed changes. And again the results were ambiguous. The performance tended to increase as time passes, but was growing and decreasing in a uniform way. During the accomplishment of this series of experiments, Elton Mayo has participated on them (1880-1949) and some of his colleagues from the Harvard University, among them, Fritz J. Roethlisberger and William J. Dickson.

In these experiments and in others posteriors, Mayo and his colleagues have decided that the financial incentives, when offered, weren't the cause of the productivity development. They believed that a complete chain of attitudes have affected these increase. As they were chosen to receive especial attention, the experimental and control groups became proud of the group which motivated them to improve their performance in the work. The supervision has reinforced the intensification of its motivation. The researchers came to the conclusion that the employees have put more effort in the work if they think that the management is interested in their well being and the supervisors give them special attention. This phenomenon, later, has received the name of Hawthorne effect.

The researchers have also concluded that the informal work groups (the social environment of the personnel) have a great influence in the productivity. Many of the employees considered their work boring and without sense. But their relationships and friendship to the brothers of work, sometimes influenced by the regular antagonism common against the "chiefs", gave them little sense to their labor life, providing a partial way of protection against the management. For this reason the group's pressure, and not the requirements of the group, had the maximum influence in the personnel productivity.

Like this, to Mayo the concept of social man " (motivated by social necessities, seeking relations at work and that answers more to the work group's pressure than to the administrative control) should replace the old concept of "rational man", motivated by personal economical necessities".

Industrial Psychology Maslow's pyramid of necessities

The social necessities are spread out by social mechanism, mainly by demonstration and imitation, for what can be created and, through publicity techniques, can provoke to be strongly felt by great masses of people. The human necessities have two peculiarities of great economical importance: a) can be soften or satisfied by different objects initially desired and b) it is impossible to satisfy all the global and definitive forms since they are multiples, reproduce themselves and other new ones show up.

The existence of not satisfied necessities, is by one side, cause of individual and social indisposition but in other side it is also an incentive to the material progress, or, to the production of new ways that satisfies necessities. This means that the purpose of the economical production is direct and exclusively the satisfaction of the alien necessities. In our societies, the system of free company stimulates the production offering benefits to the employer, to the person who decides what and how to produce. The entrepreneur that does satisfy someone's dissatisfied necessity who is determined and can pay for it, will obtain the benefit.

Maslow's Pyramid



This is the explanation of why a great part of the world population, doesn't find a way of satisfying their basic necessities while the greatest productive forces are dedicated to the satisfaction of the social necessities of the population's segment of a bigger purchasing capacity: these produce more benefits than the others.

The experts in marketing pay a special attention to the pyramid of necessities projected by the American Psychologist Abraham H. Maslow. According to this author, the human been necessities are hierarchized and distributed so that when the necessities of an order are covered is when they start feeling the necessities of a superior order.

The Marlow's basic stage is of the physiological necessities, hunger and thirst. When the human been has already covered these necessities, starts worrying for the security of following them having them covered in the future and for the security faced to any damage. Since the person feels physically secure, starts seeking the social approval; wants to identify himself and share the anxiety of a social group and wants this group to accept him as a member. When the person is integrated in social groups starts feeling the necessity of obtaining reputation, success, praises the others. Finally, the individuals that have covered all those stages gets to the culmination and wants to feel that they are doing everything they can, they believe.

In the developed countries, the physiological and security necessities are covered for the majority of the members. That's why the companies produce and offer ways of satisfying the necessities of belonging to a group or to a social reputation.

The labor knowledge

How the employers are seized of our most precious secret: our professional knowledge.

Every company has a series of norms, procedures and rules that define how they must accomplish a work. For each Worker, or group of Workers, there are designated tasks, defining the quantity, the

necessary quality and the ways to realize them (machines, tools, equipment, etc.). This is what is called as prescribed work, or, is the form that the company organizes the way how we, the Workers, must work. In other words, this is the **Work Organization** that the companies oblige us, dictatorly to accomplish.

Nevertheless, this **Work Organization** never corresponds exactly to the work that really is done by us. Why? Because by the moment that it is necessary to accomplish this operation, many unexpected things appear.

We name the informal work, as the activities that weren't decided by the company. It's whatever is not written and formalized. Or, we, the Workers, know that the production doesn't functions if we follow precisely what the chief tells us to do, since when something occurs we, seek for a problem solution, isn't it true? And this, we achieve because we are the only ones who know how to make it work: tricks, manners, ways, tactics, adaptations, proper tools, among one million of other things. They are, in summary, the intellectual activities that we, workers, realize during the execution of our tasks.

What does occur when we only do what our chief orders and don't use our practical knowledge?

The Workers transform the company's life in hell when they limit themselves only in established rules: then the delays start happening, the bad quality, etc. Without the effective participation of the Worker, without the "something more", without the informal communication among the Workers, that is, without the co-operation, the production cannot develop, the product is not produced, there isn't a transformation.

For example, a traditional way of fighting of the airplanes pilots is the called "employer operation", that consists only, in accomplishing rigidity (literally) all the rules, procedures and recommendations established by the company. And what is this result? Delays, cancelled flights, terrible lines in the airports, and decrease on the company's greed.

The bus drivers, when want to demand, stop giving their informal knowledge to the companies as a way of fighting.

In Belo Horizonte, capital of the Brazilian State of Minas Gerais, for example, it was realized, years ago, the called "operação salsichão" (sausage operation), which consisted in accomplishing strictly the rule of not exceeding the limit of 40 km/h and maintaining itself always in the bus way, what generated a terrible chaos in the city's traffic.

"Radio Peão" (gossip spread by spoken communication in the shop floor by the workers)

Besides all this, exists the called "Radio Peão", that is a net of informal communication among the workers inside the company. A really net of informal relations that permits that the production is developed very quickly.

The "Radio Peão" or informal relation occurs when:

- ✓ A Worker in a machine, for example, notes that a product has problems and communicates it directly to the sector in charge of receiving and inspecting the raw material.
- ✓ A Worker in a caramel company notices that the operating machine has problems. Without telling it to her boss, she calls the technical support, or if it's possible, she fixes it herself.
- ✓ A metallurgical Worker notices that a piece has arrived in a wrong position. Immediately he communicates it to his colleague for him to solve the problem, preventing the loss of time.

Concluding, the informal communication is not expected by the company, but it can get some advantages on this, since this is very useful to make the production go ahead. Without our knowledge of what goes every day that only we know and that none of our chiefs is aware of, considering the pressure and some angry faces, the employers couldn't produce at least half of what they profit with our work. The company and the boss only know the theory, but we, the Workers, have the practice, and without it nothing functions.

The Japanese Model – the Toyotism

The Japanese model of production has been introduced for the first time in Japan by Toyota Motor Corporation – therefore it is known by Toyotism – and adapted by many other Japanese companies, during the oil crisis in 1973.

The historical events that allow the appearance of this production model happened in the 50's, when after the Second World War, the Japanese Workers have taken the plants, to rebuild them. So, the employers frightened with the Workers organization growth in the shop floor, make an strategy to end this Worker power. This strategy is constituted by the techniques of the movement division, favoring the creation of unions in each company, allied to the entrepreneurs, something that could be possible after the "red expurgation", a direct repression to the communist leaderships, happened after the war (Ichiyo, 1984).

In the 1965 recession, the employers had to increase their organic composition and applied a package of proposals that included some aspects:

"...intense rationalization in the inquiry of the scale and organic composition economies, as well as work intensification..." (Ichiyo, 1984:42)

The rationalization was the solid point of the packet, needed so that the other points could be reached. So, Japan started to import by the USA the **TAYLORISM**, that in national soil, assumes the name of **GORYKA**, and in a way that "its founder could never imagine: the application of the taylorismo by the workers themselves" (Ichiyo. 1984:46).

There used to be, in this time, a great collective feeling, traditional in the Japanese culture: "the Japanese Worker first belonged to the group work, and through it, but just in a secondary way, to the company" (Makoto, apud Ichiyo, 1984:43). This collective feeling ended with the insertion of the **TAYLORISM**, which established the division between manual work and intellectual work.

During implantation of the Quality Control Circles (QCC's) and the Taylorist ideas, this collective feeling revives, although in agreement with Ichiyo, as if someone from another world:

"Webster gives an excellent definition about the meaning of "someone from another world": a supernatural power, through which a cadaver can be back to life and must obey the person who has the power, or must obey another cadaver in the same situation" (Ichiyo, 1984;46).

So, the employers finally win this battle in the shop floor and according to Shinzo:

"The capital finally replace the Workers' shop floor organization by their own plant floor organization, that are the Quality Control Circles (QCC's)" (apud Ichiyo, 1984:47)

The first step adopted by the employers was the creation of the Quality Control Circles (QCC's) and, later, these circles, through the **TOYOTISM**, originates the **JAPANESE MODEL OF PRODUCTION**.

The Japanese union movements' defeat had the support of the recruiting of a new work force: it started to be recruited workers that had just left the universities with actions, which had individualistic acts and attitudes.

The adoption of this new business conception can be explained by the changes in the world-wide market: until the 60's, the industrial production had its entrance guaranteed in the market, because the demand was bigger than the offer. However, since the 70's, this scenario has been changed with the competition increase between the international oligopolies and the consequent increase in the offer related to the demand.

In addition, its implantation has also become possible due to a cultural factor. The model that was born in Japan, couldn't exist without having their culture as a basis, which preserves specific places for the family and the company, with loyalty and submission values (Helena Hirata, 1990).

Its Goals

The Japanese Model of Production appears as an answer to this new market reality, in which the survival means ability to answer three points:

- ✓ Low costs;
- ✓ Offer flexibility, that means diversity and speed;
- ✓ Ensured Quality

The production started to be the opposite. Instead of being “pushed” by the pieces section, started to be “extracted” by the sales section in order to attend to a more pretentious market.

The main and basic idea is that, through the production in correct quantity, on the exact time and the right quality, the costs will be reduced brusquely.

In the **JAPANESE MODEL OF PRODUCTION**, there are four fundamental ideas.

- ✓ Just-in-Time (JIT)
- ✓ Automatization
- ✓ Flexible work force
- ✓ Creative Thought and ideas

There is still another central concept in the **JAPANESE MODEL OF PRODUCTION**, the TQC (Total Quality Control), which is a management technique of production that wants to reach a total quality.

In an ideal situation, the **JAPANESE MODEL OF PRODUCTION** or JIT wants to reach the zero stock regarding the raw material. The costs reduction occurs, then, because like that the working capital is

liberated and the administration costs, maintenance and stocks movement are eliminated (warehouses, packages, piling machine, plant area, etc.).

Minimum Loss

This costs elimination is called **MINIMUM LOSS**. In other words, all the losses, by the employer's view must be eliminated. Or, the preventive maintenance, plant's cleaning and transportation of pieces, start being done by the operators themselves. With this, the employers cut drastically the indirect labor and through a new position called MULTIFUNCTIONAL, the labor in the production itself.

X o Y ?

All the Work Organization and Production, in order to function well, has to count with the workers by its side. Has to make them believe that what is good to the employer is also good to the worker. If not, the work doesn't happen.

The JAPANESE MODEL OF PRODUCTION isn't different in this aspect. In order to function correctly, the employers know that it is necessary to create new values. These values are what the companies call the "**ORGANIZATIONAL CULTURE**", that is, nothing less than the superstructure of the new model.

This **ORGANIZATIONAL CULTURE**, wasn't taken by the companies from the bottom of the hat. It is a consequence of a series of knowledge gathered from the employers during years. It comes from their questions regarding what Taylor used to defend. The TAYLORISM, after serving during many decades, ended being inconvenient because of the worsening in the conflict between Capital and Work.

The employers noted, after the 2nd World War, that it was necessary to create a new culture that, "carefully" made the Workers believe in the employers' promises. It is like this that it begins in the Business Administration area, the School of Human Relations of Elton

Mayo, X or Y of Mac Gregor, Maslow's Necessities Pyramid, Lickert's ideas, among others.

Nowadays, in some companies, generally the more developed ones, there are human relation policies that, for example, use the industrial psychology, with its techniques and dynamics, to attract the workers, replacing the labor values (fraternity, solidarity, mutual help, companionship) into the competitiveness between them, at the same time that they accept negotiating practically all, with a speech of relations modernization between capital and work. An example is FIESP (Industries Federation of the State of São Paulo, Brazil), that, in an internal document recommends to the owners to never repress a striker, but to "conquer him politically" in favor to the employers' interests.

Note: This text is a transcription of the newspaper "MAXION'S WORKERS", a biweekly publication, developed by the Workers Representation (Plant Commission/Internal Committee), and it has been distributed to the workers.

Sister NAIRA LISBOA FRANZOI, teacher, Master in Education, a collaborator of the Steelworkers Union of Canoas, Rio Grande do Sul State, Brazil, has contributed in the elaboration of this document. Her Master thesis defense was in May, 1991 in the Federal University of Rio Grande do Sul, in Porto Alegre, and was called "**THE JAPANESE MODEL OF PRODUCTION AND THE INFORMAL WORKER'S KNOWLEDGE IN THE SHOP FLOOR**", Her grade was 10 with glorification.

Kaizen: a business philosophy for the appropriation of the workers' knowledge

The word Kaizen is originated from the junction of two Japanese words: kai that means change and zen that means to improve. So, the word Kaizen means: changes to improve.

All of the employers wish that their companies improve continuously their products, the services rendering or their processes. The continuous improvement results into lower costs,

higher capacity to accomplish delivery times, higher quality in services and larger sales.

What is Kaizen?

Kaizen is a philosophy in constant changes, with the purpose of evolving towards better practices, and is usually known as a "continuous improvement". Kaizen is not a loss eliminating or costs reduction program. To understand it like this, would limit its true achievement and this would cause a non implementation of its true potential. But, in spite of the employer's definition, Kaizen is a business technique, which has the aim to assume the Workers' informal knowledge.

What the employers seek is that the continuous improvement be a practice that overpasses all the sides of life and not only in the business level. This philosophical principle makes, according to the employers view, the continuous improvement changes into a "culture to be the best" that goes beyond of the economic and in this direction is nearly an ethical question that joins with the old Maslow's theories, one of the greatest exponents of the business administration schools.

In addition, Kaizen, in contrast of other "businesses philosophies", say the companies owners, has no intention to make big changes, but focusing in achieve small but continuous improvements in all of the activities.

Implementing the continuous improvement

Although one says that the continuous improvement is not an office question, but it starts in gemba (where the action happens), it has to involve since the beginning to a high direction on its application. This has to introduce the Kaizen concept as a corporative strategy and from that on it is made a strategic planning that takes place with the classic analysis **D.O.F.A.** - Debilities, Oportunites, Stregth and Threatening. It is an análisis method, from the Japanese model of production, sold as if it were an exercise and its purpose is

to help bringing new ideas on the work; or **F.O.D.A.**, through which the company's course is clearly identified.

After having clearly "to where" the company wishes to go, it starts working in the gemba areas with the "5 s" tools, the seven statistic tools to solve the problems and the group work; the aim is to increase the productivity against the processes control, standardizing quality criterions, and using the work methods by operation.

"It is requested the Continuous Improvement habit in the same level of all the organization and the commitment of reaching the Total Quality"

The citizen's application consists basically in four steps that are according to the structured process, as:

- ✓ Check the mission: strategic planning
- ✓ Diagnostic of the main cause: indentification and problems diagnostic
- ✓ Solution of the main cause
- ✓ Results Maintenance

Once it has been managed to accomplish these four steps and they have been achieved to improve the client satisfaction, the proceeding is to look for new aims that allows restarting the process, doing this in a fluid and continuous way in each gemba. Every time that process gets to its end, is when it has to get to the maintenance step of results, and it is necessary to compensate the group which is involved on the improvement. This compensation has to be proportional to the reached profits. The constant search of new objectives in the work groups, in general, brings helpful consequences, in terms of innovation and, of course, in quality.

In order to have positive results from the kaizen, one has to assign involvement to the employees, that is, it has to see the company by the opposite side, placing the base people into the first places since they are usually who know what and how it can improve: this implies that the direction and the employees have to

bet for a change in their mind, in which the first learned how to let the laces go on (to give more freedom to the employers), and the second to confront bigger responsibilities.

The continuous improvement allows the identification of problems and to work on its solution, for that reason it generates well-being, not only in the company but in the personal life, since not to recognize the self mistakes is the first step to retard the improvement.

All this employer's definition about what the Kaizen is, its philosophy, how it has to be introduced and how to attract the workers, makes it clear at the end that it is an appropriation technique of the informal knowledge, what arise from the shop floor or from the production's heart.

Confrontation experiences on the union's area

In Brazil, for example, the big companies apply the Kaizen. Others use more simple techniques, as it is the "Having a coffee with the Director" purpose, "Open doors policy", etc., which are moments created by the companies to talk with the Workers and they can pass over their knowledge. Of course, the mentioned techniques can never be compared with the Kaizen, since it is a work philosophy and, therefore, it has to be assumed as a "way to be and live", coming from who properly works.

In São Bernardo do Campo, industrial belt of the Brazilian city of São Paulo and where it is found the biggest industrial area of Latin America, a company called Maxion (ex Perkins Motors) has introduced the Kaizen, however not in a correct way. It has been created a hangar with excellent work conditions, for the workers who have had "creative ideas" to build the mechanisms, tools or the materials that were considered necessary to improve the production.

To illustrate better, a Worker, for example, found out in his daily work that if one has had installed a lever on a point at the production line, the production would be faster. He would communicate it to his supervisor who conducted it to a Department called Kaizen. What happens is that as the work conditions in Kaizen were much better

than on the shop floor, the Worker, after some time, didn't want to go back to his section, or has invented a lot of "new ideas" just for not sending him back. The company's mistake was to confuse a work philosophy with a physical space.

The Workers Representation at Maxion (Plant Commission / Internal Committee) has denounced in Meetings the company's objective of appropriating themselves of the Workers' informal knowledge, and the form of the established fight. In the meetings, they asked the Workers, who presented many ideas, not the good ones but the ones without any importance, in order to overload the Department of Kaizen and demonstrate the contradiction of the philosophical conception that defines it through tens or hundreds of requests to improve it. Also, they told the labors, that among their requests, they would ask that Kaizen could be applied to improve their salaries, work, and life conditions. The company even offered money in exchange of ideas, but with the meetings and pamphlets, they have demonstrated to the workers that the difference between what they would earn and what the company would profit with their ideas, was huge (capital gain).

All this union action happened, having as a support the Production Map, which has allowed the data and information obtainment, managed by the Workers themselves, to prove the increase of the work rhythm, the reduction of the pays, the professional disqualifying, the production and labor flexibilization, the work accidents and the professional diseases.

Rationalization and flexibilization of the labor

TPM: The polyvalence in the maintenance

TPM is an English abbreviation that means Total Preventive Maintenance. Or, it's the promotion of the Maintenance of the Production System with the participation of all the organization elements.

The **TPM** has been originally defined in Japan, joined with all the other philosophies that compose the Japanese Model of Production, and its goal is to reach five basic points:

- ✓ To maximize the operational global performance of the groups
- ✓ Globalized approach, regarding the cycle of life of the next group.
- ✓ Involvement and integration of all involved departments of the company, for example, Programming, Production and Maintenance.
- ✓ To involve everyone and make them participate, since the high direction of the company until the operators.
- ✓ Contribution of the voluntary activities developed by small groups, in addition of the creation of a propitious environment for the conduction of these jobs.

Three factors that detach TPM are:

- ✓ Search for economy
- ✓ Integrated system
- ✓ Spontaneous maintenance, executed by the operator (small groups activities)

According to these definitions, the search of economy is the main goal of TPM.

The Goals

The **TPM** seeks, according to the business view, to reach the effectiveness of the organic structure of the company itself, through the improvements which must be introduced and incorporated either in the people or in the groups.

It means, in other words, to create, to prepare and to develop the people and the organization for them to be qualified to conduct the future plants, which will be automatized.

For this, it is necessary that employers develop training programs that include the following Workers:

- ✓ **Operator:** must have the ability to conduct, in a spontaneous way, the maintenance activities
- ✓ **Maintenance mechanics:** must have the ability to conduct activities related to mecatronics (mechanics + electronics)
- ✓ **Maintenance Engineer:** must have the ability to design, to project and to develop groups which don't require maintenance intervention.

That means that the entrepreneurs think that "changing the man" it can generate changes into the machines, and improving the groups they can obtain the following results:

- ✓ Global performance improvement
- ✓ Projects of new groups that take into account the life cycle cost and its start on a normal production rules.

Throughout these improvements, either for the people or for the groups, the employer seeks to improve the organic structure of the company, increase the productivity and maximize the cost/benefit relation.

To get a global performance of the company, it has to be eliminated the "6 Big Losses", pointed out by TPM:

- ✓ Loss by equipment damage
- ✓ Loss by stoppage for changes of lines and adjustments
- ✓ Loss by reduction of nominal speed of production
- ✓ Loss by defects arose in the process
- ✓ Loss by the null operation or moment interruptions
- ✓ Loss by reaching the normal rules of production

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Outsourcing

The word "terceirização" or, outsourcing, means to transfer the responsibility of a service or to a determined stage of production or the commercialization from one company to the other, and due to this, it will be called "third", or outsourced.

Although some employers deny, to outsource is also to subcontract internal services, through Workers for a determined time, etc.

A little of history

The transferring process of activities to outsourced (thirds) is not something new. It has been occurring during the history as a part of the social division of work. An example is that it was called domestic system ("putting-out"), very common, just before the emerging of the big plants, in the XVIII and XIX centuries.

Another clear and more recent example is the constitution, especially during last century, of the spare parts industry to supply the vehicles producers.

Finally, several support services (especially security, cleaning, and internal restaurant) are being administrated by outsourcing companies and by big corporations a long time.

Lately, the transferring of activities gains speed and turns itself enlarged. The outsourcing process is an international tendency and is linked to the objective of determining the "focus" of the company's performance and to redefine the role of the plant, abandoning productive systems more complex that are close to the same physical space, with the same administration.

Besides this, the outsourcing, as a process that can affect the industrial structure and the group of economy of a society, is linked to a group of technological and organizational changes, being identified as one of the fundamental elements of the Japanese Model of Production or Toyotism, even if there are opposed positions to this argumentation (see Helena Hirata and Philippe Zarifian, "Fuerza y Fragilidad del Modelo Japonés", - Strength and Fragility of the Japanese Model, Instituto de Estudios Avanzados de la USP - University of São Paulo - Brasil).

In the world

In Japan, this flexible specialization would be one of the typical elements of the industrial model, based in new forms of the Work's Organization and in the decentralization of the production, trough the articulation between companies. The difference between the salaries and the bylaw of dependency and fidelity that they consolidate with the big companies are maintained for the relation stability and by the headquarters support to the sub providers.

In Italy, the flexible specialization is also present in the named "Third Italy" (in the North Center of the country, in cities such as Rímin and Bologne, among others), with their companies highly

qualified, in a big part founded by trade union militants and left side politics, laid-off in the 50' conflicts.

In this case, they would form a net of employers, based in a context of historical fights in defense of the co-operativism, incentive to the small company and professional capacitation.

Other interpretations on this show that during the 70', the information of the Italian economy, was accelerated, which wasn't only the economical reason, but also the political, seeking to break the trade union power in the big industries, as example in the FIAT Group.

In Brazil

If in Brazil, a co-operation process between companies, by a side, started being built very modestly, the results tend to be still precarious and unstable, due to be low inversions accomplished in this country and of the business culture strongly determined by the immediatism of the high profit, because of the constant work and Worker depreciation, to what is reflected in the social and economical results that the "Brazilian outsourcing " is demonstrating.

In most of the cases, the business men want to sell an image of the outsourcing being a history of success, hiding the bad experiences occurred, for example, at Perdigão, Brassinter, Xerox, etc.

In the 60' and 70', the Brazilian military government, has incentivated a great verticalness in the companies, mainly during the "economical miracle". This has changed during the 80', when started to project the necessity of a bigger opening in the economy.

The end of the restriction on the importation has contributed to the companies, gradually, reduce their nationalization / verticalness index in their activities. Since 1994, the Brazilian companies started to expose themselves to the international competition.

In this sense, the Mercosur and/or ALCA, brought deep transformations.

In a more global way, the important is that the outsourcing accomplished in a recessive context, will hardly mean the maintenance of the general level of employment.

Besides this, the outsourcing is one more element of the re-structuring and modernization process, increase of productivity that is happening in the Brazilian industry, in a non negotiated manner with the Workers' and Unions' Representation, and, as it was mentioned, in recessive periods.

The impacts that result from this form, regarding Work Conditions, Health and Environment are threatening, when not controlled by the workers themselves.

The political issue

Nevertheless, there is another objective that isn't affirmed or stood out by the employers and the managers: the combat to the trade union organizations, the disarrangement of the identity and the unit between the Workers; the demobilization and promotion of more difficulties to the arising of strike movements and/or of demands. Or, the production and work control, through a wide business net of cooperation.

Jerônimo Leiria, Riocel's lawyer, a very big cellulose company in Brazil, said that among the outsourcing advantages, there is the employees reduction, the strikes demobilization and the difficulty imposed to the trade union organization.

Frank Davis, companies' Executive, writes in his book "Multifunctionality and Outsourcing" (Multifuncionalidade y Tercerización), that it must be utilized to eliminate conflicts and stoppages, provoked in the strategic sectors of the companies.

Finally, Carlos Queiroz, also affirms that between the businesses greed there are the salary costs reduction and the demobilization and the destruction of the trade union action.

Volkswagen ´s example in Brazil

Facing the great workers organization and their pressure, through paralizaciones and manifestations, in 1991 Volkswagen do Brasil, in São Paulo´s industrial belt, in Brazil, established a commitment with the Workers Representation (Plant´s Commission: Internal Committee) and the ABC Steelworkers Union in order to discuss that every and any outsourcing project should only be implanted after being discussed, analyzed and evaluated between the parts.

The Meeting Report text, accomplished on 10.28.91, said the following:

Subject: "OUTSOURCING"

The company develops "outsourcing " studies in its work routine.

The accomplished studies done to the Plant Anchieta, at São Bernardo do Campo, São Paulo State, lose its validity.

The eventual "outsourcing" implantations, in the Plant Anchieta, only happened after informed, discussed, analyzed and evaluated in conjunction with the components of the Worker´s Internal Representation (Plant Commission) and Union.

São Bernardo do Campo, October 28th, 1991

Undersigned: Plant Commission Representatives, Directors of the Union and Company´s Representatives

Other most recent experiences of fight against the precariousness of the salary, work and life conditions of the Workers, happened also in the base of the ABC Steelworkers Union, cradle of the union movement combative, appeared since 1978 in Brazil and that originated the CUT – Central Unica dos Trabalhadores (Workers Central) and from where came Luiz Inácio Lula da Silva, current President of the country.

One of these experiences is to gather the outsourced workers of a company and make a meeting in which they will decide that their union is the Steelworkers' and not the one determined by the law. Considering that this is prohibited by the unions' legislation, it is intended to create political facts that start to examine, in fact, the outsourcing.

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The Beauty of the work in the Nazi Germany

*"In the future there will
be only one nobility:
the work's nobility"*

Adolph Hitler

The glorification of the technique, of the productivity and of the rationalization of the work process had been taken to the last consequences for the fascist governments, who sought to create esthetics symbols to explain the power exercise. Esthetics and Politics had been hardly tied to nazi, what intended to beautify the production space and transform the Worker into a pleasant person, through multiples strategies.

Presenting the power of the technique transformation, the movement of renewing the the working world unchained in Germany since 1934, had been guided by the **BEAUTY OF DEPARTMENT OF WORK**, institution created a year before as a part of the Nazi pleasure organization "The Power for the Joy". Its main goal was to politically modify the relations of work and get the Workers' support, from the internal and external beauty process of the German industries and offices.

Till 1939, almost 80.000 plants had been reformed, internally and externally, according to the **BEAUTY OF WORK DEPARTMENT** projects. The German industry has got a new image due to the apparent improvement of work conditions: better ventilation, better illumination system, canteens building, bathrooms, reform and painting of the walls, arrangement of work clothes and the creation of parks and gardens full of flowers around the industries, had the objective of creating an illusion in the labor's mind of a social harmony. To compensate the increase of the work exploration, due to the vertiginous intensity of the production rhythm, the **DEPARTMENT** defended too, the construction of "communitarian" resting places, on the outside part of the company, beyond

entertainment areas. In this way, the **BEAUTY OF WORK DEPARTMENT** has sold a new dimension of the Nazi ideology, throughout the cult that used to render productivity and the effectiveness that invaded either the esthetic or the politics territory.

A series of convincing campaigns had been spread out during these years: "**GOOD ILLUMINATION – GOOD WORK**", "**CLEAN MEN IN CLEAN PLANTS**", "**HOT FOOD IN THE PLANT**", etc. The **DEPARTMENT** had been acting with the intent to cease the image that people had that the plant was an exploration of individualistic space, trying to dissolve all kind of the worker's conscience and disarticulate any kind of reorganization intentions of the Workers movement, defeated in the former decade.

The **DEPARTMENT**'s growth was so big that since 1939, it starts to have five divisions: I – Management, II – Artistic Plants Projects, III – Technical Projects, IV – Innovation and Investigation and V – Beautiful City. The second division was so busy with the internal plants renovation as well as the "standard plants", projected and built annually by the **DEPARTMENT**. The third was in charge of the accomplishment of scientific researchs on illumination, ventilation, noise intensity, dust elimination and its practice application. The fourth has promoted the different **DEPARTMENT** projects and supported the producers' initiative who wanted to follow its ideas. The last one, as the name indicates, had to take care about the beauty of the German cities.

To make the worker change into a pleasant person, suppressing the traditional conflict between money and work, through the improvement of the work conditions, was the biggest challenge of the **BEAUTY OF WORK DEPARTMENT**. The nazist ideology believed that the physical cleanness of the plants would bring with it simultaneously the "moral cleanness" of the unhappiness way of the worker's spirit.

On the Workers' part, however, the situation was very different. The destruction of the union, the prohibition of the workers organizations, the arrestment of political leaders, as well as the decrease of the wages value during the nazist regime, just confirmed the merelly disciplinar function of these arrangements.

The silence of the Workers when they used the new installations was something that contradicted the statements of the BEAUTY OF WORK DEPARTMENT. Actually, it would be very hard to make the Workers turn into pleasant persons, since the achievement of the projects itself depended on the accomplishment of "supplementary benevolent hours", that is, which were not charged.

The **DEPARTMENT** campaigns have encouraged themselves to convince the Workers on their "anticapitalism", building the myth of the plant "without proletariat", formed by a "group of collaborators", that carried out the same tasks, since they had a common national objective.

In spite of having seen until now these opinions and accomplishments of the **BEAUTY OF WORK DEPARTMENT**, its success has not been complete. Between 1938 and 1939, the unhappiness of the German workers regarding to their low wages and the rationing proceedings from the intervention of the state companies upon a work market characterized by the absence of labor, have made the work productivity decline.

The new image of the plant and the embellishment of the production area did not achieve the expected victory in the fight for the association of the German Workers submitted to an excessive work load and humiliated by the denial of their potentialities.

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What is the risk map?

The analysis comes from a definition of the work environment, understood as being the conditions set of production or the area where the production process occurs and seeks to analyze the "risks factors" that can exist in this environment and, consequently, can attack the Workers and/or the environment.

The investigation of the risks would be done by the Workers, through homogeneous groups (Workers exposed to the same risks) and the problem indication depended on the consensus of the group itself. That means that it would be considered a risk if the majority mentioned their existence. The homogeneous group would be, therefore, responsible for the studies accompanying that the union's technicians would make in relation to the indicated risks. It was searched, with this, that the Workers have accomplished the investigation without transferring the responsibility of the work conditions to their employers.

The factors of risks are formed in four different groups: 1) light, noise, temperature, ventilation and humidity; 2) dust, gases, steam, and smoke; 3) fatigue originated from physical effort; 4) including the rest of the factors that cause fatigue: work rhythm, monotony, repetitiveness, uncomfortable positions, nervous tension, and the improper responsibility.

In order to facilitate the analysis of the work conditions, the Italian model has adopted the graphical representation of risks, through the elaboration of the "map of risks". This map consists in indicating the risks, identifying them through circles of different sizes and colors, that permits the Workers to visualize the place of the risks in the plant and their seriousness.

Considerations on the Map of Risks

The Map of Risks was adopted officially in 1972, during the Convention of the Italian Trade Union Centrals (CGIL, CISL and UIL), realized in Rimini (Italy). It had as objective to turn into a research

method (form) of the work conditions that valorized the "labor knowledge" and made possible the modification of the work environment, through the deliver of the demand guidelines to the companies and a fight strategy to conquer it.

In practice, what it was found out is that the analyzis of risks superficializes the central point that is the discussion of work, prioritizing the observation of the effects already expected by the scientific knowledge owned by the employers. This means that in the plants, due to the characterisitics of how the process is submitted and organized, the risks are already expected. Examples: silicone in ceramics companies; intoxication by benzene in chemical industries; deafness in steel companies; repetitive strain injury in the assembly line and computer operators, etc.

This scenario is even worse when new forms of work and production organization are introduced, since the knowledge of the risks, the most important that this could be, it becomes useless, because its objective disapears. This means, in other words, that the map of risks doesn't permit to the Workers, the main thing: to built a union strategy able to oppose to the employers strategy. Therefore, we can affirm that the knowledge of the risks, having as a base the situations that have already occurred or that have been occurring, prevent future protections. It becomes a personal experience, shared by various or many people, but it doesn't transform, effectively, in class power.

Following, we can detach the main problems presented by the analysis done from the risks or the limitations of the "Map of Risks".

- ✓ Restriction of the work analysis to what is permitted analyze, reinforcing the fragmentation of the labor knowledge, imposed by the capitalist system. Like this, the work is seen as isolated parts and no as an integrated and complete process.
- ✓ Reproduce basically, the same concepts of risks factors utilized by the work medicine and by the security engineering, strengthening the idea that it is natural the existence of risks, interesting only to identify and control them. They utilize for this

- control the "limits of tolerance"(limits acceptable), not making possible to argue why the processes present noxious factors.
- ✓ Like this, the difference between the employers' interests and the Workers diminish, strengthening the idea of co-participation in the solution of the problems. The demands are limited to point out mistakes in the work environment, without questioning the productive process.
 - ✓ Utilize the "labor knowledge" without taking in consideration that this knowledge needs to be stimulated critically by the Workers that are more organized and polarized (militancy, union representation, etc.).
 - ✓ Strengthen the Idea that the only practical experience is able to produce knowledge. Does not incentive the Workers' politized and unionist capacitation, since it simplifies the exploitation problem making believe that it is only necessary the observation, not permitting that the Workers understand and discuss the employer's strategy of joining and domination.
 - ✓ Strengthen the fragmentation of the labor class, since the analysis prioritizes the internal workplace environment, not permitting that the Workers consider their work in an articulated form with other work, developed in other companies, or as part of a productive chain.
 - ✓ Pledges, deviates and manages the Workers' attention to "what is permitted to observe and to map". Transmits the idea that the company doesn't have the consciousness of the risks that the Workers are submitted and that the company is concerned in resolving those problems.
 - ✓ In Brazil, due to the laws, although the map of risks is done by the Workers, reinforce the "delegation", since the company's technicians will follow the Workers in the survey of risks and together will seek for solutions, not characterizing, with this, the negotiation process.
 - ✓ It's good to remember that the analysis, in the way that is proposed in the map of risks, doesn't permit evaluate the modifications in course in the content of work, neither to avoid

the growth of its emptying. The analysis is done with base of the evident risks, without trying to know each task and the content that composes each one in the productive process. In summary, doesn't permit the analysis of the alienation of what is submit the labor class. This means that it doesn't points out the recover of the control of the work itself, that is only possible through the production and productive process control.

- ✓ Concluding, the map of risks doesn't permit that the labor class organizes as a class, eliminates the union action, doesn't point out the class perspective, believes in the legal solution of the problems and transforms the Workers' fight for better conditions of work in a simple thing of the entrepreneur management techniques.