

# A reading of the crisis of prevention activities: current paradoxes and future challenges

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**Abstract:** Introduction: The activity of occupational health and safety professionals is in a paradoxical situation considering, among other aspects, the productivity context, which gives low priority to safety and health, the limitation imposed by the hegemonic conceptual references in the field, the limitation of these professionals' power to act and the highly conflicting and complex character of the occupational world. Objective: In essay form, the article, in dialog with the literature of the field, proposes to reflect on the impasses and challenges of the prevention field. Method: The reflections are based on the experience of the authors both in the practical area as also in research, teaching and extension activities in the field of health surveillance and workers' safety. Results: Even though this field of activity has been recognized as a specialized and legal area for more than 40 years in the country, the magnitude of the data concerning occupational and industrial accidents reveals the limitations and difficulties that these professionals face, and justifies the importance of the analysis of current practices in order to understand the contradictions that lie at the root of the difficulties to achieve prevention. Conclusion: Citizens could pressure corporations to improve their safety practices and concepts. State can also be pressured to create new safety policies.

**Keywords:** *Occupational Health, Safety, Behavioral Based Safety, Work/Prevention.*

## Uma leitura da crise da atividade de prevenção: paradoxos atuais e desafios futuros

**Resumo:** Introdução: A atividade dos profissionais que atuam no campo da prevenção em saúde e segurança do trabalhador encontra-se diante de situação paradoxal tendo em vista, entre outros aspectos, o contexto produtivista que deixa em segundo plano a segurança e a saúde, a limitação das referências conceituais hegemônicas no campo, as limitações do poder de agir destes profissionais e a própria natureza conflituosa e complexa do mundo do trabalho. Objetivo: Na forma de ensaio, o artigo, em diálogo com a literatura do campo, se propõe a refletir sobre os impasses e desafios da atividade de prevenção. Método: As reflexões se baseiam na experiência dos autores seja no campo prático como em atividades de pesquisa, ensino e extensão na área de vigilância em saúde e segurança do trabalhador. Resultados: Embora a atividade de prevenção tenha sido reconhecida como campo de atuação legal e especializada há mais de 40 anos no país, a magnitude dos dados relativos aos acidentes ocupacionais e industriais mostra limites e dificuldades que esses profissionais enfrentam e justifica a importância da análise das práticas correntes em busca de entender as contradições que estão na origem das dificuldades para o alcance do objeto da prevenção. Conclusão: A sociedade pode cobrar das organizações trabalho seguro e saudável, criando pressão para que mudem suas práticas e conceitos, ou pode pressionar também o Estado para que sejam criadas políticas públicas em relação à segurança.

**Palavras-chave:** *Saúde Ocupacional, Segurança do Trabalho, Administração do Comportamento, Trabalho/Prevenção.*

## 1 Introduction

In the current context of contemporary globalized capitalism, those who work in the worker health and safety area perceive and have the feeling of acting permanently against the flow. In spite of the increase in normative devices, which already have almost 40 years in Brazil, accidents and disasters continue to challenge the work of professionals, public institutions, and civil society.

Demonstration of this critical situation was revealed by a household survey conducted by the IBGE in 2013. It pointed out that almost seven times more people who reported having suffered work accidents than the accident data registered by the Social Security, which means, in 589% more accidents, that is, accidents registered by Social Security represent a small part of the nearly five million events per year (INSTITUTO..., 2013). Another symptomatic indication of the bankruptcy of the preventive system is the Safe Work campaign conducted by judges of the Superior Labor Court (SLC), who demanded preventive measures in view of the epidemic of lawsuits related to the reparation and indemnification of workers injured working in the courts. Despite the merits of the SLC initiative, its existence reveals that the basis of the preventive system is in crisis.

Accidents occur in a context marked by predominant productivism on a global scale characterized by forms of production management of aggressive and violent nature in search of short-term results translated into the reduction of costs and increase of profitability. This position determines the organization of the state and policies that affect labor relationships and seek to place the labor force as unprotected, disposable commodity, similar to the programmed obsolescence of other products designed for a brief life cycle.

We produce more and faster to consume unequally and more quickly, both natural resources and human workforce. For its reproduction in the desired speed, the capital metabolizes everything in disposable, be they products, inputs and workforce in destructive dynamics (MÉSZÁROS, 1995). These dynamics seem to gain more aggressive contours with the adoption of goal-based management mechanisms and competition among work teams, a practice that is accentuated in the current stage of financial capitalism. According to Druck (2011, p. 43), in this era of financialization, capital leads to the ultimate consequences of making more money out

of money, having not mass production as its main strategy, but the

[...] financial speculation, based on volatility, ephemerality, in the very short term, without establishing bonds or ties with no place, without commitments of any kind other than with market play (financial first), ruled in an excessive international competition that does not accept any type of regulation.

An example of the impact of this logic is the case of the explosion and fires at the Texas City British Petroleum (BP) refinery on March 23, 2005, which resulted in 15 deaths and 180 injuries. According to the case studies, financial losses amounted to US\$ 1.5 billion, and 43,000 people could not leave their homes because the buildings were damaged in a perimeter of about 1,200 meters around the refinery (LLORY; MONTMAYEUL, 2014).

In-depth disaster investigations, using the organizational approach, conducted by the US government's chemical accident investigation agency, the Chemical Safety Board (2007), revealed that the accident had to do with decisions at the managerial level of the local unit of the company that did not scruple in an internal dispute with other units of the group to increase the competitiveness of the businesses. The Texas unit, before the explosion, had just celebrated production records at the expense of drastic cuts in maintenance, outsourcing, subcontracting, and safety. According to Llory and Montmayeul (2014), the main organizational aspects can be summarized as follows:

- 1) The purchase of the Texas City refinery by the BP translated into decentralization, rapid dismantling and loss of competence of the refinery's industrial safety organization. One of the conclusions about this decentralization and loss of competence could be evidenced by the investigators for the incorrect use of indicators of work accidents that would paradoxically indicate good safety results while industrial safety was not monitored. In the words of Llory and Montmayeul (2014, p. 56)

[...] all this may explain, in part, the dismantling of the "industrial" safety organization when the Amoco refinery was transferred to BP and replaced by another organization, based on the idea that "safety is everybody's business" although it has long been known that industrial safety is achieved

through concentration of skills at all levels of the organization and the existence of a very solid organization dedicated to safety.

- 2) Even with the occurrence of numerous accidents and incidents, the group's strategy was to increase profitability by aggressively cutting the spending budget and investing in maintenance, safety, among others.

Such a state of degradation would require immediate, major action, while at the beginning of 2005 BP's overall direction required a further effort to reduce the budget by 25%. During a meeting in March of that year, the head of the Houston-Sud business unit stated that the refinery had achieved "the best profitability ever made in its history" in 2004 with a billion dollars profit "more than all other BP II refineries". The plant management was congratulated on these results, but six days later the ISOM unit exploded! (CHEMICAL..., 2007, p. 53).

According to the authors, relying on the U.S. CSB Report (CHEMICAL..., 2007, p. 54), cost reduction was pushed to the

[...] complex dynamics of competition between the management of the BP group, the direction of the Houston-Sud business unit and the refinery. Thus, while some directors of other US refineries in the BP group resisted, Texas City responded to all requests for BP's significant budget reduction. As the survey showed, management's goal was to aggressively manage costs and accept cost reductions without challenging them and raising no objections when operational integrity was compromised.

Using as an example the case of disasters in the BP group, Le Coze (2015) reinforces the hypothesis that the industrial accidents of the end of the last century persist in the first decades of the 21st century, not due to a technological determinism that would increase the complexity of risk systems, but especially as a result of the intensification of international competition in the context of globalization, which includes aspects related to cost reduction and financialization, which would lead to meeting the increasing demands of shareholders for increased profitability.

Thus, production pressure, usually accompanied by cuts in the budget, reduction of cash, forms of remuneration with financial stimulus, payment of bonuses associated with the achievement of goals,

etc., should be given special attention by safety professionals, since they are pathogenic organizational factors, which incubate in the organization the conditions conducive to the onset of accidents and disasters (LLORY; MONTMAYEUL, 2014).

Studies carried out by our research team have reached conclusions in this direction, especially the relation between the payment for production and the increase of the risks of accidents and other aggravations, such as cases of manual cutting of sugarcane (VILELA et al., 2015); payment for production and risks of accidents in the manufacture of sofas (ALMEIDA et al., 2010); time pressure and accidents and other anomalies in an airport expansion project (LOPES, 2016); increase in the probability of accidents with biological material in hospital due to the deficit of the staff (SANTOS, 2015); dubity in compliance with safety rules and financial stimulus associated with the explosion and fire at a refinery expansion project (BELTRAN, 2016). In the banking sector, a suicide and mental illness attempt was reported, according to a bank manager, who suffered pressure and organizational harassment to increase his goals, even if it was necessary to use his social network of family and friends from the internet to sell banking products known to be dubious (TAKAHASHI et al., 2015).

As we have seen, companies are strained as if they were banks or application grants to increase profitability. To this end, they rely on computer technologies that continually seek to compress time, eliminate porosities, inventories, and their own jobs, in a logic of getting more with less. For this, management is challenged to be more aggressive, gaining symbolic violence outlines (METZGER et al., 2012), especially when it implements individual and collective assessment systems based on progressive goals linked to financial stimulus and/or bonus and/or payment for production, a practice that spreads in various branches of industrial, agricultural and service production, including teacher production (BORSOI, 2012). The trend already observed in the middle of the current decade may be aggravated if the fearful proposals of the current government are successful, which announced, among others, a set of labor measures such as adopting the productivity-wage, pay per hour worked, 12-hour days, etc. as flexible working relationships.

In the form of an essay, this article proposes to reflect on the impasses and challenges of the prevention activity.

## 2 Method

This essay shows the results of the analysis of the safety management system (REASON, 1997; DANIELLOU et al., 2013; HOLLNAGEL, 2014; LLORY; MONTMAYEUL, 2014; ALMEIDA et al., 2014; LE COZE, 2015), ergonomics of activity (FALZON, 2007; GUERIN et al., 2004) and analysis of human activity (ENGESTROM, 2014) as methods to analyze organizational systems, work activities and their main contradictions. Through these paths, it is intended to arrive at prevention strategies that address the underlying causes of adverse events of the organization.

The reflections are based on the authors' experience in the activities of the research group called "Work Accidents: from sociotechnical analysis to social construction of changes" and teaching and extension activities in the surveillance of workers' health and safety.

## 3 A Vision on the Crisis of the System of Prevention Activity - Disturbances and Contradictions

Faced with the increasing complexity of the world of work and technological risks, we consider imperative that professionals working in prevention dominate other approaches to bring together knowledge from multiple areas such as the humanities, psychology, engineering, ergonomics activity, public health, among others. More than a summation of diverse knowledge, we are lack of a systemic approach that goes beyond the theoretical conceptual reference that has served until today as basis for the work of prevention professionals, who draws heavily on fragmented knowledge within the paradigm of behavioral safety.

This paradigm has its foundations developed in the context of industrialization in the mid-twentieth century and its practices based on technical rationality (GARRIGOU et al., 1999) or the approaches of hygiene, safety and occupational medicine (MENDES; DIAS, 1991; MINAYO-GOMEZ; COSTA, 1997). This paradigm can be summarized as a set of theoretical and conceptual approaches and tools with the characteristics summarized below.

- 1) The activity of safety and accident prevention is centered on the surveillance of the operators'

errors or the technical adequacy of the material means (ASSUNÇÃO; LIMA, 2002);

- 2) The view of the work is that production, along the lines of rationality proposed by Taylor, can be summed up as a decomposition and fragmentation (time and motions study) into simple, controllable and anticipated routines through norms and procedures produced by the management (LIMA, 2005);
- 3) The work in this view would be confined to prescribed work – "the right way to do it" and accidents and anomalies would be the result of the inadequacy, mistakes, and inappropriate behaviors of the front-line operator;
- 4) Anchored in the view of occupational hygiene, the risks would be the result of the presence of aggressive agents (chemical, physical, biological or biomechanical), especially the visible aspects, identifiable by the expert's view, those measurable by the objective instruments. In this view, organizational aspects would be framed in another group of risk factors such as the so-called "psychosocial risks" or "ergonomic risks", in a factorial idea that levels determinants and risk factors on the same scale (ASSUNÇÃO; VILELA, 2009);
- 5) This view ignores the fact that working means managing the complexity of the real and filling the gaps of what was not prescribed, managing the variation that is present in the habitual work and even in the incidental situations (GUÉRIN et al., 2004). It ignores that the worker is the main manager and regulator of variabilities (FALZON, 2007);
- 6) In this approach, when moving away from real and habitual work, the safety management ignores the fundamental contribution of the operator, losing the opportunity of an anticipatory action that could occur in a joint and collaborative action between the operators and other actors of the organization (DANIELLOU et al., 2013; HOLLNAGEL, 2014; NASCIMENTO et al., 2016);
- 7) On the other hand, occupational health and safety professionals, either because of their position at the lower level of the hierarchy or because of their role in the organization, often reduced to the control of "unsafe acts" from the operators, isolated in other strategic

partners of production, design, maintenance, procurement, logistics, among other;

- 8) In compensation for the shortcomings of their own performance, it is seen an attempt to control the complexity of the real world with the production of norms and procedures, creating a flood of roles impossible to be understood and made feasible, some exclusively for defense purposes when the occurrence of unwanted events.

This summarized set is a crisis of prevention activity and its behavioral paradigm. A reactive nature, which acts as firefighters in an attempt to extinguish fires, which de-characterizes the very preventive nature of the activity, whose performance suits subaltern to the productivist logic mentioned above.

Understanding the deep roots of these anomalies and deadlocks is essential to thinking about the future of prevention activity.

To help in this search, we will use the triangular representation of the activity system proposed by Engeström (2014) (Figure 1), which provides an overview and formulation of explanatory hypotheses of possible contradictions that, would be the basis of the aforementioned crisis.

According to the author, the activity system of goods production and services is understood through a set of mediations of the subject in search of its object. These mediations occur in a dynamic and dialectical way involving the individual or collective subject; material and conceptual instruments and artifacts; the rules and regulations dictated by the organization; the community that shares the same object; and, finally, the division of labor that includes the distribution of tasks and the hierarchy (ENGESTRÖM, 2014; VIRKKUNEN; NEWNHAM, 2015).

### The system of prevention activity

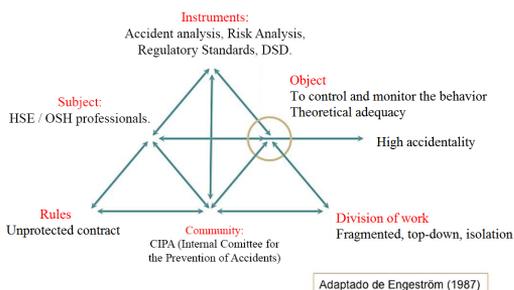


Figure 1. The system of prevention activity.

In the prevention activity, shaped in the behavioral safety model, it is verified that the activity is directed to a restricted object, that is, to prevent accidents and diseases, acting on the behavior of the operator or on technical and material elements, with reference to the agents or risk factors present in the work environment. This restricted object is compatible with restricted instruments such as the Preliminary Risk Analysis (PRA), usually defined a priori by the organization through a standardized checklist, in which the elements of the singular and real working situation escape from the analyst. Other examples are the so-called Daily Safety Dialogues (DSD) whose script, as a rule, directs the conversation to poor, artificial interactions of the top-down type, not an authentic dialogue or listener of the operators. Other examples can be cited, such as the instruments used for the analysis of accidents and incidents, which usually also appear in a standard checklist, guiding the analyst to identify proximal faults such as operator errors or technical failure immediately prior to the event, leaving covert causes of causes, latent organizational conditions (REASON, 1997).

In this way, the subjects' action toward the object is determined by the mediators and vice versa. The complexity of the real work is not attainable with such traditional hygiene and safety tools and concepts.

### 3.1 The need for another paradigm: an organizational approach

An appreciation of this set of mediations enables to identify contradictions between and within the elements. We understand contradiction as structural tensions existing within this activity system. Disturbances, anomalies, and other dysfunctions can be understood as manifestations or effects of these contradictions. The questioning of the behavioral approach begins by recognizing and identifying these disorders, but only the more in-depth and reflexive analysis, which presupposes a certain detachment and critical reflection, enabling to understand the underlying causes their historical origins. Identifying these deeper origins, the subjects will be able to think about ruptures and innovations that will affect both the expansion of the object, creation of new instruments/artifacts and concepts, new rules, new division of labor, changes in the relationship with the community, etc.

An expansion of the object implies an expansion of the means, in a revision of the rules, of the

division of labor and expansion of the community. A new approach, here called as organizational, to take revenge, will require a sociocultural movement and production environments that provide space for its cultivation. Without a new practice that is more potent than the old practice, there is hardly any change. The new has to be shown, grown and be more appropriate than the behavioral approach.

This movement implies a new vision of job and work, a new vision of risk, re-foundation of rules, expansion, and reformulation of tools, new relationship and enlargement of the community, etc.

### **3.2 Need to expand the object: from risk factors to organizational determinants**

Using the analysis of accidents and safety as a starting point for this reflection on the importance of overcoming the behavioral approach, it is verified that several studies have shown that the methods of analysis and safety management that seek to control the proximal conditions of the workplace and the behavior of workers have reduced effectiveness, and even if they present short-term results in the accident rates, the results are not maintained in the long term, since the latent conditions or contradictions that explain the emergence of proximal causes remain unchanged such as technical failures or behavior of front-line operators. Thus, in the last two decades, accidents in complex systems are progressively studied as historical phenomena with origins in a network of factors and aspects that interact in simple and complex ways, and involve the release of potential harmfulness that until then controlled in the system (LLORY, 1999; ASSUNÇÃO; LIMA, 2002; ALMEIDA, 2006; DANIELLOU et al., 2013). The systemic approaches understand that the accident is structural and analyzing it means analyzing the work process at several levels: the direction that defines the plans, the projects and the work situation; of immediate horizontal management; and operators who work directly in the workplace (DE LA GARZA, 1996, 2005). In this approach, the analysis must expand beyond the workplace. Llory (1999) argues that the accident is organizational in the sense of being a product of an organization and not the result of “unlucky” combination of passive and latent failures with active and direct failures. The network of conditions that gives rise to accidents has a sociotechnical nature, insofar as it involves elements of two dimensions that interact: social,

human relations and human behavior in a real situation, and technique, which concerns objects, artifacts, and means of work used in the production of goods and services. According to this author, the accident is rooted in the organization's history, as it results from a series of decisions or absences from decisions, that is, it is the result of the evolution of the organizational, institutional and cultural context that interferes in the future of the system. This evolution may imply a progressive degradation of internal conditions or factors of the organization. After studying accidents in complex systems, the author concludes that the accident is incubated inside the organization and the incubation period can be long. His studies lead to the proposition of organizational analysis of events and safety, as a new approach to the confrontation of events that should integrate and contemplate three dimensions: (a) the vertical that includes the study of hierarchical relations, communications and interactions that occur in the various layers of control, to the study of the perceptions and understanding that shop floor personnel can have about their work, their difficulties and the means that would be necessary for their accomplishment; (b) the cross-sectional dimension that explores interactions between internal and external sectors such as production, maintenance, safety, logistics, human resources, control bodies, etc.; (c) the historical dimension that seeks to understand the evolution and changes that have occurred in the system that help explain the origins of difficulties and / or improvements.

### **3.3 Review of Activity System's rules and other components**

The expansion of the object implies reviewing other mediators of the Activity System (AS). What are the rules governing the performance of prevention subjects within companies? Do they have autonomy for more independent action? What is the power of these actors in the organization? Can they act beyond the limits of the Regulatory Standards (RSs)? The role of Occupational Safety and Health professionals is already born dependent on the RSs, and they arise to act within these limits (ASSUNÇÃO; LIMA, 2002) and without a more protected employment contract that assures them autonomy and independence from the employer (INOUE; VILELA, 2014).

On the other hand, these subjects are trained in technical courses and specialization, whose contents

are lack of a critical and systemic view, implying serious limitation of the professionals themselves.

Regarding the community that shares and interacts with the same object (frontline workers, CIPA, interlocutors of production, maintenance, planning, projects, etc.), it is usually absent or with a weak protagonism for a collaborative action jointly. Health and safety professionals are isolated in the face of challenges that are far beyond their capabilities and strengths to act in the promotion of safe and healthy environments and processes.

#### 4 Confronting Two Approaches - The Place of Culture and Safety Management

Safety management is perhaps the place of synthesis and concrete manifestation of an organization's safety culture. It brings together the organization's set of practices, which will express a policy, goals, and actions to achieve certain outcomes.

Safety culture studies, especially the dossier developed by Safety Science Journal published in 2007, reveal the general acceptance of the premise that an organization that develops and maintains a strong safety culture becomes more effective in preventing accidents. Following its formulation after the Chernobyl nuclear accident, this concept has been broadened beyond the classic safety management features, such as technical risk management, operational procedures implementation and regulatory compliance programs, incorporating principles of communication, leadership and value sharing, reinforcement of organizational learning and knowledge about the factors that shape individual and group behavior (BARAM; SCHOEBEL, 2007). But stating that an organization has a safety culture does not help much to identify its references. But culture presupposes cultivation, repetition and coherent consolidation of practices... what practices? The same editorial drew attention to the fact that the concept was still considered dubious, without scientific basis, and pointed to the need to construct indicators, etc.

Safety management, while a set of practices seems to us still to be a way to assess a safety culture. What we have as hegemonic management is the behavioral safety centered on watching (all watch all) and punishing the errors of the front line operators.

When adopting the organizational approach, a safety management differs in scope and amplitude

from behavioral, because it extends its object in search of an anticipatory action on determinants of work that surpass the individual factors or the behavior of the operators. Thus, it builds participatory tools and analysis methodologies with the ability to listen to the early signs of constraints before accidents or illnesses occur, valuing regulatory spaces, and increasing operators' margins. It provides material and cognitive resources, increasing the power to act and the autonomy of the actors. Their community extends to the operator and other actors inside and outside the organization. It recognizes the importance of standards, but in a relativized way. It also values the protagonism and the empirical knowledge of the operator.

In Table 1, we list some parameters that enable to compare principles and guidelines of the two approaches that will be briefly commented.

In the behavioral view, and to the molds of the Taylor understanding, the work can be seen as a set of actions and elementary operations, a simple, rational and standardized object, free of variations. For the organizational view, work is a complex object that involves: multiplicity of elements and interactions, individual or collective subject, rationality, and objectivity, associated with subjectivity and the implication of the subjects in the search for their object.

For the behavioral approach, the operator constitutes the fragile bond of safety, object of prescriptions, strict surveillance in the attempt to follow the "right way" to do it, being punishable and censored in case of errors or failures. In the organizational approach, the operator is seen as a regulator of the activity, which harmonizes and compatibilizes the objectives with the existing means. In this equation, the operator manages different resources and logic to modulate production, safety requirements for himself and for the system, choosing operating modes that represent lower psychic and physiological costs as a rule. In situations of operational constraint, operating modes can pose a threat to the system and to the system.

In this approach, it is considered as the presence or absence of "factors" or agents in the work environment.

At the other pole, in the organizational approach, the risk is seen in a situated and relational way, it would only be understood as a manifestation of current and historical contradictions within this

**Table 1.** Comparative aspects of behavioral and organizational safety.

	<b>Behavioral safety</b>	<b>Organizational safety</b>
<b>View about work</b>	It can be reduced to elementary actions. Work is standardized (Taylor)	Work is a complex activity. Real activity-systemic sociotechnical view. Variations are the center of the work activity
<b>Role of the worker</b>	Rules follower Weak link of reliability	It combines the expert's knowledge with practical knowledge (knowing of prudence). Knowledge and shared protagonism
<b>Knowledge and protagonism</b>	From the specialist	Risk is relationship, fruit of interactions and contradictions within the system
<b>View of the risk</b>	Risk is an isolated factor found in the environment, visible (hygiene vision)	Complex event not fully anticipated by standards
<b>Accident</b>	Simple event - linear sequence. Anticipated by following standards. Legal interferences.	Organizational learning opportunity
<b>Management</b>	Command and control of the hierarchy (top-down). Supervision defines the right way to do it. Management should punish deviations from the standards. Reactive management - extinguishing fires (ice wiping). Bureaucratic-paper safety, subordinated to the production	Democratic management: It creates space for controversy. Anticipatory vision values the constraints and incidents (acting in normalcy). Increase space for regulation & autonomy Safety in action (articulated with operators) Integrated safety. Values Return on Experience with Accidents and Incidents

system, that is, invisible structural tensions that escape the factorial/reductionist view.

How to explain the epidemic of cases of mental illness in telemarketing centers with the hygiene view? Where are the origins of these pathologies? In the furniture? In the use of headphones? In intensive use of muscle groups? In temperature or in environmental agents like cold, heat? The “factorial” view usually lists a set of visible and measurable risk factors and adds a vague category called “organizational factors” or psychosocial factors. This increase is done within the same paradigm, that is, determinant aspects and “risk factors” level with the same weight in objective scales of evaluation - the famous “checklists” (ASSUNÇÃO; LIMA, 2002; ASSUNÇÃO; VILELA, 2009).

The cultural-historical activity theory, still little explored in the occupational health and safety area in Brazil, introduces in our view, potential field of deepening of the systemic approach and a better understanding of what these determinants would be, their historical origins, and even their concrete identification within the triangular graphic representation according to Figure 1 proposed by Engeström (2014).

## 5 Conclusion

Safety management is not a technical matter, much less an island within the production system. Would there be gaps for a differentiated practice? Behavioral safety seems to be losing ground to complex and dangerous systems such as aviation, nuclear, rail, etc., where the failure of safety risks jeopardizing the continuity of the enterprise itself. Is it possible to expand this reasoning to other sectors where the so-called invisible “minor” accidents are prevalent and multiple daily? As with the environmental issue, safe and healthy work may in the future be a value to be demanded by society by putting pressure on organizations to change their safety practices and concepts. Other initiatives, such as public policy and training, would already help in this direction. The old one only succumbs if the new dawn is cultivated.

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### Author's Contributions

Rodolfo Andrade de Gouveia Vilela has participated in the design and structuring of the article. Sandra Lorena Beltran Hurtado has participated in the general review of bibliographic sources and improvements in the text. All authors approved the final version of the text.