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Intensified work and absence from work: an analysis in slaughterhouses in the state of Mato Grosso do Sul

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Abstract

Slaughterhouses are among the ten economic activities that employ the most people in the state of Mato Grosso do Sul. However, they also have have the highest rates of absence from work due to accidents or illness. This article aims to analyze the relationship of intensification and leave from work in slaughterhouses in Mato Grosso do Sul. In the light of historical materialism, this research deployed the databases of the Annual List of Social Information and the database of the Ministry of Agriculture regarding animal slaughter in the state of Mato Grosso do Sul and, in a complementary way, resorted to the documentary analysis of labor lawsuits of the Regional Labor Court and procedures of the Public Ministry of Labor. Through data triangulation, it was possible to conclude there is a positive relationship between the intensification of work and absences in the slaughterhouses. This process is materialized in the intensification of labor exploitation between 2007 to 2017. One worker in 2017 produced the equivalent of 1.75 workers in 2007. The results show that the intensification of work has led workers to illness. In 2017, 1387 long-term absences were recorded, with workers were absent from work for 360 days or more, equivalent to 5.3% of employees in the slaughterhouse sector.

Keywords: Illness at work. Absence from work. Slaughterhouse. Work intensification.

Trabalho intensificado e afastamento do trabalho: uma análise nos frigoríficos no estado de Mato Grosso do Sul

Resumo

Os abatedouros de bovinos, suínos e aves estão entre as dez atividades econômicas que mais empregam no estado de Mato Grosso do Sul. Contudo, figuram entre aquelas com maiores índices de afastamento do trabalho por acidentes ou doença. Diante disso, o objetivo deste artigo é analisar a relação de intensificação e dos afastamentos do trabalho nos frigoríficos do estado. À luz do materialismo histórico, a pesquisa se utilizou das bases de dados da Relação Anual de Informações Sociais (Rais) e do banco de dados do Ministério da Agricultura referente ao abate de carne no estado de Mato Grosso do Sul (Sipoa/DDA/SFA-MS), bem como, de forma complementar, recorreu à análise documental de processos trabalhistas do Tribunal Regional do Trabalho e de procedimentos do Ministério Público do Trabalho. Por meio da triangulação dos dados, foi possível concluir que há relação positiva entre a intensificação do trabalho e os afastamentos nos frigoríficos. Esse processo se materializa na intensificação da exploração do trabalho no período entre 2007 e 2017. Um trabalhador em 2017 produziu o equivalente a 1,75 trabalhador de 2007. Foi constatado que o processo de intensificação do trabalho tem levado os trabalhadores ao adoecimento. Em 2017, foram registrados 1387 afastamentos de longo período, trabalhadores que permaneceram afastados de suas funções laborais por 360 dias ou mais, o equivalente a 5,3% dos empregados do setor frigorífico.

Palavras-chave: Adoecimento no trabalho. Afastamento do trabalho. Frigorífico. Intensificação do trabalho.

Trabajo intensificado y licencias laborales: un análisis en mataderos del estado de Mato Grosso do Sul

Resumen

Los mataderos de ganado bovino, porcino y avícola se encuentran entre las diez actividades económicas que más emplean en el estado de Mato Grosso do Sul. Sin embargo, figuran entre las actividades que presentan las tasas más altas de ausentismo laboral por accidente o enfermedad. Por lo tanto, el objetivo de este artículo fue analizar la relación de la intensificación y de las licencias del trabajo en los mataderos de Mato Grosso do Sul. A la luz del materialismo histórico, la investigación utilizó las bases de datos de la Lista Anual de Información Social y del Ministerio de Agricultura sobre el sacrificio de ganado en el estado de Mato Grosso do Sul y, de forma complementaria, recurrió al análisis documental de demandas laborales del Tribunal Laboral Regional y los procedimientos del Ministerio Público de Trabajo. A través de la triangulación de datos fue posible concluir que existe una relación positiva entre la intensificación del trabajo y las licencias en los mataderos. Este proceso se materializa en la intensificación de la explotación laboral en el período comprendido entre 2007 y 2017. Un trabajador en 2017 produjo el equivalente a 1,75 trabajadores en 2007. Se constató que el proceso de intensificación del trabajo ha llevado a los trabajadores a la enfermedad. En 2017, se registraron 1387 licencias a largo plazo, trabajadores que permanecieron fuera de su trabajo durante 360 días o más, lo que equivale al 5,3 % de los empleados del sector de mataderos.

Palabras clave: Enfermedad en el trabajo. Licencia laboral. Matadero. Intensificación del trabajo.

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INTRODUCTION

Organizational studies are a theoretical field in dispute. Paula (2008, p. 51), in an analysis of critical studies in the Brazilian context, adopting the criteria of "unnaturalized view of management, untying performance and emancipatory intention"[1] for the classification of critical study, evaluated that only 6.7% of publications in the main journals and events in the area met these criteria.

Although critical studies occupy a small portion of academic production, Faria (2009) identifies a systematic and relevant production in the field. However, despite the fact that diversity and plurality are almost always beneficial for the enrichment of any specific areas or field of knowledge, it is necessary to be careful with the sense of criticism, since a significant portion of organizational criticism constitutes itself as functionalist criticism, that is, of organizational maintenance or managerial improvement.[2] In addition for the author, the main objective of the criticism must be to unveil the obscure and manifest links of power relations between individuals and between organizations, always considering the context of the sociometabolic reproduction of capital.

Cunha and Ferraz (2015, p. 194), in turn, explain that the critical perspective is the main "gateway to the demands of the working class in the field of organizational studies". It is necessary to emphasize this explanation because, when considering the object and objectives of this research, it was with the same foundation that efforts were devoted to study the relationship between intensification and accidents at work in slaughterhouses. It was intended to verify, in organizational studies, the illness of a significant part of the working class, in order to denounce and reveal relations of power and control, some late, in view of the stage of development of capitalism, because management studies seem to ignore or only offer palliative solutions to such occurrences.

The agricultural productive sectors, especially the slaughterhouse, have had great economic relevance, especially for the state of Mato Grosso do Sul, the locus of this research. In the fourth quarter of 2017, it was the second Brazilian state in number of beef slaughter, second only to Mato Grosso. In pig slaughter, it was the seventh in the ranking; in poultry, the eighth, in the same period (Instituto Brasileiro de Geografia e Estatística [IBGE], 2019). A first interpretation, perhaps the most logical, would be that increasing productivity would be anchored in greater productive efficiency (Zylberstajn, 2013), based on a process of the socio-technical base of work.

Some authors, however, note that the sector's positive economic performance and productive efficiency occur simultaneously with the gradual increase in the illness of the workforce (Lacaz, 2016; Vilela et al., 2018). Productive efficiency should be accompanied by concerns about workers' health and safety (Vasconcellos, Pignatti & Pignati, 2009).

Having the purpose, therefore, to reveal and denounce relations of power and control, this article exposes a series of internal contradictions in the process of capital appreciation and commodity production, explored here in the particularity of the relations engendered by the slaughterhouse production process, understood as a modern caricature of manufacturing production – which presented itself as one of the contributions or findings to the organizational field –, as discussed throughout the text.

With the use of historically constituted structures and domination strategies systematically conceived (Antunes, 2011; Ju, Qin, Xu & Direnzo, 2016), the realization of the work subsumed by capital (Marx, 2013), in which the worker accepts imposed conditions, often without even questioning them (Lukács, 2013), has reached organizations and different sectors of society, in a synthesis of new and old forms of control and subjection of work. In this movement, slaughterhouse, as a particular field of such developments, proved to be a privileged space for research.

Given the above, the article aims to analyze the relationship of intensification and absence from work in slaughterhouses in Mato Grosso do Sul. In the light of historical materialism, the research used the databases of the Annual List of Social Information (Rais) and the Ministry of Agriculture, regarding the slaughter of meat in the state (Sipoa/DDA/SFA-MS), through

[1] Criteria borrowed from Davel and Alcadipani (2003).

[2] For Faria (2009), it is possible to think of the critical field under four broad areas: the frankfurtian critical theory, with its respective generations; critical theory in organizational studies, based mainly on historical materialism and the dialectical method; critical management studies, mainly interested in improving management; and critical analysis in organizational studies, which would encompass critical non-Marxist perspectives, such as post-structuralism and phenomenology.

which quantitative analyzes were carried out, such as correlation techniques and linear regression. In a complementary way, the documentary analysis of labor lawsuits and processes and procedures of the Public Prosecutor's Office was included (MPT), both from the 24th region.

Regarding the space-time dimensions of the research, the empirical field was constituted by slaughterhouses that have a federal inspection system in Mato Grosso do Sul, with 37 developments being listed in 2018. Two of them present the national registration of legal entities in a lowered situation and 35 are able to sell their products at the federal level[3] (Ministério da Agricultura, 2018). As for the time cross-section, it took place between the years 2007 and 2017.

This text is organized as follows: the first section deals with the relative exploitation of the absolute surplus-value, starting the discussion by the process of subjection of work in the particularity of slaughterhouses and demonstrating, through the research data, the organizational practices applied to workers, in long and exhausting working hours, without at least respecting the current labor standards, which require intra-day space. In the second section, the relationship of intensification and leave from work is addressed. Finally, the final notes and references are inserted.

THE RELATIVE EXPLORATION OF ABSOLUTE SURPLUS-VALUE

Extending the workday is a fundamental part of understanding the intensification of work. The capitalist conception of enjoying the workforce expands and appropriates the entire worker, controlling them, after splitting their functions, sometimes neutralizing their cognitive capacities, which are transferred to the management (Braverman, 1977). It is a long, historical and structural process, in which the worker gradually subsumes themselves to capital (Faria & Meneguetti, 2010).

Marx develops the concept of subjection, which can be understood as: "The worker is subsumed to capital insofar as he/she has no means of production and is obliged to become a wage worker" (Romero, 2005, p. 19). The concept is divided into two: for Marx (2013), the formal and real subjection. As explained by Romero (2005), at first, subjection takes place in the formal way and occurs when "capital has not yet acquired the direct control of the labour-process" (Marx, 2013). The worker still has control over the work pace, however, with the technical base changes, "In the course of this development, the formal subjection is replaced by the real subjection of labour to capital". The author continues:

> [...] It will suffice merely to refer to certain intermediate forms, in which surplus-labour is not extorted by direct compulsion from the producer, nor the producer himself yet formally subjected to capital. In such forms capital has not yet acquired the direct control of the labour-process. By the side of independent producers who carry on their handicrafts and agriculture in the traditional old-fashioned way, there stands the usurer or the merchant, with his usurer's capital or merchant's capital, feeding on them like a parasite. The predominance, in a society, of this form of exploitation excludes the capitalist mode of production; to which mode, however, this form may serve as a transition, as it did towards the close of the Middle Ages. Finally, as is shown by modern "domestic industry," some intermediate forms are here and there reproduced in the background of Modern Industry, though their physiognomy is totally changed. If, on the one hand, the mere formal subjection of labour to capital suffices for the production of absolute surplus-value, if, e.g., it is sufficient that handicraftsmen who previously worked on their own account, or as apprentices of a master, should become wage labourers under the direct control of a capitalist; so, on the other hand, we have seen, how the methods of producing relative surplus-value, are, at the same time, methods of producing absolute surplus-value. Nay, more, the excessive prolongation of the working-day turned out to be the peculiar product of Modern Industry. Generally speaking, the specifically capitalist mode of production ceases to be a mere means of producing relative surplus-value, so soon as that mode has conquered an entire branch of production; and still more so, so soon as it has conquered all the important branches. It then becomes the general, socially predominant form of production. As a special method of producing relative surplus-value, it remains

[3] As available from the quarterly animal slaughter survey in 2017, slaughterhouses with federal inspection were responsible for 90.47% of slaughter – in number of cattle – in the territory of Mato Grosso do Sul, while the remaining 9.53% were divided between slaughtering in state and municipal inspection systems (IBGE, 2019).

> effective only, first, in so far as it seizes upon industries that previously were only formally subject to capital, that is, so far as it is propagandist; secondly, in so far as the industries that have been taken over by it, continue to be revolutionised by changes in the methods of production (Marx, 2013, p. 578-579).

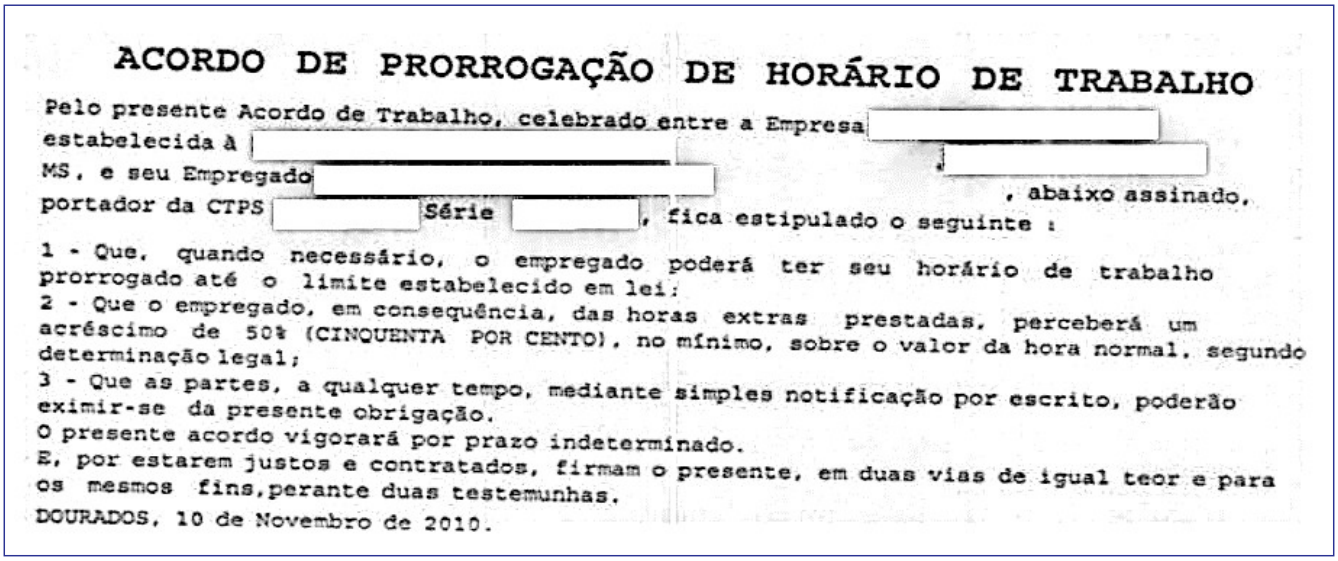
The real subjection is described by Romero (2005, p. 19):

> [...] the concept of real subjection designates the relationship of domination and subordination of work against the capital of the industrial period. At this moment, the worker goes through a process of expropriating their know-how and crystallizing that knowledge in a mechanical and objective process (machine tools). The worker no longer has complete control over the pace of production and above all, on how to produce – and this starts to be dictated by the machinery, which really subjects the worker. As a result, the increase in labor exploitation can also occur through the intensification of work.

In this way, the worker subjected to capital is incorporated into the productive process and loses – or it is taken from them – the capacity for reflection and action in work processes. Worker subjection has connections on ways of extracting more value from work, which as seen in the previous excerpt, for Marx, are two: the absolute surplus-value and the relative surplus-value. The author differentiates them as follows: when "The surplus-value produced by prolongation of the working day, I call absolute surplus-value. On the other hand, the surplus-value arising from the curtailment of the necessary labour-time, and from the corresponding alteration in the respective lengths of the two components of the working day, I call relative surplus-value." (Marx, 2013, p. 390).

In the slaughterhouses studied, there are several records that reveal the practice of extending the workday as something common and commonplace. The units adopt, in a combined way, the intensification of work and the extension of working hours. Workers, subjected to capital, "accept" the extension of the workload. It was found that some companies include, in the employment contract, an agreement to extend working hours, as seen in the following figure:

Figure 1
Working hours extension agreement



ACORDO DE PRORROGAÇÃO DE HORÁRIO DE TRABALHO

Pelo presente Acordo de Trabalho, celebrado entre a Empresa [redacted] estabelecida à [redacted] MS, e seu Empregado [redacted], abaixo assinado, portador da CTPS [redacted] Série [redacted], fica estipulado o seguinte :

1 - Que, quando necessário, o empregado poderá ter seu horário de trabalho prorrogado até o limite estabelecido em lei;
2 - Que o empregado, em consequência, das horas extras prestadas, perceberá um acréscimo de 50% (CINQUENTA POR CENTO), no mínimo, sobre o valor da hora normal, segundo determinação legal;
3 - Que as partes, a qualquer tempo, mediante simples notificação por escrito, poderão eximir-se da presente obrigação.
O presente acordo vigorará por prazo indeterminado.
E, por estarem justos e contratados, firmam o presente, em duas vias de igual teor e para os mesmos fins, perante duas testemunhas.
DOURADOS, 10 de Novembro de 2010.

Source: Research material; process TRT00X1[4].

[4] Image description. Working hours extension agreement. By this Labor Agreement, signed between the Company [name of the company] to [address] and its employee [employee name], undersigned, bearer of CTPS, the following is stipulated: 1 – That, when necessary, the employee may have his/her working hours extended up to the limit established by law; 2 – That the employee, as a consequence, of the overtime provided, will perceive an increase of 50% (Fifty percent), at least, on the normal hourly rate, according to legal determination; 3 – That the parties, at any time, upon simple written notification, may be exempt from this obligation. This agreement shall remain in force for an indefinite period. And, for being fair and contracted, they sign the present, in two copies of equal content and for the same purposes, before two witnesses. Dourados, November 10, 2010.

In another source, an employee's attendance record is verified during the period from May 20, 2016 to June 19 of the same year. In the document in Figure 2, we see their work schedule with entry at 5:30 am, lunch break between 9:30 am and 10:30 am and departure at 2:30 pm. In the observed period, the contracted workload was not fulfilled on any of the days; there was always the incidence of overtime. Only from May 23 to 28, 2016, five hours and fifteen minutes of overtime were counted, as shown in the following figure:

Figure 2
Attendance record

Período 20/05/2016 a 19/06/2016 — Horário 05:30 09:30-10:30 14:30/05:30 09:30 - 8x4

Funcionário

Dia	Marcações				Ocorrências
20/05/2016 sex-Norm	05:38	09:30	10:30	15:35	
21/05/2016 sáb-Norm					04:00 - 533 COMPENSA DIA
22/05/2016 dom-Folg					08:00 - 554 D.S.R
23/05/2016 seg-Norm	05:38	09:45	10:45	15:37	
24/05/2016 ter-Norm	05:35	09:45	10:45	15:30	
25/05/2016 qua-Norm	05:34	09:45	10:45	15:23	
26/05/2016 qui-Norm	05:34	09:45	10:45	15:28	
27/05/2016 sex-Norm	05:35	09:45	10:45	15:11	
28/05/2016 sáb-Norm	05:38	10:06			
29/05/2016 dom-Folg					08:00 - 554 D.S.R
30/05/2016 seg-Norm	05:35	09:30	10:30	15:29	
31/05/2016 ter-Norm	05:34	09:30	10:30	15:00	
01/06/2016 qua-Norm	05:33	09:30	10:30	15:28	
02/06/2016 qui-Norm	05:38	09:30	10:30	15:23	
03/06/2016 sex-Norm-Fer					08:48 - 538 FERIADO
04/06/2016 sáb-Comp					
05/06/2016 dom-Folg					08:48 - 554 D.S.R
06/06/2016 seg-Norm	05:39	09:30	10:30	14:49	
07/06/2016 ter-Norm	05:40	09:30	10:30	15:08	
08/06/2016 qua-Norm	05:39	09:30	10:30	14:44	
09/06/2016 qui-Norm	05:37	09:30	10:30	14:51	
10/06/2016 sex-Norm	05:38	09:30	10:30	14:55	
11/06/2016 sáb-Comp					
12/06/2016 dom-Folg					08:48 - 554 D.S.R
13/06/2016 seg-Norm	05:38	09:30	10:30	15:17	
14/06/2016 ter-Norm	05:36	09:30	10:30	15:20	
15/06/2016 qua-Norm	05:36	08:20			
16/06/2016 qui-Norm					08:48 - 506 ATESTADO MÉDICO
17/06/2016 sex-Norm					08:48 - 506 ATESTADO MÉDICO
18/06/2016 sáb-Comp					08:48 - 506 ATESTADO MÉDICO
19/06/2016 dom-Folg					08:48 - 554 D.S.R

Este cartão retrata o ocorrido no período

Visto da Chefia — Assinatura do Funcionário

Source: Research material; process TRT00X2[5].

Proof of the exacerbated use of working hours is made feasible in the time sheet of a working day in a slaughterhouse. The research material was condensed by industry sector, as shown in the full report. The time sheet of February 17, 2014 clarifies the amount of overtime worked in each of these sectors, as seen in Box 1. The document includes the number of workers in each sector and the number of absenteeism, regardless of the reason for the absence, with or without a medical certificate. It is added that there are absences in the concierge sector, but the workers have different workloads, in working hours of 12 hours and 36 hours of rest. The time sheet has been summarized in the following box.

[5] The figure shows the record of the period of work, from 05/20/2016 to 19/06/2016. Conventional clocking in/out times, which by default during the week, from Monday to Friday, are the entrance at 05:30, lunch at 09:30-10:30, and departure at 14:30 and on Saturdays entrance at 05:30 and departure at 09:30. In the first line, it is written employee. The first column counts the days of the week. In the second column the daily appointments. And in the third column the annotations of occurrences, they are: compensated day; W.P.R (weekly paid rest); holiday; and, medical certificate.

Box 1
Time sheet by sector of a slaughterhouse in Mato Grosso do Sul on February 17, 2014

Sector	Number of employees	Absent employees (certified)	Number of overtime hours
Slaughtering	68	8	123:13’
Evisceration	7	0	15:02’
Scalding	5	0	09:08’
Freezing	18	4	49:29’
Construction	10	2	04:25’
Quality control	7	3 (1)	14:24’
Kitchen	8	1	05:44
Deboning	115	25	215:15’
Boarding	21	5	07:05’
Deliveries	8	1	14:54’
Storage	2	0	0:06’
Rendering 1	17	5	23:02’
Rendering 2	7	2	00:00
Sanitation	13	4 (1)	09:05’
Garden	1	0	00:00
Inspection	12	1	13:07’
Washhouse	5	1	07:49’
External cleaning	11	1	19:04’
Maintenance	8	1	21:05’
Innards	33	5	65:03’
Foot jelly	2	0	04:06’
Gatehouse	4	2	00:00
Cattle receival	1	1	00:00
Machine room	4	2	00:00
Transport	4	1	00:29’
Tripe cutting	20	1	38:35’
Temporarily dismissed (INSS/syndicate)	26		
Total	437	69 (2)	661:54

Source: Research material; report MPT00Y1.

Reading the attendance record provides some considerations about absenteeism. Of the total number of workers (437), 95 were not working that day. There were 69 absences, with only two certificates, added to the 26 dismissed by the National Institute of Social Security (INSS) or for the exercise of syndicate activities, representing 21.73% of the workforce. Another important fact is the number of overtime hours: 661 hours and 54 minutes in absolute numbers, the equivalent of 83 workers.

Some areas had critical data, such as the slaughter sector, in which workers, together, worked 123 hours in addition to the working day, which is equivalent to more than two extra hours, on average, for each worker, since eight were absent. The freezing sector had an average of more than three hours and thirty extra minutes per worker. It is necessary to remember that, in artificially cold environments, such as fridges, overtime is not allowed. In the deboning sector, the number of missing workers was 25, out of a total of 115.

Unfortunately, there was no access – the data request was denied by the company's legal department – to a historical series of the attendance record, to be able to extract tendencies of the extension of the working day, of the absences of the workers, the amount of absence and other information. However, referring to the fragments of overtime found in different sources, it appears that the length of the day is something common in the daily life of the slaughterhouse industry, even if it violates legal provisions. Through the data collected, it is assumed that the extension of the journey is something inherent to the productive system of slaughterhouses and has not changed over the years. This was the content of the labor tax audit report:

> With regard to the issues signed in the partial conciliation term and which comply with the content of the labor legislation, the reiteration of infractions related to/was contacted: a – non-compliance with the maximum working day limit; b – no minimum concession of intervals between and within the working day (for rest and food); c – extension of work in an insalubrious environment; and, d – non-payment in full of salary amounts: there was no payment, and consequently, of its effects (research material; report MPT00Y2).

As expressed before, the adoption of the extension of the working day was noted [absolute surplus-value] with the increase in production in the usual period of work [relative surplus-value]. As an aggravation of this situation, Mato Grosso do Sul is found in hot and semi-hot climatic regions (IBGE, 2002), and workers who work in environments with temperatures below 15º in hot weather and 12º in semi-hot weather could not increase the workload [working overtime]. However, what is detected – in addition to the figures and the box, there are several records of infractions noted by labor inspectors – is just the opposite. The following sub-item discussed the insertion of machinery and tools to enable the expansion of productivity without human effort.

Ways of extracting more value from the studied slaughterhouses

Over the years, it has been witnessed that the process of the expansion of capitalism and its metamorphoses has also impacted the worker (Gurgel & Marinho, 2019). Braverman (1977, p. 124) points out that the "transformation of working humanity into a 'labor force', into a 'factor of production' as an instrument of capital, [through] a ceaseless and never-ending process", is only possible due to the continued need for worker habituation. This occurs in the different types of extraction of surplus-value, classified according to technical basis, constant capital increase and forms of control (Benini, 2012). The improvement of control, as denounced by Alves (2018), in addition to the productive speed, it aims to "capture the subjectivity" of the worker.

Based on what has been commented, the slaughterhouse can be perceived as a modern manufacture, using machinery as an auxiliary and transport tool. Even slaughterhouses have the history and the conveyors as controllers of the speed of production. On the relationship between working conditions and the use of machinery, Marx underlines:

> Every kind of capitalist production, in so far as it is not only a labour-process, but also a process of creating surplus-value, has this in common, that it is not the workman that employs the instruments of labour, but the instruments of labour that employ the workman. But it is only in the factory system that this inversion for the first time acquires technical and palpable reality. By means of its conversion into an automaton, the instrument of labour confronts the labourer, during the labour-process, in the shape of capital, of dead labour, that dominates, and pumps dry, living labour-power (Marx, 2013, p. 495).

The concern about the conditions under which workers perform their work activities is also nothing new: was externalized by Marx (2013) in book I of Capital, and more deeply in chapters 13 and 23. Druck (2011) stresses the need to demonstrate the transformations and contradictions of work; other more recent studies reinforce changes in the world of work (Almeida, Benevides & Dutra, 2018; Ribeiro, 2019), including in their legal field (Mello, Braga & Sabadini, 2019).

The identification of the procedures and machinery used in production led to the identification that during the period of this research, there were no changes or increments, such as automation, which justify the increase in productivity. The theme of automation or technological innovation (Bernardes, Borini & Figueiredo, 2019; Vasconcelos, Irigaray, Leal & Carvalho, 2019) is not verifiable in the slaughterhouses constituting this article.

It is observed that, in a customary way, the word "industry" is used for establishments studied in academic materials (Caleman & Cunha, 2011; Dal Magro, Coutinho & Moré, 2016). In research sources, in MPT procedures, it is common for these units to be named industries, agro-industries or the like. However, slaughterhouses cannot be said to be an industry, nor is it a modern industry (Cunha, 2019).

The elements found in slaughterhouses lead to the definition of modern manufactures. Firstly, because its form of production is similar to that developed at the end of the 19th century, which even inspired Ford to implement his vehicle assembly lines (Varussa, 2016). Braverman (1977, p. 78) asserts that the slaughterhouses production method was the "first assembly line of the North American industry, the meat packaging conveyor (in reality, a disassembly line)".

It was found, in the studied slaughterhouses, the use of variable capital as operating principle. The concept is grasped in Marx (2013, p. 286) as "the part of capital made up of labor power [which] changes its value in the production process. It not only reproduces the equivalent of its own value, it produces a surplus, a surplus-value", and this transformation of value occurs through the labor force, that is, workers.

The empirical field explains the use of piecemeal workforce, combined with the convey belt and other auxiliary tools. On the machinery, the list of machines that were inspected was used (research material; MPT reports). The listed machines were divided by sectors: Slaughter – stunning boxing, horn saw, chest saw, carcass saw, carcass saw platform, organs table, winch, first hoof winch, second hoof winch, leather skinning winch; tripe cutting – gut dripping machine, mucosal extraction machine, centrifuge; innards/tripe – centrifuges (all), band saw; Rendering – percolator, helical screw conveyor (endless thread), hammer mill, sterilizer supply thread; Crusher – breaker, feed screw, head breaker. In addition to machines by sector, cooling systems were considered, in which ammonia is used as a cooling gas. In deboning rooms, assistance comes from conveyor belts for transportation.

The presence of machines that carry out the process automatically occurs only in units that work with the slaughter of poultry, in a specific process, because the machinery acts in the separation of the meat that remains next to the carcass after boning, which results in the product mechanically separated meat (MSM). In cattle slaughterhouses, there is automation when the unit is able to manufacture processed products, such as hamburgers, which is produced by one of these automated machines. Even so, in the unit where it was possible to observe, the machine operator is responsible for feeding the raw material, necessary meat and seasonings. However, these products – the MSM and the processed –, when added together, they accounted for just over 4% of all meat production in Mato Grosso do Sul in 2017 (Sipoa/DDA/SFA-MS, 2019).

The aspects addressed reinforce the understanding of the slaughterhouse as a modern manufacture, since there is the participation of auxiliary tools. However, the characteristics of the manufacture are maintained. As recorded by Cunha (2019, p. 101): "The technical basis of manufacturing is thus revealed: combined and divided workforce according to functions developed by practice and that manipulates instruments and work tools."

Added to this scenario is the division of activities into minimum functions, as predicted by Braverman (1977), which was evident in the ergonomic analyzes, exposing the function of each workstation and the duration of the activity cycle along the lines of the division of labor by Smith (1988) and of the job descriptions conducted by Taylor (2012). The example is the working process of cattle innards: tongue removal, jaw displacement with the aid of machinery, deboning the head and, finally, cleaning the parts, as seen in the figure below.

Figure 3
Working process in the innards room, tongue removal, jaw dislocation, deboning of the head and cleaning of the parts

Photo 1: Tongue removal.

D.A. (description of the action). Employee removes the tongue with the aid of a work tool (knife).
Cycle: approximately 20 s.

Photo 2: Dislocating the jaw.

D. A. Perform the separation of the mandible from the head.
Cycle: 22 s.

Photo 3: Boning the head.

D. A. Deboning the head with the aid of a work tool (knife).
Cycle: 22 s.

Photo 4: Parts cleaning.

D. A. Carry out the cleaning of the parts that come out when the head is boned.
Cycle: 9 s.

Source: Research Material; reports from MPT00Y3.

The work process, excluding transportation time, takes 75s. One whole piece (bovine head) is dismantled in one minute and fifteen seconds, with four workers assigned to carry out the activity. The work process, added to the verification of the list of usable machinery in the industry, leads to the apprehension that slaughterhouses, as a modern manufacture, have not undergone an automation process or the adoption of machinery to increase productivity.

INTENSIFICATION AND LEAVE FROM WORK

It is understood, as in Marx (2013, p. 483), intensification of work as a measure of "efficiency of the workforce". The idea is supported by the study by Pina and Stotz (2014, p. 154), commenting that the intensification "represents a particular dimension of exploration related to the intensive grandeur of the work and points out the tendency to reduce the porosity of the journey".

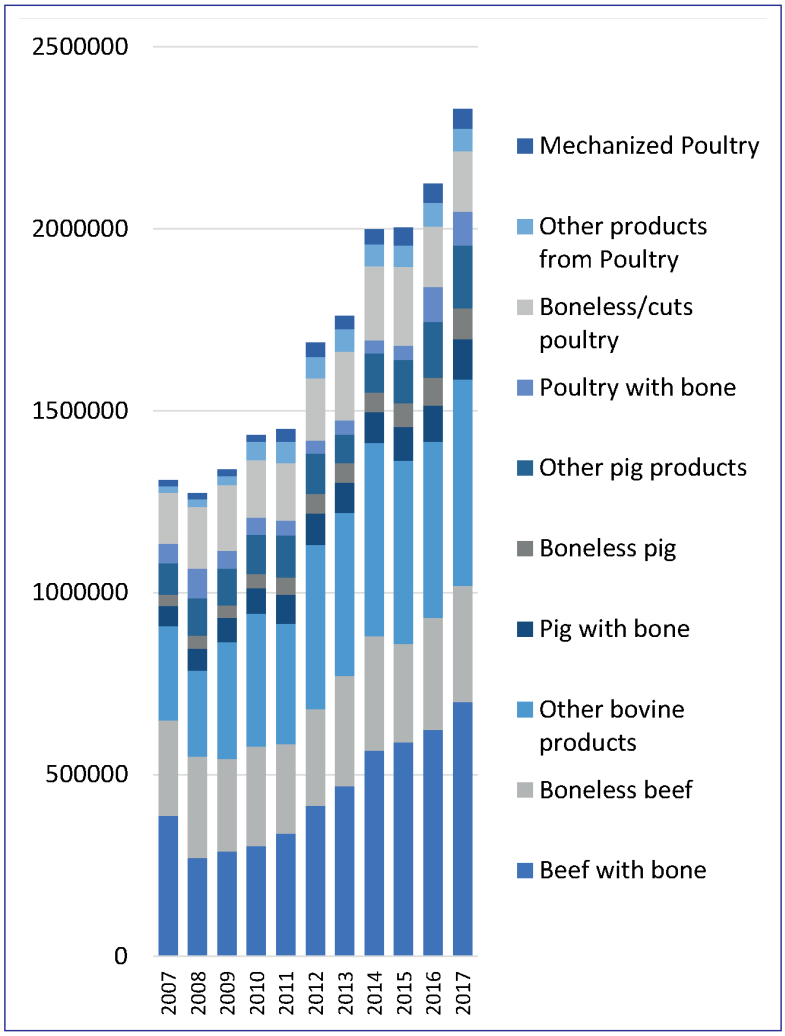
To measure the efficiency of the workforce, Graph 1 shows the evolution in tonnes of the quantity of meat produced in the state, with product segmentations. There are ten subdivisions, with three of beef– with bone, without bone and other products –, three sof wine – ditto to the cattle subdivision – and four of poultry – ditto to the previous ones –, plus the poultry MSM item.

We chose to systematize in tons produced, since, when the number of slaughtered animals was computed, there were no significant changes. The discrepancy is justified by the quarterly animal slaughter survey, which recorded the growth – in kilos – of bovine carcass (IBGE, 2019). Data from the Ministry of Agriculture pointed to the growth of poultry carcasses

(Sipoa/DDA/SFA-MS, 2019). The average weight of bovine carcass slaughtered in slaughterhouses, according to the Federal Inspection Superintendence (SIF), in January 2007, was of 232.54 kilograms, increasing to 255.27 in December 2017, a variation of 9.77% (IBGE, 2019). The same situation was noted by research institutes focusing on cattle farming (Universo Agro, 2018). The increase in weight was also observed in poultry, with a variation of 18.7, considering the same period: January to December 2017(Sipoa/DDA/SFA-MS, 2019). The size of the slaughtered animal has a direct effect on the work process, increasing the weight of the parts to be handled and, consequently, muscle fatigue.

Changing the weight of the animals is not the only reason for the increase in production, because the average growth is less than the intensification rate shown in Table 1. Slaughterhouses use the indicator of number of heads slaughtered to disclose productivity. However, in the figure below, we decided to reference the industry's productivity in tons, for being the slaughterhouses' commercialization and remuneration unit, as well as for homogenizing the slaughtering productivity of cattle, pigs and poultry.

Graph 1
Production in tons of the sheep, pig and poultry slaughtering industry in Mato Grosso do Sul



Source: Elaborated by the authors (SIPOA/DDA/SFA-MS, 2019).

Graph 1 shows an increase in total production of approximately 1 million tons of products, when comparing data for the years 2007 and 2017. There were 1.30 million tons of meat in 2007; in 2017, that number exceeded 2.32 million tons produced. Nevertheless, the 77.9% growth in meat production in the state was inconsistent and not proportional to the increase in the number of workers employed in the sector. As seen in Box 2, the number of employees in the sector grew by only 15%.

It is worth mentioning the productive increase obtained in slaughterhouses through the use and adequacy of the workforce. In fact, production growth took place in a historic period, when thermal recovery breaks were introduced by NR-36,[6] and yet there was an increase in production. The insertion of breaks and productive growth refer to the experience of Elton Mayo, held in Hawthorne, in the city of Chicago.

There is not only a single format of working hours. Some slaughterhouses divide the day into six days, with eight hours from Monday to Friday and four on Saturdays. Others adapted the schedule to five days, with working hours from Monday to Friday, with a workday of eight hours and forty-eight minutes. There are other possibilities, but the widely found format is a five-day work schedule. In this format, three breaks are distributed during the work routine. The introduction of breaks has reduced the workload from 44 hours a week to approximately 39 hours, equivalent to 11.36% of the weekly workday. The distribution of breaks and working hours used by slaughterhouses generally follow the routine in the box below.

Box 2
Working hours commonly used in slaughterhouses

Activity	Timetable
Beginning of working day	6h
First break	7h40
Return	8h
Second break	9h40
Return	10h
Lunch break	11h30
Return from lunch	12h30
Third break	14h10
Return	14h30
End of working day	15h48

Source: Research Material; report MPT00Y2; MPT00Y3; processes TRT00X1; TRT00X2.

Based on the comment on the increase in production and the fact that this occurred due to the intensification of work, Table 1 shows the intensification rate. As of 2014, the number of adjusted workers appears which is the number of workers, reducing the workload reduction (the 11.36% previously mentioned). Thus, we have the number of proportional workers, if the same workload was maintained. When production is divided by the number of adjusted workers, proportional production is obtained. The last column reports the rate of intensification.

[6] The NR-36 standardizes the work in the slaughterhouses, stipulating intra-day intervals, named as psychophysiological recovery pause (Ministério do Trabalho e Emprego [MTE], 2013).

Table 1
Productivity per adjusted worker and labor intensification rate

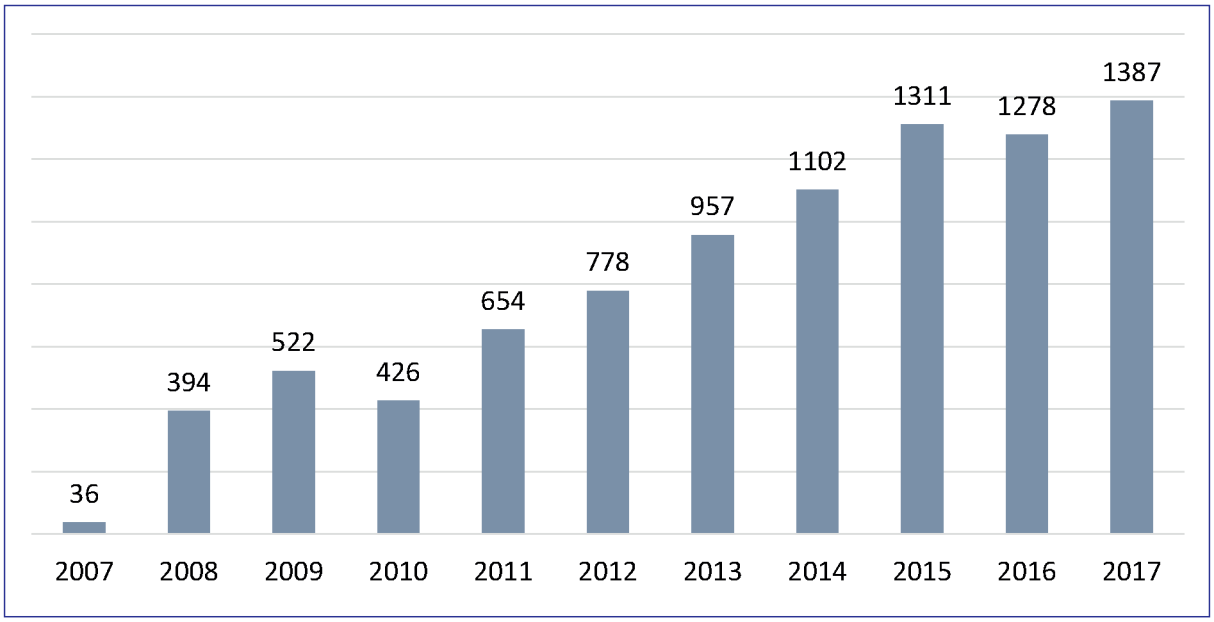
Year	Production (tons)	Worker	Adjusted Worker	Per capita production	Proportional production	Rate of intensification per capita	Adjusted intensification rate
	[a]	[b]	[c]=b-11.36%	[d]=a/b	[e]=a/c	[h]	[i]
2007	1308637	22713	22713	57.62	57.62	1.00	1.00
2008	1272592	22235	22235	57.23	57.23	0.99	0.99
2009	1337777	22199	22199	60.26	60.26	1.05	1.05
2010	1433510	20180	20180	71.04	71.04	1.23	1.23
2011	1449825	21565	21565	67.23	67.23	1.17	1.17
2012	1686920	24620	24620	68.52	68.52	1.19	1.19
2013	1760938	24092	24092	73.09	73.09	1.27	1.27
2014	1998948	24440	21662,74	81.79	92.28	1.42	1.60
2015	2002717	24058	21324,15	83.25	93.92	1.44	1.63
2016	2124351	23353	20699,26	90.97	102.63	1.58	1.78
2017	2329304	26135	23165.12	89.13	100.55	1.55	1.75

Source: Elaborated by the authors (MTE, s.d.; Sipoa/DDA/SFA-MS, 2019).

As an option for the exposure of the intensification rate, we have 2007 as a base. Production and intensification factors have been present in slaughterhouse work since the first forms of division of labor. However, in view of long-term absences, it is assumed that the year 2007 is fundamental for understanding the intensification. Thus, the following years were calculated based on the production achieved in that year. It appears that the addition of breaks did not reduce productivity, in absolute or proportional numbers, as seen in columns [d] and [e] in Table 1. The insertion of breaks, by NR-36 (MTE, 2013), had the effect of increasing individual productivity and, consequently, of the intensification rate.

Many workers, responsible for increasing productive efficiency, receive illness as a sequel (Dario & Lourenço, 2018; Santos & Oliveira, 2018). Since the numbers sometimes palliate the data on sickness (Fundação Sistema Estadual de Análise de Dados & Fundação Jorge Duprat Figueiredo de Segurança e Medicina do Trabalho, 2012; Krein, 2018), we use the data on absences in the RAIS. Long-term leave cases with 360 days or more during the reference year were configured.

Graph 2
Long-term dismissals of meat slaughter and processing companies in the state of Mato Grosso do Sul



Source: Elaborated by the authors (MTE, s.d.).

The chart includes, as dismissal for long periods, those registered with 360 days or more in the same year. These data are available at Rais, which is why there may have been an accumulation of years. For example, in 2017, with the number 1387, it is not known when the departure of these workers began; just the number of workers who were away from work activities for 360 days or more. Even so, even with the gaps, it is computed that, from 2008 to 2017, the number of workers on leave was tripled.

"The time away from work has been identified as a considerable factor related to the return to work. A shorter duration has been found as a facilitator of the process" (Saldanha, Pereira, Neves & Lima, 2013). In the case of the clipping studied in Mato Grosso do Sul, there has been an increase in the number of long-term leave. This is corroborated by the quantitative analysis of linear regression, with the dependent variable, the absence in t [year] and the independent production variable, column values [a] from Table 1, adjusted to t-1. The decrease in the independent variable over time was necessary to seek explanatory equivalence in the model (Figueiredo & Silva, 2018). The volume of production in year t-1 explains how much absence in it. The measured value of Pearson's correlation is 0.980. Thus, there is a positive correlation between the variables. An explanatory model equation was generated [with an R^2 factor of 96.1%]. However, the relevance of this technique for the study is only to corroborate the qualitative data identified. Although the sample size is limited, the assumptions of homoscedasticity and partial correlation [autocorrelation] have been preserved (Hair, Black, Babin, Anderson & Tatham, 2009).

CONCLUSION

The inconsistent increase between production and the workforce is visible in some situations, in which the expansion of machinery and the intensification of work stand out. As argued, the slaughterhouse can be conceptualized as a modern manufacture. There is no record, in the historical time of this research, of the automation of work processes related to slaughter and deboning, except the cases already mentioned, of MSM and hamburger production. We add that the automation or the adoption of automatic machinery for these products dates back to the 2000s, before the period of this analysis. The use of automatic transport tools was observed, such as electrification of nory, in some cases. However, there are no elements that prove the automation of production or the vertiginous growth of productivity through the use of machinery. Thus, the increase in production has been due to the instruments of division and control of labor.

The data in Table 1 demonstrate the worsening of labor exploitation, when measuring the number of workers in the sector and the total production. In 2017, the worker produced 75% more than in 2007. Between 2007 and 2017, with the insertion of thermal recovery breaks, workers had an 11.36% reduction in working time. Three breaks of twenty minutes each were introduced. Thus, the worker who was available in the company for eight hours and forty-eight minutes, after 2013 produced for seven hours and forty-eight minutes. The reduction of time has not influenced the production; on the contrary, it expanded it, reducing the time needed by the workforce. In absolute and relative numbers, the psychophysiological pause included in NR-36 has increased production and intensification of work.

As announced at the beginning of the text, this article explains the demand of workers in the area of organizational studies. We demonstrate, with material data and information, the advance of the intensification of work and its effects on workers involved in the production process. We debuted on quantification metrics, in order to clarify the probative elements of a process of intensification and control of work, confined to manufacturing production processes that show the exacerbated growth of worker absence, which can be classified as an organizational pathology. As attested, it is necessary to insert the slaughterhouse as an organizational expression particularly lagging behind in technical-productive development, seeming to be as pre-industrial forms of control and productive increase, more linked to physical effort, therefore, as a place capable of causing sickness to the worker.

The expansion of the added value produced is related and extends to factors external to the factory – there was, in the studied period, an increase in the carcass weight of the slaughtered bovine. The growth in the size of the piece means that the worker has to dedicate more strength to pull and push. There is also more meat to trim, which requires more effort to do the work. This factor amplifies the process of intensification of work, which can cause, as main consequence, the illness of workers.

The intensification that occurred in the period led to an increase in the number of long-term absence between 2007 and 2017 (MTE, s.d.). There was a mass of workers on leave for long periods. There were 1387 workers temporarily dismissed from their work activities during 2017, for 360 days or more. This number represents 5.3% of workers in the sector. At the beginning of the period, in 2007, the records showed only 36 long-term leave. We chose, in this text, to consider the time of absence, without the surveying of leave due to work reasons.

The annotations were not segmented between work and non-work reasons. There were reports of sick people thanks to the same International Code of Diseases (ICD), performing the same function, with absence data that identified the illness as something external to the slaughterhouse, registered with code B31, on INSS. This study limitation refers to the feasibility of future research, together with the measurement of total leave, accompanied by the identification of its causes.

REFERENCES

Aktouf, O. (2004). *Pós-globalização, administração e racionalidade econômica: a Síndrome do Avestruz*. São Paulo, SP: Atlas.

Almeida, L. T. D. C., Benevides, T. M., & Dutra, R. Q. (2018). Gestão e precarização do trabalho: Uma Análise da influência da Atuação Gestora na Vida dos Trabalhadores de Call Centers. *Revista Ibérica de Sistemas e Tecnologias de Informação*, *28*, 72-85.

Alves, G. (2018). *O duplo negativo do capital: ensaio sobre a crise do capitalismo global*. Bauru, SP: Canal 6.

Antunes, R. (2011, September). Os modos de ser da informalidade: rumo a uma nova era da precarização estrutural do trabalho? *Serviço Social & Sociedade*, *107*, 405-419, 2011.

Benini, E. G. (2012). *Política educacional e educação a distância: as contradições engendradas no âmbito do trabalho docente* (Doctoral Dissertation). Universidade Federal de Mato Grosso do Sul, Campo Grande, MT.

Bernardes, R., Borini, F., & Figueiredo, P. N. (2019). Inovação em Organizações de Economias Emergentes. *Cadernos EBAPE.BR*, 17(4), 886-894.

Braverman, H. (1977). *Trabalho e capital monopolista: a degradação do trabalho no século XX*. Rio de Janeiro, RJ: J. Zahar, 1977.

Caleman, S. M. D. Q., & Cunha, C. F. (2011). Estrutura e conduta da agroindústria exportadora de carne bovina no Brasil. *Organizações Rurais & Agroindustriais*, *13*(1), 93-108.

Cunha, E. (2019). Base técnica e organização do trabalho na manufatura e grande indústria: inflexão, desenvolvimento desigual e reciprocidade. *Verinotio - Revista on-line de Filosofia e Ciências Humanas*, *25*(1), 88-128.

Cunha, E., & Ferraz, D. L. S. (2015). Marxismo, Estudos Organizacionais e a luta contra o irracionalismo. *Organização e Sociededade*, *22*(73), 193-198.

Dal Magro, M. L. P., Coutinho, M. C., & Moré, C. L. O. O. (2016). Relações de poder na atenção à saúde do trabalhador formal: o caso da indústria de abate e processamento de carnes. *Revista Brasileira de Saúde Ocupacional*, *41*, e4.

Dario, V. C., & Lourenço, M. L. (2018). Cultura Organizacional e Vivências de Prazer e Sofrimento no Trabalho: Um Estudo com Professores de Instituições Federais de Ensino Superior. *Revista Organizações em Contexto*, *14*(27), 345-395.

Davel, E., & Alcadipani, R. (2003). Estudos críticos em administração: a produção científica brasileira no anos 1990. *Revista de Administração de Empresas*, *43*(4), 72-85.

Druck, G. (2011). Trabalho, precarização e resistências: novos e velhos desafios? *Caderno CRH*, *24*(spe1), 37-57.

Faria, J. H. (2009). Teoria crítica em estudos organizacionais no Brasil: o estado da arte. *Cadernos EBAPE.BR*, *7*(3), 509-515.

Faria, J. H., & Meneghetti, F. K. (2010). (Sem) saber e (com) poder nos estudos organizacionais. *Cadernos EBAPE.BR*, 8(1), 38-52.

Figueiredo, C. D. C., & Silva, A. F. D. (2018). Aplicação da Modelagem de Regressão em Dados Observados ao Longo do Tempo. *Internext*, *13*(3), 42-50.

Fundação Sistema Estadual de Análise de Dados, & Fundação Jorge Duprat Figueiredo de Segurança e Medicina do Trabalho. (2012). *Vinculação de bancos de dados de acidentes do trabalho fatais dos Estados de São Paulo e Minas Gerais 2006-2008*. São Paulo, SP: Author.

Gurgel, C., & Marinho, M. (2019). Escravidão contemporânea e oyotismo. *Organizações & Sociedade*, *26*(89), 317-337.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2009). *Análise Multivariada de Dados* (6. ed.). Porto Alegre, RS: Bookman.

Instituto Brasileiro de Geografia e Estatística. (2002). *Mapa de Clima do Brasil*. Rio de Janeiro, RJ: Author.

Instituto Brasileiro de Geografia e Estatística. (2019). *Pesquisa Trimestral de Abate de Animais*. Brasília, DF: Author. Retrieved from https://www.ibge.gov.br/estatisticas-novoportal/economicas/agricultura-e-pecuaria/21119-primeiros-resultados-2abate.html?=&t=resultados

Ju, D., Qin, X., Xu, M. Y., & Direnzo, M. S. (2016). Boundary conditions of the emotional exhaustion-unsafe behavior link: The dark side of group norms and personal control. *Asia Pacific Journal of Management*, *33*(1), 113-140.

Krein, J. D. (2018). O desmonte dos direitos, as novas configurações do trabalho e o esvaziamento da ação coletiva: consequências da reforma trabalhista. *Tempo Social*, *30*(1), 77-104.

Lacaz, F. A. D. C. (2016). Continuam a adoecer e morrer os trabalhadores: as relações, entraves e desafios para o campo Saúde do Trabalhador. *Revista Brasileira de Saúde Ocupacional*, *41*, e13.

Lukács, G. (2013). *Para uma ontologia do ser social I*. São Paulo, SP: Boitempo.

Marx, K. (2013). *O Capital: Crítica da economia política: O processo de produção do capital*. São Paulo, SP: Boitempo.

Mello, G., Braga, H., & Sabadini, M. D. S. (2019). Capital accumulation, crisis, and labor market in modern Brazil. *Revista Katálysis*, *22*(1), 15-35.

Ministério da Agricultura. (2018). *Sistema de Informação do Sistema de Inspeção Federal*. Retrieved from http://sigsif.agricultura.gov.br

Ministério do Trabalho e Emprego. (s.d.). *Relação Anual de Informações Sociais*. Brasília, DF: Author.

Ministério do Trabalho e Emprego. (2013). *NR 36: Segurança e saúde do trabalhador em empresas de abate e processamento de carnes e derivados*. Brasília, DF: Diário Oficial da União.

Paula, A. P. P. (2008). *Teoria Crítica nas Organizações*. São Paulo, SP: Thomson Learnin.

Pina, J. A., & Stotz, E. N. (2014). Intensificação do trabalho e saúde do trabalhador: uma abordagem teórica. *Revista Brasileira de Saúde Ocupacional*, *39*(130), 150-160.

Ribeiro, R. F. (2019). A unidade financeirização e autorreprodução do capital: pressupostos marxianos e elementos contemporâneos. *Revista Katálysis*, *22*(1), 171-180.

Romero, D. (2005). *Marx e a técnica: um estudo dos manuscritos de 1861-1863*. São Paulo, SP: Expressão Popular.

Saldanha, J. H. S., Pereira, A. P. M., Neves, R. D. F., & Lima, M. A. G. D. (2013). Facilitadores e barreiras de retorno ao trabalho de trabalhadores acometidos por LER/DORT. *Revista Brasileira de Saúde Ocupacional*, *38*(127), 122-138.

Santos, S. R. T. G. D., & Oliveira, L. H. D. (2018). Afastamento do Trabalho: Análise da Percepção de Gestores e Reabilitados Reintegrados à Empresa de Maneira Sustentável. *Perspectivas em Gestão & Conhecimento*, *8*(3), 40-66.

Serviço de Inspeção de Produtos de Origem Animal. (2019). SIPOA/DDA/SFA-MS. *Dados de pesquisa*. Mato Grosso do Sul, MT: Minitério da Agricultura.

Smith, A. (1988). *A riqueza das nações* (Os Economistas). São Paulo, SP: Nova Cultural.

Taylor, F. W. (2012). *Princípios de administração científica* (8. ed.). São Paulo, SP: Atlas.

Universo Agro. (2018). *Sistema do Boi 7.7.7 gera lucro na pecuária*. Retrieved from http://www.esalq.usp.br/cprural/noticias/mostra/6267/sistema-do-boi-777-gera-lucro-na-pecuaria.html

Varussa, R. J. (2016). *Eu trabalhava com dor: trabalho e adoecimento nos frigoríficos*. Jundiaí, SP: Paco Editorial.

Vasconcelos, I. F. F. G., Irigaray, H. A. R., Leal, F. B., & Carvalho, L. A. (2019). Inovação tecnológica radical e mudança organizacional: a institucionalização de organizações resilientes e formas de trabalho mais substantivas. *Cadernos EBAPE.BR*, *17*(4), 895-922.

Vasconcellos, M. D. C., Pignatti, M. G., & Pignati, W. A. (2009). Emprego e acidentes de trabalho na indústria frigorífica em áreas de expansão do agronegócio, Mato Grosso, Brasil. *Saúde e Sociedade*, *18*, 662-672.

Vilela, R. A. G., Jackson, J. M., Filho, Querol, M. A. P., Gemma, S. F. B., Takahashi, M. A. C., Gomes, M. H. P., ... Almeida, I. M. (2018). A expansão do objeto da vigilância em acidente do trabalho: história e desafios de um centro de referência em busca da prevenção. *Ciência & Saúde Coletiva*, *23*(9), 3055-3066.

Zylberstajn, D. (2013). Administração de sistemas de base agrícola: análise de fatores críticos. *Revista de Administração*, *48*(2), 203-207.

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