

# Trabalhadores à/na deriva: discursos sobre as causas da morte de um trabalhador indígena

## Workers adrift and under pesticide drift: discourses regarding the death of an indigenous worker

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### Resumo

o artigo tem como objetivo analisar os discursos sobre as causas da morte de um trabalhador indígena que atuou nas atividades de raleio em um pomar de maçã no Sul do Brasil no final da década de 1990. Por meio de um inquérito policial que investigou as condições de trabalho às quais os trabalhadores indígenas estavam submetidos, especialmente nos trabalhos rurais da cultura da maçã e do alho, foi possível analisar discursos de diversos sujeitos que narraram os eventos que envolveram a morte do trabalhador. Compreender a história da morte de Fág Mág nos revela a forma como o Estado, por meio das instituições de Saúde e de Justiça, autoriza a morte de indígenas pela via do trabalho.

**Palavras-chave:** trabalhadores rurais indígenas, nexo causal, raleio de maçã

### Abstract

This article aims to analyze the discourses addressing the causes of death of an indigenous worker who worked in thinning activities in an apple orchard in southern Brazil in the late 1990s. Through a police investigation that looked into the working conditions to which indigenous workers were subjected, especially in apple and garlic farming in rural areas, it was possible to analyze the discourses of multiple subjects who narrated the events surrounding the worker's death. Understanding the story of Fág Mág's death reveals to us how the State, by way of Health and Justice institutions, allows the death of indigenous people through work.

**Keywords:** Indigenous rural workers, causal link, apple thinning

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## Introduction

This study aims to analyze the discourses about the causes of death of an indigenous worker who worked in thinning activities in an orchard in southern Brazil in the late 1990s aiming to reveal the mechanisms of apple production, mainly regarding the use of human workforce in the sector<sup>1</sup>. The main data source of this text is a police inquiry obtained during field research.

The police inquiry analyzed the work conditions of cooperative members who developed activities of thinning and harvesting in apple and garlic fields in the early 2000s in the south of Brazil. Amidst the labor discussions recorded in that document, the situation of an indigenous worker emerged as an emblematic event to understand the uses of workforce by companies in the rural area. Another interesting aspect was the state action, by means of its Health and Justice institutions regarding the worker's precarious situation and the companies' liability in relation to the way they use individuals' workforce.

In this discussion, the state is a central agent, which appears, in several historical moments, by means of its varied institutions, to favor the market rather than the workers' interests. This becomes evident throughout this study, which shows that subjects that act on behalf of the state are guided by necropolitics and biopower.

The state, during the military regime, boosted pomiculture in Brazil. Even if the activity was initially implemented using private resources<sup>2</sup>, it was soon intensely promoted by public resources<sup>3</sup>, mainly during the historical moment known as "Green Revolution" or "conservative modernization of agriculture"<sup>4</sup>. The articulation between politicians and the elite from Santa Catarina enabled the inclusion of apple orchards in the tax incentive

<sup>1</sup> This study presents partial results of an ongoing investigation funded by CNPq.

<sup>2</sup> The first experimental apple orchards were funded by partnerships created by the Frey brothers in the region that became the city of Fraiburgo/SC, according to KLANOVICZ, Jó. *Toxicidade e produção de maçãs no sul do Brasil. História, Ciências, Saúde – Manguinhos*, Rio de Janeiro, v. 17, n. 1, p. 67-85, 2010.

<sup>3</sup> Law nº 5.106 of September 02, 1966, providing for tax incentives granted to forestry companies, sets forth a discount up to 50% of the income tax of natural persons and corporate entities engaged in tree planting and reforestation activities.

<sup>4</sup> In Brazil, in the mid-1960s, a "conservative" modernization of agriculture occurred, since while modernizing the agriculture yield by means of machinery and inputs, large properties were kept intact, that is, latifundium was preserved, as observed by DELGADO, Guilherme. *Do "capital financeiro na agricultura" à economia do agronegócio: mudanças cíclicas em meio século (1965-2012)*. Porto Alegre: Editora da UFRGS, 2012.

policy that granted income tax discount for those occupying their land with reforestation.

For this reason, entrepreneurs from several areas such as the transport sector, started to invest in land in the regions known as Planalto Catarinense (Catarinense Plateau) and Campos de Cima da Serra in southern Brazil to plant apples. This agricultural activity was highly profitable and promoted the reproduction of the local social elites existing to date.

However, pomiculture is highly dependent on the workforce for several activities, such as thinning and harvesting, since the fruit is a delicate product, which requires handling without impacts. In addition, the fruit has a short harvesting period after being ripe, which also requires fast and careful work throughout long workdays.

This text sheds light on individuals who carried out those rural activities by focusing on Fág Mág's experience. He was an 18-year-old Kaingang indigenous<sup>5</sup>. He was attracted to the manual thinning activity in an apple orchard and started to feel ill after a workday. Apple workers are subjects made invisible for not being recognized in the fierce discourses of agribusiness representatives who believe to carry Brazil on their shoulders (*sic*). For this reason, this text reports the experience of the indigenous worker, and details the activities carried out in the field work in the conventional apple growing model.

### What happened before the event

In October 1999, a bus left an indigenous village in Southern Brazil, heading to an apple orchard in the northeast region of the state of Rio Grande do Sul. That was another group of workers among the many that find work in the thinning of apple trees, which commonly occurs between October and December of each year and is characterized as a phase preceding harvesting.

Thinning flowers or fruit is very common in fruit growing. This activity entails the removal of part of developing flowers – and, in some cases, fully grown flowers – to guarantee better production in the following year and

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<sup>5</sup> Fág Mág is a fictitious name. In Kaingang, “Fág Mág” means “Tall Pine Tree”. I chose this name together with a colleague and friend, professor Diego Severo, to pay homage to that young indigenous worker by referring to a highly significant tree to that ethnic group. This is the Brazilian pine tree (*Araucaria angustifolia*).

also promote the development of fruit with higher quality to be sold in the market<sup>6</sup>.

That practice seeks to guarantee the next year's production because most of the fruit trees, such as apple trees, alternate their yield. If in one year the apple trees are highly productive, in the following year their yield is most likely to reduce since their energy and nutritious sources are reduced, thus harming the formation of flower buds, which develop into fruit, and favoring the formation of vegetative buds, which result in leaves. For this reason, thinning is necessary to provide balance, which guarantees constant production every year. Otherwise, there would be fruit super production in one year and productive scarcity in the following year<sup>7</sup>.

Higher quality fruit development refers to diverse aspects. When the fruit tree thinning is not carried out, branches might break due to wind action since the fruit excessive weight contributes to that<sup>8</sup>. In addition, without thinning, fruits do not get enough sun exposure and, consequently, concentrate little sucrose, which also affects fruit size, taste and color – essential characteristics to add value to the final product<sup>9</sup>.

Commonly, companies hire manual work for fruit thinning. Flowers can be thinned (before fruiting). Generally, aiming at the efficacy of the procedure, producers prefer to have manual thinning accomplished after fruiting since it is common to predict the amount of fruit to be harvested, which influences their decisions about the number of items to be disposed of. When opting for flower thinning, there is always some doubt regarding the number of flowers that could have become good fruit<sup>10</sup>. Due to agricultural requirements, which consist in carrying out the thinning before the fruit cell division final period, that is, up to 30 days after the orchard full flowering<sup>11</sup>, a considerable number of male and female rural workers is hired to carry out this job.

<sup>6</sup> ROSA, Rafael Dalla; NAVA, Gilmar Antônio; PIVA, André Luiz; *et al.* Poda e raleio manual de tangerineira (*Citrus deliciosa* Tenore) cv. Montenegrina no Sudoeste do Paraná. **Revista Ceres**, Viçosa, v. 59, n. 2, p. 254-261, mar.-abr. 2012.

<sup>7</sup> PETRI, José Luiz; SEZERINO, André Amarildo; PASA, Mateus da Silveira; HAWERROTH, Fernando José. Raleio de frutos na cultura da macieira. Florianópolis: Epagri, 2017.

<sup>8</sup> FACHINELLO, José Carlos; NACHTIGAL, Jair Costa; KERSTEN, Elio. Fruticultura: fundamentos e práticas. Pelotas, RS: UFPel, 2008. Retrieved from: <https://wp.ufpel.edu.br/fruticultura/files/2017/05/Livro-de-Fruticultura-Geral.pdf>. Accessed on: Jul 22, 2024.

<sup>9</sup> PETRI; SEZERINO; PASA, *et al*, op. cit.

<sup>10</sup> Ibidem.

<sup>11</sup> Ibidem.

These male and female workers come from several regions of the country, but there are also foreigners coming from neighboring countries. Generally, these individuals are recruited by agents who mediate the relationship between the company and the group of workers. These middlemen are known as contractors, recruiters, *gatos* (cats) or foremen and act in different crops such as sugar cane<sup>12</sup>, onion<sup>13</sup>, orange<sup>14</sup> and apple<sup>15</sup> harvest, for example.

In 1999, companies that produced apple in the northeast region of Rio Grande do Sul made an effort not to have an employment relationship with the male and female rural workers. For this reason, the companies had agreements with “work cooperatives” which supplied the workforce needed for the thinning or harvesting. However, such “cooperatives” reproduced the precariousness of field work since they were artificially created by the middlemen who used them to recruit workers for the apple companies.

Thus, by using such cooperatives, the labor rights of that group of rural workers were disregarded since the individuals were euphemistically labeled “cooperative members”, which masked their exploitation. In other words, those cooperatives concealed the exploitation of those who only had their labor force as a commodity. In practice, those work cooperatives were led by some individuals who organized the workforce in an asymmetrical relation of subordination, and this was formally forbidden 13 years later, with Law nº 12.690/2012, article 5<sup>th</sup><sup>16</sup>.

In the case described in this article, individuals from a municipality close to the indigenous land formed a work cooperative and helped by a “cabeçante”<sup>17</sup>, recruited indigenous men to carry out thinning activities in an apple orchard belonging to a company of the northeastern Rio Grande do

<sup>12</sup> SILVA, Maria Aparecida de Moraes; REIS, Tainá. Em busca de um lugar de memória de trabalhadores/as rurais: constituição de um repositório digital em dois espaços-tempo. *Travessia - Revista do Migrante* -, São Paulo, n. 89, p. 7-26, jul.-dez. 2020.

<sup>13</sup> MARÉCHAL, C. *Êg ga êg kófa tú (A nossa terra é a nossa história): território, trabalho, xamanismo e história em retomadas kaingang*. 2021. 665 p. Thesis (Social Anthropology Doctorate Program) – Instituto de Filosofia e Ciências Humanas, Universidade Federal do Rio Grande do Sul, Porto Alegre, 2021.

<sup>14</sup> SILVA, Maria Aparecida de Moraes. Trabalho rural: as marcas da raça. *Lua Nova*, São Paulo, n. 99, p. 139-167, 2016.

<sup>15</sup> MOTTA, G. S. *Trabalho assalariado e trabalhadores indígenas nos pomares de maçã no Sul do Brasil*. 2020. 227 p. Thesis (Human Sciences – Sociology Doctorate Program) – Instituto de Filosofia e Ciências Sociais, Universidade Federal do Rio de Janeiro, Rio de Janeiro, 2020.

<sup>16</sup> BRASIL. *Lei nº 12.690, de 19 de julho de 2012*. Dispõe sobre a organização e o funcionamento das cooperativas de trabalho. Retrieved from: [https://www.planalto.gov.br/ccivil\\_03/\\_ato2011-2014/2012/lei/l12690.htm](https://www.planalto.gov.br/ccivil_03/_ato2011-2014/2012/lei/l12690.htm). Accessed on: Aug 1. 2024.

<sup>17</sup> Idem, 2020.

Sul. The person called “*cabeça*” (head) or “*cabeçante*” is very common among the several indigenous ethnic groups that work outside their place of origin. The word refers to the indigenous man who heads the work teams before and during the work development. In 1999, middlemen negotiated with the *cabeçantes* the issues referring to the thinning job, and after having reached an agreement, the indigenous workers left their land to work on the orchards of northeastern Rio Grande do Sul.

At least one bus with around 40 indigenous individuals crossed the state of Rio Grande do Sul, taking them to the lodging of an orchard. At that time, each worker would receive a daily wage of BRL10.00, from which BRL 3.00 would be discounted to pay for their meals. Adjusting these values to June 2024 according to the Broad National Consumer Price Index (IPCA- Índice Nacional de Preços ao Consumidor Amplo), these values would be equivalent to a BRL44,91 daily wage, with a BRL 13.47 discount, resulting in BRL 31.44<sup>18</sup>. Finally, we must consider the existence of a type of pantry inside the orchard. This pantry sold overpriced products to workers, thus doubling down on those who were already being underpaid.

The workload on that orchard was 8:40h/day including Sundays. Their relaxing time was after dinner and was spent within the lodge. For this reason, the community around them ignored their presence and had no access to their reality, which occurred inside a private property, without external interference. These were the work conditions of the indigenous individuals in that orchard, from October to December 1999, when something went wrong the state institutions had to be contacted.

### What happened during the event

According to the evidence gathered in the police inquiry, on Sunday, December 12<sup>th</sup>, 1999, the orchard workers worked during the afternoon thinning apple trees. After dinner, around 7pm, an indigenous worker called Fág Mág<sup>19</sup> started to feel ill.

A 21-year-old witness, also an indigenous worker, reported having worked next to Fág Mág. In his testimony to the civil police, he reported

<sup>18</sup> BANCO CENTRAL DO BRASIL. **Calculadora do cidadão.** Information about monetary adjustments. Retrieved from: <https://www3.bcb.gov.br/CALCIDADO/publico/corrigirPorIndice.do?method=corrigirPorIndice>. Accessed on Aug 2, 2024. There are several calculators available online. We opted for that on the Central Bank of Brazil webpage due to its institutional character.

<sup>19</sup> All names used in this text are fictitious to preserve the identity of the subjects.

that Fág Mág started vomiting and on the following day presented a kind of white foam in his mouth. The worker said

that the victim had been working with him and, after dinner, around 7pm, he felt ill and started vomiting. On the following day, he had a lot of foam in his mouth, and so he remained for three days. Because the ones in charge did not want to take him to the hospital, the witness reported that they all decided not to work.

At that point, the other indigenous workers asked the man responsible for the pantry and those in charge of the work cooperative who recruited the indigenous workforce to take the ill worker to the local hospital to see a doctor on that Sunday, but both refused it immediately. For this reason, the workers refused to work on Monday until Fág Mág obtained medical assistance.

The evidence given by the *cabeçante*, a 41-year-old indigenous man, was that Fág Mág was taken to the hospital of the municipality where he worked only on the following evening, that is, Monday evening. The *cabeçante* also declared that the worker was feeling sick and had black spots on his arms. After arriving at the hospital of that apple producer municipality, Fág Mág had an appointment with the doctor but was not hospitalized, although some medication was prescribed by the health professional. According to the indigenous workers, including the *cabeçante*, at the hospital, nobody could identify what caused Fág Mág's illness. Since the worker did not get better, probably on the following day (Tuesday), he was taken back to his original place, the indigenous land, even if he was still ill.

The workforce commercialization process, according to Karl Polanyi, is quite evident in this event<sup>20</sup>. It is by means of separation of inseparable things – the human being and their workforce – that this process occurs. In fact, the workforce (an inherently human activity, *i.e.*, constituting the human being) transformation into commodity is a procedure that transforms something abstract into something eminently concrete, which can be sold in the market.

In practice, as observed in Fág Mág's situation, capitalism exploits individuals' workforce and dispose of them when they are no longer able to produce such work. Therefore, workforce as commodity is an invention or, as explained by Polanyi, a fiction<sup>21</sup>. This possibility of isolating human beings from their ability to work is also related to the supposed lack of accountability

<sup>20</sup> POLANYI, Karl. **A grande transformação: as origens da nossa época.** 2<sup>a</sup> ed. Rio de Janeiro: Campus, 2000.

<sup>21</sup> Ibidem.

of the owners of capital for the pain and illnesses that affect the bodies of those who serve them.

In the orchard, Fág Mág could no longer do the work, so they decided to take him back to his original place. The person who drove the ill worker home was Cândido as he was in charge of the work cooperative that had recruited the indigenous workforce. At that time, apart from being a middleman, he was also a councilman in a city near the indigenous land<sup>22</sup>. Cândido was the one taking all the workers to the apple orchard and monitoring them during the thinning activity. Afterwards, he was the one returning the ill worker to the indigenous land, handing over Fág Mág and the responsibility for his care to his relatives. Cândido was a self-declared cooperative member, but in practice, he acted as a *gato*, that is, a middleman in the transactions between the company and those workers.

After arriving at the indigenous land, on Tuesday, Fág Mág was taken to the hospital by his relatives since his health condition showed no signs of improvement. For being a small hospital without many resources, Fág Mág was immediately removed to another better equipped clinical center in a city nearby to obtain urgent medical care. On Wednesday morning, Fág Mág died at the hospital.

Summing up, Fág Mág showed the first signs of disease at the orchard on Sunday evening but was taken to the hospital only on Monday evening. At the hospital, he did not get an accurate diagnosis and, for not presenting any signs of recovery, he was sent back to his place of origin on Tuesday, so that his relatives could take care of him. Once inside the community, he was taken to hospital again, which referred him to a better-equipped hospital where he died on Wednesday morning.

The death of an 18-year-old indigenous worker was one of the events that led to the investigation analyzed in this study. The inquiry investigated the actions of work cooperatives and work conditions of the subjects involved in the production of apple and garlic in the northeast region of Rio Grande do Sul. Was the case of the indigenous worker's death related to the work conditions he was subjected to? What could have caused the death of such a young individual who was working in apple thinning? At the same time, the Federal Prosecutor's Office started an investigation that sought to clarify

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<sup>22</sup> Currently, Cândido is in a commissioned political position at the city hall of the same city where he was a councilman at the time of the events narrated here.

whether the indigenous worker could have been intoxicated by agricultural pesticides in the workplace.

One way or another, the cause of death is a black box, that is, the *causa mortis* is inscrutable, in the Latourian sense of the term<sup>23</sup>. Knowing what led the young indigenous individual to die might reveal who the murderer was, but knowing the controversial discourses around the cause of his death certainly reveals the disguised action of necropolitics<sup>24</sup>.

### What was said after the event

Several indigenous workers were heard at the Civil Police Station to contribute to the police inquiry. The evidence given aimed at elucidating how the work was developed in the apple orchard, how pesticides were used and how such substances could affect workers.

It seems relevant to highlight that the interviewer apparently was not familiar with an apple orchard or what pesticides were and what they were used for – another inscrutable black box for lay people. In fact, this type of knowledge is not usually required from a police officer. However, knowing minimally these issues might have guided the inquiry in a way to reveal the relevant information to solve the case, namely, whether there was some relation between the worker's death and possible intoxication from pesticides.

At the beginning, several workers mentioned the fact that they had been exposed to some “poison” sprayed on the apple trees close to the trees they were thinning. The already mentioned witness, a 21-year-old indigenous worker, who worked with the victim, told the police officers that “there, during the work, poison was sprayed on the plants, sometimes very close to those working and when the weather was windy, the poison was carried to the place where they were working.”

Another indigenous worker, who was 16 years old, mentioned that “most of the workers got ill, since where they worked poison was sprayed on the plants, and when they touched the fruit a kind of dust would raise, which he did not know whether it was poison or not”. Even the *cabeçante*, who was 41 years old, reported that “the guys who worked for the company spread the poison in an area near where thinners worked, thus they were sometimes

<sup>23</sup> LATOUR, Bruno. *Ciência em ação: como seguir cientistas e engenheiros sociedade afora*. São Paulo: Editora Unesp, 2000.

<sup>24</sup> MBEMBE, Achille. *Necropolítica: biopoder, soberania, estado de exceção, política da morte*. São Paulo: n-1 edições, 2018.

reached by the poison. When you touched the fruit, a white powder would come out, that was a poison they sprayed to preserve the fruit”.

Another indigenous worker, who was 28 years old and also worked as a teacher in his village, stated that “at the same time they thinned the apples, a tractor would come and spray the plants, which would reach the workers due to the wind action”. In addition to those reports, a 17-year-old indigenous worker, reported that “while they were working on the plots assigned to them, other workers sprayed a liquid on the plants, he did not know whether it was “urea” or “poison”, it was a liquid product, and while he worked there, they never sprayed the place where the thinners were working”.

The five statements above have a common point: indigenous workers stated that some liquid was sprayed on the apple trees during the fruit thinning and somehow it would reach the place where they worked. The word “poison” was used several times to name the unknown liquid, while the word “urea” appeared as an alternative to deny that the product was, in fact, a type of poison.

While indigenous workers pointed out something that might have threatened the integrity of their health, discourses produced by other individuals, tried to give new meanings and create diverse interpretations, which weaken the hypothesis that Fág Mág’s death could be related to some kind of intoxication occurred in the orchard.

One of these discourses was produced by Reginaldo, when he gave evidence at the Civil Police Station. Reginaldo was an 18-year-old worker linked to the work cooperative that recruited indigenous workers. In addition to working in the apple thinning activity, he also sold some items such as hygiene products and food to the indigenous workers in a type of pantry that was inside the lodge and belonged to the cooperative. At the end of the work period, workers’ would receive their payment with discounts referring to items bought from the pantry, which suggests that the cooperative exploited its members. In his inquiry, Reginaldo denied any possibility of intoxication, raising other hypotheses that would explain Fág Mág’s death:

He had heard from others that the said indigenous individual had “competed” with another indigenous man to see who would eat more and drink more soda. He did not know who the indigenous person who competed with Fág Mág was. [...] He said that no poison was spread on the apple orchard, but some type of preserver was applied, whose exact name he did not know,

and that the preserving agents were not applied in areas where the apple thinning was being carried out.

On the one hand, the person responsible for the pantry tried to reduce the lethality of what was applied by means of a euphemism, that is, “preserver”. On the other hand, he stated that such preserving agent was not applied exactly where the workers were working, even if the workers had reported having been reached by the substance. Such report evidences the side the pantry guy was trying to protect, which was the side of the true boss, the orchard owner. Reginaldo, as many others, did not hear the indigenous’ voices – he would not even taken them seriously, “naively” ascribing Fág Mág’s symptoms to a competition between workers who would have eaten and drunk too much. The option to disregard the indigenous’ reports is even more evident when relevant voices talk about the indigenous death. This is the case of the team of auditors who looked into the situation and found ways of supporting what Foucault called state racism<sup>25</sup>.

A previous inspection report related to the apple producer company was elaborated by an inspector and attached to the police inquiry. Such report aimed to demonstrate what was known regarding the link between the apple producer company and the indigenous individual called Fág Mág. In the said report, the labor inspector reported that:

We found out that Fág Mág came to work in the company’s orchard as a cooperative member. [...] Then, the seasonal activities of the receiver company are understood as “middle activities”, that is, “thinning” can be carried out by an intermediary company, thus, the work provided by the work cooperative can be used in this specific activity. As the indigenous worker developed the thinning activity, the company acted according to the current applicable law.

Such analysis result issued by the labor inspector denies any labor liability of the apple producer company in relation to the indigenous rural workers. This occurs because, according to the auditor, the apple thinning work must be interpreted as a “middle activity”, while the apple harvest should be understood by the justice system as the “end activity” of those

<sup>25</sup> Defined as a type of “racism that society exercises within itself, on its own elements, on its own products; an internal racism, of permanent purification, which becomes one of the fundamental dimensions of social regulation”, Foucault showed that the state achieves this aim by means of the “right to make live and let die”, when discussing the sovereignty right transformations. FOUCAULT, Michel. **Em defesa da sociedade**. São Paulo: Martins Fontes, 1999. p. 73 e 287.

companies<sup>26</sup>. According to this interpretation, workers hired for the thinning might be outsourced, while those working in harvest cannot.

However, it seems relevant to emphasize that from the agronomical perspective, there is no sense in considering the thinning activity as a middle-activity since it is an indispensable activity to guarantee the fruit yield in the following year. It is also essential to produce fruit with quality and size required for commercialization. Catering and cleaning services in an apple orchard could be considered middle activities, for example. However, this is not the case of thinning, which is an essential part of harvesting, for instance. Therefore, the main effect of that report was to prevent any association between the company and the worker's death.

In the same partial report issued by the labor inspector, there is an opinion given by two engineers who also worked as labor inspectors in the audit. The technical opinion issued by the two inspectors reinforces that the worker felt ill and had to go to the hospital many times without receiving any diagnosis. They also mentioned that they had been in contact with the hospital where the worker died and that health institution had sent them a fax informing that "the cause of death was acute bacterial meningitis and generalized infection". Also, in the same opinion issued by the engineers, the following statement was found:

In the apple thinning activity there is no direct contact with pesticides, which are applied in another phase of the crop, and since this is a middle activity, it can be supplied by an outsourced workforce. [...] the inspection from the CLT regulation standpoint is hampered, since there is no employment relationship, therefore, the establishment of a causal link between the activity and the cause of death is not clear.

There is evident effort by the civil servants to avoid (and dismiss the possibility of) causal link between the worker's death and the development of the thinning activity. The first outstanding point in the technical opinion is the auditors' statement that the workers had no contact with pesticides since they were not applied in that phase of the crop. In addition to the fact that it goes against the evidence given by the indigenous workers – that some spraying reached them – it was also a mistaken statement, since pesticides are applied during thinning: those products are used with the purpose of

<sup>26</sup> In 1999, the hiring of temporary work for end activities was forbidden, which was amended by Law n.<sup>o</sup> 13,429 of March 31<sup>st</sup>, 2017, providing for temporary work.

providing a kind of thinning called “chemical” thinning, or aiming to control the spread of pests that cause plant illnesses.

In addition to manual thinning, “chemical” thinning can also be used. It consists in the spraying of substances that can prevent flower fertilization and also drop fruits that are not well developed. Several products could be applied on the apple trees, such as products with caustic action and those with hormonal action<sup>27</sup>. Urea – which was mentioned in the evidence presented above – is one of these products that can be used in thinning and presents caustic action. However, these products are not a common choice since they do not select their targets and might provoke damage to the fruit skin, making it unappealing to the market. Another option is a growth regulator of hormonal action, such as the acetic naphthalene acid (ANA), which has a thinning effect, but does not substitute manual thinning entirely. For this reason, to make chemical thinning more effective in apple orchards, a mixture of ANA with low concentrations of Carbaryl, which is a pesticide, was proposed<sup>28</sup>. Since then, the Carbaryl – ANA mixture was widely used in the chemical thinning of apple trees, until the register of carbamate – which is the main component of Carbaryl – was canceled for this purpose for being highly toxic, mainly for bees<sup>29</sup>.

In addition to the chemical thinning being a possibility to be added to the manual thinning, we must consider the phytosanitary management which targets insects and fungi responsible for damaging the fruit and hamper its sale in the market. Most of the time, the control of such species that cause economic losses to the producers is obtained using pesticides, which might occur during the thinning period, as in the cases of spraying against Grapholite (*Grapholita molesta*)<sup>30</sup>, which attacks from fruiting to harvest, and against apple scab (*Venturia inaequalis*)<sup>31</sup>, which attacks leaves, flowers and fruit, including the youngest ones with a suitable size for thinning.

Considering the number of variables to be controlled in fruit production, which include the best product for chemical thinning, the manual thinning

<sup>27</sup> PETRI; SEZERINO; PASA, *et al*, op. cit., p. 23.

<sup>28</sup> Ibidem, p. 39.

<sup>29</sup> PETRI, José Luiz; COUTO, Marcelo; GABARDO, Gentil Carneiro; FRANCESCATTO, Poliana; HAWERROTH, Fernando José. Metamitron replacing Carbaryl in post bloom thinning of apple trees. *Revista Brasileira de Fruticultura*, Jaboticabal, v. 38, n. 4, p. 1-14, jul.-ago. 2016.

<sup>30</sup> KOWALESKI, Adalécio. Pragas. In: KOWALESKI, Adalécio (org.). *Maçã: fitossanidade*. Brasília: EMBRAPA Informação tecnológica, 2004.

<sup>31</sup> SANHUEZA, Rosa Maria Valdebenito. Doenças causadas por fungos e bactérias. In: KOWALESKI, Adalécio (org.). *Maçã: fitossanidade*. Brasília: EMBRAPA Informação tecnológica, 2004.

necessary speed, the control of fungal development and insect attacks, the deadline for thinning and bee life keeping, the productive capacity of the trees and the fruiting rates, alongside alterations in the chemical product action with weathering, among others, affirming that pesticides are “applied in another phase of the crop” is at least irresponsible.

Spraying products on the orchard might not occur exactly where the workers are, but allegations that some of those products reach them should not be so easily dismissed. The size of the droplets in a spray solution is inversely proportional to its propensity to drift<sup>32</sup>, that is, the smaller the droplet, the greater the incidence of drift. In wind conditions above those allowed to each specific solution, the sprayed product dislocation might reach other targets.

The interpretation given by the inspectors regarding the fact that there is no direct contact with pesticides in the thinning activity ignores the existence of drifting in the spraying carried out near the place where the indigenous individuals work. In fact, there are studies reporting dislocation of pesticides up to 40 meters away<sup>33</sup>.

Another point to be highlighted in the document produced by those inspectors is the cause of death based on information received directly from the hospital where Fág Mág died. The report received by the auditors did not present the author of the diagnosis of acute bacterial meningitis and generalized infection. To verify this information, Fág Mág’s death certificate was verified, and the description found on that document is as follows: “hypovolemic shock – digestive hemorrhage, uncontrollable airways and urinary tract – CIVD – disseminated intravascular coagulation – incoaculability – septicemia of unknown origin. Type of death: natural”.

In view of this, a doctor was asked for help to interpret what was written in Fág Mág’s cause of death report. He was told that the deceased was an 18-year-old indigenous worker and asked if there was a possibility that this condition had been caused by some pesticide poisoning, and he said that

<sup>32</sup>In the Aulete dictionary, the meaning of drift is “deviation of the route of a vessel or plane due to sea currents or wind”. Similarly, drift in agriculture is the displacement of sprays to another target, which is caused, in part, by the action of the wind. Some variables can be observed in order to reduce drift, such as sprayer tips, spraying angle, among others.

<sup>33</sup> Some studies have simulated spray drift under different circumstances, as can be seen in MARASCA, Indiamara; MARQUES, Renata Pereira; GERALDINE, Alaerson Maia; BRAZ, Guilherme Braga Pereira. Avaliação da deriva na pulverização agrícola. Rio Verde: Instituto Federal Goiano, 2017 e CUNHA, João Paulo Arantes Rodrigues da. Simulação da deriva de agrotóxicos em diferentes condições de pulverização. *Revista de Ciência e Agrotecnologia*, Lavras, v. 32, n. 5, p. 1616-1621, set.-out. 2008.

Well, what apparently happened was – the immediate cause of death, the acute cause was bleeding, while the base cause was sepsis, you see?! [...] Then, apparently it happened, sepsis, a severe infection. It does not specify where exactly, where the focus was, but there was a severe infection that became generalized, wasn't there?!, (miming inverted commas), this ended up generating a status of incoaculability, that is, when the sepsis becomes really severe and the blood coagulation is altered. And this generated bleeding, which was the immediate cause, do you understand? [...] Sepsis, in principle, is a bacterial infection [...] It might be a condition, yes, of intoxication, you see?! And then, such intoxication led him to the hospital. And then, at the hospital, intoxicated, he might have got an infection, but the cause of death is intoxication, if this is what took him to the hospital.

The doctor emphasized that this information is not enough to be sure of what triggered Fág Mág's infectious condition. Therefore, medical forensics and access to further information such as the patient's medical records were required to reach a definite diagnosis.

However, what can be said is that something provoked Fág Mág's hospitalization. The documents found in the inquiry under analysis point to an infection due to bacterial meningitis. The infection got to the point of altering blood coagulation and provoked hemorrhages that occurred mainly in the digestive system, causing Fág Mág's death.

Assuming that the worker got ill with bacterial meningitis while working in the orchard, some issues should be raised. First, public health should be alerted since this is a potentially epidemic contagious disease<sup>34</sup> in a place known for gathering groups of workers such as the orchard lodge. Second, there is the fact that the hospital in the municipality where the orchard is located could not provide the diagnosis of such a serious disease as bacterial meningitis. The standard procedure in such cases is to admit the individual with suspected meningitis immediately and provide specific care. If this procedure had been followed, Fág Mág might have had his life saved.

On the other hand, if it were a case of intoxication, how could that be proved? The pesticide information leaflet, as in the product called *Glifosato*

<sup>34</sup> SECRETARIA DE VIGILÂNCIA EM SAÚDE/MS. For information on several types of meningitis. s/d. Retrieved from: [https://neurologia.ufsc.br/files/2012/10/MENINGITES\\_Guia-de-Vigil%C3%A2ncia-Epidemiol%C3%B3gica-da-Secretaria-de-Vigil%C3%A2ncia-em-Sa%C3%BAde-7%C2%AA-edi%C3%A7%C3%A3o.pdf](https://neurologia.ufsc.br/files/2012/10/MENINGITES_Guia-de-Vigil%C3%A2ncia-Epidemiol%C3%B3gica-da-Secretaria-de-Vigil%C3%A2ncia-em-Sa%C3%BAde-7%C2%AA-edi%C3%A7%C3%A3o.pdf). Accessed on: Aug 10, 2024.

*Nortox WG*, for example, describes first aid procedures to be followed to help a victim of intoxication. Basically, pesticide manufacturers recommend seeking emergency medical assistance and presenting the container, label, leaflet and agricultural prescriptions, to help the medical diagnosis and prescription of the antidote that can neutralize the active ingredients of that product.

In Fág Mág's case, those responsible for the orchard did not want to take him to the hospital when he got ill and, of course, never thought of presenting the necessary material for the health professionals to help an accurate diagnosis. This suggests that the individuals mediating the relationship between the company and the workers adopt a posture of defense of the entrepreneurs' interests to the detriment of the workers' wellbeing, seeking to prevent any possibility of establishing a causal link between illness and work<sup>35</sup>.

## Final considerations

The text provides a detailed description of an arena of political struggle. On the one hand, there are individuals who represent the State, contributing to necropolitics, which allows people to handpick who deserves to receive medical care to continue living. On the other hand, there is the workforce, with their faces erased, with their humanity made up to look like just a cog in the gears of capital production.

The story of Fág Mág's death reveals how he was sent to his death without receiving any support other than from his own indigenous relatives. The process included everything from the refusal to take him to the hospital when symptoms first appeared, to the scant examinations performed by health professionals, to the arguments of the auditors, who were concerned with ruling out the possibility of a causal link between pesticide poisoning and his illness.

Every year, indigenous rural workers are recruited to harvest and thin in a variety of fruit and other crop production activities. In Brazil, between January 2013 and June 2022, 124,295 cases of exogenous pesticide poisoning were reported, of which 58,943 were unintentional. Out of these, around 20,000 occurred in agriculture, where the majority of those affected are

<sup>35</sup> VERÇOZA, Lício Vasconcellos de. *Os saltos do “canguru” nos canaviais alagoanos: um estudo sobre trabalho e saúde*. 2016. 208 p. Thesis (Sociology Doctorate Program) – Centro de Educação e Ciências Humanas, Universidade Federal de São Carlos, 2016.

men<sup>36</sup>. It is important to highlight the cases that are not reported and the profile of workers whose medical care is neglected. The racial division of labor<sup>37</sup> is a constant silencer of complaints about the conditions under which the work is carried out, especially those that put bodies that are already adrift at risk of death.

## REFERENCES

CUNHA, João Paulo Arantes Rodrigues da. Simulação da deriva de agrotóxicos em diferentes condições de pulverização. **Revista de Ciência e Agrotecnologia**, Lavras, v. 32, n. 5, p. 1616-1621, set.-out. 2008.

DELGADO, Guilherme. **Do “capital financeiro na agricultura” à economia do agronegócio: mudanças cíclicas em meio século (1965-2012)**. Porto Alegre: Editora da UFRGS, 2012.

FACHINELLO, José Carlos; NACHTIGAL, Jair Costa; KERSTEN, Elio. **Fruticultura: fundamentos e práticas**. Pelotas, RS: UFPel, 2008.

FOUCAULT, Michel. **Em defesa da sociedade**. São Paulo: Martins Fontes, 2005.

KLANOVICZ, Jó. Toxicidade e produção de maçãs no sul do Brasil. **História, Ciências, Saúde – Manguinhos**, Rio de Janeiro, v. 17, n. 1, p. 67-85, 2010.

KOWALESKI, Adalécio. Pragas. In: KOWALESKI, Adalécio (org.). **Maçã: fitossanidade**. Brasília: EMBRAPA Informação tecnológica, 2004.

LATOUR, Bruno. **Ciência em ação: como seguir cientistas e engenheiros sociedade afora**. São Paulo: Editora Unesp, 2000.

MARASCA, Indiamara; MARQUES, Renata Pereira; GERALDINE, Alaerson Maia; BRAZ, Guilherme Braga Pereira. **Avaliação de deriva na pulverização agrícola**. Rio Verde: Instituto Federal Goiano, 2017

MARÉCHAL, C. **Êg ga êg kófa tú (A nossa terra é a nossa história): território, trabalho, xamanismo e história em retomadas kaingang**. 2021. 665 p. Thesis

<sup>36</sup> MINISTÉRIO DA SAÚDE. Intoxicações exógenas por agrotóxicos no Brasil – 2013 a 2022. Boletim epidemiológico, v. 54, 2023. Retrieved from: <https://acesso.une/oo740>. Accessed on Jun 15, 2025.

<sup>37</sup> Labor racial division, according to Quijano, demonstrates how the current labor hierarchical organization is based on the idea of race, disseminated since colonization. In capitalism, such hierarchy can be observed in the fact that black and indigenous individuals are the ones to carry out the worst jobs. QUIJANO, Aníbal. Colonialidade do poder, eurocentrismo e América Latina. In: LANDER, Edgardo. (org.). **A colonialidade do saber: eurocentrismo e ciências sociais**. Buenos Aires: CLACSO, 2005.

(Social Anthropology doctorate program) – Instituto de Filosofia e Ciências Humanas, Universidade Federal do Rio Grande do Sul, Porto Alegre, 2021

**MBEMBE, Achille. Necropolítica: biopoder, soberania, estado de exceção, política da morte.** São Paulo: n-1 edições, 2018.

**MOTTA, G. S. Trabalho assalariado e trabalhadores indígenas nos pomares de maçã no Sul do Brasil.** 2020. 227 p. Tese (Doutorado em Ciências Humanas – Sociologia) – Instituto de Filosofia e Ciências Sociais, Universidade Federal do Rio de Janeiro, Rio de Janeiro, 2020.

**PETRI, José Luiz; SEZERINO, André Amarildo; PASA, Mateus da Silveira; HAWERROTH, Fernando José. Raleio de frutos na cultura da macieira.** Florianópolis: Epagri, 2017.

**PETRI, José Luiz; COUTO, Marcelo; GABARDO, Gentil Carneiro; FRANCESCATTO, Poliana; HAWERROTH, Fernando José.** Metamitron replacing Carbaryl in post bloom thinning of apple trees. **Revista Brasileira de Fruticultura**, Jaboticabal, v. 38, n. 4, p. 1-14, jul.-ago. 2016.

**POLANYI, Karl. A grande transformação: as origens da nossa época.** 2<sup>a</sup> ed. Rio de Janeiro: Campus, 2000.

**QUIJANO, Aníbal.** Colonialidade do poder, eurocentrismo e América Latina. In: **LANDER, Edgardo. (org.). A colonialidade do saber: eurocentrismo e ciências sociais.** Buenos Aires: CLACSO, 2005.

**ROSA, Rafael Dalla; NAVA, Gilmar Antônio; PIVA, André Luiz; et al.** Poda e raleio manual de tangerineira (*Citrus deliciosa* Tenore) cv. Montenegrina no Sudoeste do Paraná. **Revista Ceres**, Viçosa, v. 59, n. 2, p. 254-261, mar.-abr. 2012.

**SANHUEZA, Rosa Maria Valdebenito.** Doenças causadas por fungos e bactérias. In: **KOWALESKI, Adalécio (org.). Maçã: fitossanidade.** Brasília: EMBRAPA Informação tecnológica, 2004.

**SILVA, Maria Aparecida de Moraes; REIS, Tainá.** Em busca de um lugar de memória de trabalhadores/as rurais: constituição de um repositório digital em dois espaços-tempo. **Travessia - Revista do Migrante** -, São Paulo, n. 89, p. 7-26, jul.-dez. 2020.

**SILVA, Maria Aparecida de Moraes.** **Trabalho rural: as marcas da raça.** Lua Nova, São Paulo, n. 99, p. 139-167, 2016.

**VERÇOZA, Lúcio Vasconcellos de.** **Os saltos do “canguru” nos canaviais alagoanos: um estudo sobre trabalho e saúde.** 2016. 208 p. Tese (Doutorado

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Sociologia) – Centro de Educação e Ciências Humanas, Universidade Federal de São Carlos, 2016.

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