

## NEUROSCIENTIFIC FINDINGS THAT SUPPORT HIERARCHIC OBEDIENCE AS CAUSE FOR EXCLUDING CULPABILITY \*

### HALLAZGOS NEUROCIÉNTÍFICOS QUE APOYAN LA OBEDIENCIA JERÁRQUICA COMO CAUSA PARA EXCLUIR LA CULPABILIDAD

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#### ABSTRACT

Human behavior is a relevant topic in many areas of study, and in order to regulate it, getting a realistic and complete understanding of how it works is essential. This understanding is much better when the Law makes use of an interdisciplinary approach in the various decision-making scenarios. We argue that the Brazilian Carandiru case illustrates this importance since it brings to our attention how genuinely automatic and somehow unconscious a person can get while obeying orders from superiors. We reflect upon the scientific findings that explain this behavior and how they may influence the concept and the application of culpability. The exchange of knowledge between Law, neuro and cognitive sciences represents a necessary step towards better addressing this issue. However, in Brazil, we are still far from getting this idea to the daily juridical practice, which is why academic efforts that discuss the relevance of interdisciplinarity in criminal law are so necessary.

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## **RESUMEN**

El comportamiento humano es un tema relevante en muchas áreas de estudio, y para regularlo es fundamental obtener una comprensión realista y completa de cómo funciona. Esta comprensión es mucho mejor cuando el Derecho hace uso de un enfoque interdisciplinario en los diversos escenarios de toma de decisiones. Argumentamos que el caso brasileño Carandiru ilustra esta importancia ya que nos llama la atención sobre cuán genuinamente automática y de alguna manera inconsciente puede volverse una persona mientras obedece órdenes de sus superiores. Reflexionamos sobre los hallazgos científicos que explican este comportamiento y cómo pueden influir en el concepto y la aplicación de la culpabilidad. El intercambio de conocimientos entre el Derecho, las neurociencias y las ciencias cognitivas representa un paso necesario para abordar mejor este tema. Sin embargo, en Brasil, aún estamos lejos de llevar esta idea a la práctica jurídica cotidiana, por lo que son necesarios esfuerzos académicos que discutan la relevancia de la interdisciplinariedad en el derecho penal.

## **KEYWORDS**

Culpability, social conformity, legal responsibility, Carandiru, Banality of Evil.

## **PALABRAS CLAVE**

Culpabilidad, conformidad social, responsabilidad jurídica, Carandiru, Banalidad del Mal.

## **SUMMARY**

**1. INTRODUCTION. 2. THE CARANDIRU CASE. 3. CULPABILITY. 4. THE SCIENCE UNDERLYING CULPABILITY. 5. CULPABILITY BEFORE THE EYES OF NEUROLAW. 6. CONCLUSION. 7. REFERENCES.**

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## 1. INTRODUCTION

*Behavior* represents a topic that can be discussed within several fields of study, each of them being able to build up knowledge from a specific perspective and by their own methodologies. Divide a subject to better understand its details is super important, as it gives experts the possibility to take a deeper look at some aspects that could go unnoticed if mixed up with many other facets of the phenomenon. However, forgetting that a piece is just a part that was once cut from a bigger issue, treating it as if it was a whole, is not realistic and can lead to simplistic and sometimes equivocated and unjust perception of events.

In the case of human behavior, specially when the objective is to regulate it, a complete understanding of how it really works is crucial. This understanding is much better when the Law expands its disciplinary frontiers to make use of findings in neuroscience and psychology about the various decision-making scenarios. This paper intends to shed light on this matter with respect to the hierarchic obedience as cause for excluding culpability. We will argue that this issue is involved in a much more complex affair, and thus it must be considered in an interdisciplinary approach, specially to avoid hasty generalizations, such as the assumptions made by "most systems of law": "that healthy adults are responsible for the consequences of their own actions by default" (Caspar; Ioumpa, Keyzers & Gazzola, 2020).

We do so by presenting the Brazilian Carandiru case as an illustration of this importance, since it brings to our attention how genuinely automatic and somehow unconscious a person can get while obeying orders from superiors, as well as it makes us reflect on the application of this knowledge by judicial decision-makers. First, we expose the most important facts of the case; secondly, we discourse on culpability and how it is treated in Brazilian legislation on the matter of its exclusion. Then, we reflect upon the scientific findings, especially the ones based on the Milgram experiment and on the idea of automatic confirmation bias, that explain the behavior related to lower sense of responsibility of defendants who committed the crime by following orders. Also, we contemplate how these findings may influence the concept and the application of culpability, showing that most of the job related to attribute blame is made case by case, which lead us to focus on aspects of judicial decision-making. Finally, we present a step forward made by the Brazilian National Council of Justice on the matter of encouraging judges to have an interdisciplinary view of human behavior, making a call of action to the need of more related detailed initiatives.

We then conclude by sharing our belief that the exchange of knowledge between Law, neuro and cognitive sciences represents a necessary step towards better addressing this issue, recognizing the importance of academic efforts that discuss the relevance of interdisciplinarity in criminal law.

## 2. THE CARANDIRU CASE

October the 2<sup>nd</sup>, 1992. A riot happens in the largest prison of South America. “Casa de Detenção Carandiru” was a group of 10 buildings. The event occurred in Pavilion 9. It started as a fight among prisoners’ groups where some of them ended up killing each other. The prison warden tried to solve the situation with the help of some inmates. However, they did not get the strife eased. Together with the warden, 3 judges and the São Paulo state secretary of security failed to negotiate with the prisoners and as the events escalated, the police (special troops) were asked to intervene. The troops, 350 men, broke into the 9<sup>th</sup> Pavilion, as ordered by their commander who was sitting together with the above-mentioned judges, warden and state secretary. By the end of the intervention, 111 prisoners were dead, and some others injured (Report 34/00 - Case 11.291 - Inter-American Commission of Human Rights – Organization of American States). There are many versions about what really happened, but this is not the subject of the present work.

The many reports on what happened that day do not align, which make very difficult to the authorities to understand the whole picture and attribute adequate responsibility to any of the involved ones. In 2001 the commander of the military action was convicted to a jury of its peers, as established in the Brazilian Constitution<sup>1</sup>. The commander, convicted to 632 years in prison, appealed the verdict and was acquitted by the São Paulo State Court of Justice. After annulling the sentence from the jury, the Court understood that the commander acted accordingly to what the situation required from him.

Until 2022, among the 350 policemen that raided the prison, only 120 were indicted in a formal generic accusation, arising another questioning point with regard to its lack of precision, which together with many other unclear aspects, such as where and when each troop member entered the building and the situation they faced and the fact that the many bullet cartridges collected from the scene disappeared from the police evidence storage room mysteriously, do not represent the main issue of this study. Instead, we are going to focus on one of the arguments used by the defense: that the officers were only following orders. Their commander, Colonel Ubiratan Guimarães, was acquitted since the court recognized he was complying with his legal duties and couldn’t have acted any other way. By extension, the commander had to obey the orders, which were “brake in and end with the uprising” (Criminal Case n. 0338975-60.1996.8.26.0001 – Tribunal de Justiça do Estado de São Paulo - TJSP/Brazil).

## 3. CULPABILITY

The crime theory adopted by the Brazilian Criminal Code, despite still being a topic of many discussions among jurists, foresees a crucial element, without which the defendant might be acquitted or have a lighter condemnation: the culpability, also known as blameworthiness. According to this legislation, they whom act under

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<sup>1</sup> The Brazilian Constitution establishes, on its article Art. 5º · XXXVIII, “d”, that crimes against life committed with intent to kill must be trialed in front of a jury of Brazilian citizens.

obedience of orders, cannot be held accountable, unless the order is clearly illegal<sup>2</sup>. And sometimes the line that separates legal from illegal is not as clear as people might think at first.

This excuse for responsibility is very polemic and object of some fierce critics. It was the main argument used by members of social nationalist dictatorships, military forces and the police when complying with their duties. All of them having in common that they were pieces of the State machinery, organized in hierarchic models. As examples we can mention the Nazis (Arendt, 2016), the Guantanamo soldiers (Siems, 2011), and as aforementioned, the Brazilian massacre of Carandiru (Criminal Case n. 0338975-60.1996.8.26.0001 - TJSP/Brazil). The “I was only following orders” statement was used as the main argument of the defendants in those cases.

Even before culpability was deeper studied and systematically organized by legal systems, the “impossibility of acting otherwise” had already been considered a fair way out from it. A famous decision regarding this matter happened in 1897, when the German Imperial Court - Deutsches Keiserreich - acquitted a coachman in “The Leinenfünger case” (Yarochewsky, 2000).

“The horse that wouldn’t obey the reins” was the title given to that case. The animal was considered the sole responsible for an accident that costed a blacksmith his leg. The horse was unpredictable and tameless. When the owner of the coach business told his coachman to use that horse, he argued the horse was not reliable, but his boss threatened to dismiss him. The coachman then obeyed, and the accident happened. When judging that case, the Court took under consideration the circumstances in which the coachman was involved, showing the importance of the moment of the fact (Frank, 2002). Since then, culpability has been a topic of interest in many areas, not only in the Law, but also in Psychology, Neuroscience and Philosophy.

#### 4. THE SCIENCE UNDERLYING CULPABILITY

The former Stanford professor Stanley Milgram performed a controversial experiment<sup>3</sup> related to this issue at the beginning of 1960’s. His parents fled Germany because of their Jewish ascendance, but many of their relatives were killed during the Holocaust. That situation led Milgram to wonder why, how, and up to what lengths a

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<sup>2</sup> Brazilian Criminal Code, Decreto-Lei 2.848/1940, art. 22. If the fact is performed under irresistible coercion or in strict obedience of the order, not evidently illegal, from hierarchic superior, only the author of the coercion or the order is punishable. (Translated by the authors. Original: *Se o fato é cometido sob coação irresistível ou em estrita obediência à ordem, não manifestamente ilegal, de superior hierárquico, só é punível o autor da coação ou da ordem.*)

<sup>3</sup> Subjects were led to believe that they would be applying electroshock to another subject whenever this person responded incorrectly. The levels of the electroshock would increase together with the number of errors. The actor playing second subject would scream and cry as the shocks became more frequent and stronger. There would be a scientist in the room with subject one all the time, claiming for himself the responsibility of the outcome and remembering subject one that he was there to do that, therefore he should obey the instructions and keep on applying shocks as needed.

human being would follow an order of keeping on hurting a peer (Milgram, 1963; Milgram 1974).

The experiment disregarded the ethics of scientific research, which were not clearly set at the time<sup>4</sup> and had many systematic flaws<sup>5</sup>. Nevertheless, it has been and is still used as reference. Many tried to replicate it, correcting the methodological flaws, and making it adequate from an ethical standpoint. In the present paper we are going to concentrate on two studies performed by professor Emillie Casper (2016; 2020), from Ghent.

Her studies focused on the sense of agency, that is, “the subjective experience of controlling one’s actions”, in Casper’s own words. In the 2016 study on the matter, she identified that “people who obey orders may subjectively experience their actions as closer to passive movements than fully voluntary actions”. That finding shows the agent as an instrument on a neurological way.

The experiment involved 2 sets in which the agent inflicted some sort of loss (financial and physical) in exchange for a financial reward. The variable was the coercive element, represented by the presence of the researcher telling the agent to act as told (obeying the order). In this first study, the conclusions regarding the perception of the agent as someone who doesn’t own their own actions were drawn from “the reduced estimates of the temporal interval between action and outcome”, since free decisions were related to shorter sizes of the response decision to act.

Using EEG (electroencephalogram) to measure ERP (event-related potential), the study showed a time difference of more than 50ms, backing up the hypothesis previously proposed. Subjects also answered questionnaires regarding their perception of their own responsibility in each situation, revealing that the key aspect for such neuronal behavior seems to be *context*. The participants did not feel as much responsible for inflicting harm while obeying orders. These findings can lead us to the conclusion that the individual obeying orders distances himself from the action, due to the neurocognitive mechanisms in action.

On her 2021 study, Professor Casper revealed that most of the brain regions related to responsibility – ACC, dorsal striatum, MTG, TPJ and insula/IFG<sup>6</sup> – was mildly activated, if activated at all, when individuals were acting under orders of superiors. Those results support the idea that physiologically many people didn’t perceive their actions as doing something wrong while obeying instructions from those in an upper position. Actually, it seems that by distancing themselves from the outcomes of their actions, some individuals do not judge their own actions at all.

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<sup>4</sup> It could be said that before ethics was formally integrated into the research methodologies, the limits were established by common sense.

<sup>5</sup> As an example, we can mention that Milgram’s Experiment, in its first data collection, took place at the campus of Stanford which could be considered a form of authoritative argument itself.

<sup>6</sup> ACC – Anterior Cingulate Cortex; MTG – Medial Temporal Gyrus; TPJ – Temporal Parietal Junction; IFG – Inferior Frontal Gyrus.

This second study used fMRI (functional Magnetic Resonance Imaging) to identify the brain areas affected by what the researchers named *temporal binding*, the interval between action and outcome perception, confirming the findings of 2016. Analyzing both experiments we may conclude that individuals obeying orders of their superiors do not behave nor perceive their behavior as willingly, and therefore experience less sense of responsibility for their actions.

Hannah Arendt (2016), when closely following Eichmann's trial<sup>7</sup>, had already proposed that the perception of righteousness and responsibility was different for those working on the "final solution"<sup>8</sup>. She came up with the conclusion that Eichmann "didn't even realize what he was doing" and called this phenomenon *banality of evil*. Little knew Arendt that the brains of Nazi soldiers were probably working differently when following the commands of their superiors. Maybe not at a robotic level, but, as she develops along her book, the propaganda and all the emotions and atmosphere surrounding their leaders would somehow release them from the burden of evaluating the righteousness of their actions: distancing was the brain's response to the context.

## 5. CULPABILITY BEFORE THE EYES OF NEUROLAW

This hierarchical obedience excuse foreseen in the Brazilian system has some similarities with provisions in the criminal law of other countries, such as Italy and Spain<sup>9</sup>. However, the Brazilian standard<sup>10</sup> is extremely specific about the presence of hierarchy, and it limits that obedience to orders that are not obviously criminal. Thus, it is possible to assume that the responsibility of checking and controlling the nature of the order falls on the person who shall execute them. This assumption is often made case by case though, leaving to judges a substantial role in attributing blame or making it clear to jurors in a way that they can accurately understand the defendant's situation.

In such manner, the judge of each case, when appraising the circumstances in which obedience took place, alongside with other specific peculiarities of the crime, is the one to recognize if the illegality of the order obeyed was, in fact, that evident and even more, if the circumstances in which the defendant found himself allowed him to access all the data necessary to make that examination. They must consider the level of knowledge and education of the submissive agent, the absence of doubts regarding the situation and the authoritative power externalized by the superior. With the additional

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<sup>7</sup> In 1961, Nazi leader Adolf Eichmann was submitted to trial in Jerusalem for taking part in the extermination of Jews during the Third Reich in Germany.

<sup>8</sup> The "Final Solution" was the name given by leaders of the Nazi government to refer to the extermination of Jews.

<sup>9</sup> Spanish criminal code, article 20, item 7. Italian criminal code, article 51.

<sup>10</sup> Brazilian Criminal Code, Decreto-Lei 2.848/1940, art. 22. If the fact is performed under irresistible coercion or in strict obedience of the order, not evidently illegal, from hierarchic superior, only the author of the coercion or the order is punishable. (Translated by the authors. Original: *Se o fato é cometido sob coação irresistível ou em estrita obediência a ordem, não manifestamente ilegal, de superior hierárquico, só é punível o autor da coação ou da ordem.*)

information brought by Casper's findings, the question that arises is how the judge will add that interdisciplinary knowledge to the equation.

The examination of the "obeying orders" justification for exclusion of blameworthiness of the individual does not stop at hierarchy, legality, and brain imaging, as there is also another factor that should be considered, which is *social conformity*. Social conformity may seem a mild force to push someone into a criminal behavior, but together with other occasional elements, it becomes immensely powerful, especially when it happens in an automatic and unconscious way. Asch's experiment<sup>11</sup> is a proof of that. The fact that a considering number of individuals understand something different than the sole agent makes him think he is the exception, and without much time to reflect upon the matter he agrees with the majority (Asch, 1956). That automatic conformity may be considered as a cognitive bias (Kahneman, 2011) towards the group behavior, meaning it is a mental shortcut that simplify the decision-making process, although it might lead to judgement mistakes that would not occur if the person had more time, energy, and, in some cases, autonomy to deliberate.

In that way, to analyze someone's culpability, we must start from the assumption that the criminal is able to understand what they have done. That means that they must be mentally capable and of age, which indicates what is called imputability (Beling, 1994). That is, they are in full understanding of their will while acting. Here we are not going to discuss intentions, but malice is one aspect that is always evaluated and considered in a criminal case. To talk about culpability, we place the focus on the performance and circumstances of the action more than in its results or objectives.

The Carandiru Massacre started with a rebellion inside the most menacing pavilion of the prison where extremely dangerous individuals were kept with newly arrived ones, which explains why 84 of the 111 dead had not been convicted at the time of the episode (Criminal Case n. 0338975-60.1996.8.26.0001 - TJSP/Brazil). Unable to negotiate with the prisoners and reestablish peace at the building, the commander of the Police instructed the soldiers to invade the building and shoot as needed. Anything to reestablish peace. That order came from a commander that was inside a room with the 3 judges responsible for carrying out the sentences and the warden of the penitentiary, in constant contact with the state secretary of security over the phone (Ferreira et al., 2012). Also, along with all that, the information that the prisoners were armed came to their attention.

When examining that case, we can verify that several policemen didn't have much time to think, process and prepare to evaluate adequately that order, which may activate a fertile scenario to the incidence of cognitive biases such as the automatic social conformity. We are not discussing the righteousness of their actions; we just want to understand how free they were to manifest their disagreement and refuse to obey

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<sup>11</sup> Asch's Experiment consisted in showing a subject a picture with a few lines, and one of them was evidently longer than the others. When asked which one was the longest, the subject alone would point out the correct line. Still, when among others in a group where most of the group pointed out to another line (evidently the wrong one) the subject changed his choice in order to conform to the group. Asch concluded that in such situations the subject questions his own choice, doubts his capability of doing so or is moved by not disagreeing with the majority.



the order. In that case, freedom was not only an external aspect related to the possibility that they were allowed to disobey the order, but also an internal aspect that was generated by the heat of the moment, the fear, the stress the situation had caused and the implicit associations.

We are social beings; it means we care for how we interact within the groups we belong to. Defying the *status quo* or even just a superior sometimes can represent a motive to be excluded from a group. There will be some sort of marginalization if not some punishment (Sapolsky, 2021), as it happens with those in the military. In the Carandiru case, many policemen might have felt that sort of pressure, assuming that it would ultimately determine their career progress in the police department. We also must consider that, in most desertion cases, the individual had time to process the situation they find themselves in. That's not the case with the Massacre we are focusing on. Everything points to the belief that time was not available for the policeman.

Sapolsky (2021) also reminds us that the velocity with which a conformational behavior is processed by our brains – less than 200 milliseconds to realize the rest of the group is tending in another direction and another 380 milliseconds to adjust their own behavior – shows that social conformity is deeply rooted within humans.

Resisting the orders can be risky. During the war, the deserter Nazi soldiers were condemned as traitors and sentenced to prison or death, a situation that was only reversed in 2002 by the German Parliament; at that time, 20.000 supposed traitors had already been executed, including deserters (Cruz, 2018), as most of the military laws in the world foresees desertion as a punishable crime.

## 6. CONCLUSION

Considering all the information previously given and the available findings at the neuroscience field, it is possible to picture the circumstances leading one of those policemen in Carandiru to kill prisoners in an action of obedience. A riot in the largest prison in Latin America, with armed and extremely dangerous prisoners, an order to go inside and shoot if needed to reestablish peace given by an authority supported by five other authorities, no one else is questioning the order, all the other 349 men are not willing to disobey. Would it be feasible to question and carefully analyze the order? And most important, would the jury and/or the judge be able to recognize and consider all those elements offered here? Are they aware of their possible implications?

In the situation of Brazil, the National Council of Justice, the federal institution responsible, among other topics, for the regulation of the admission examination of new judges, has recently included some knowledge of neuroscience as part of its program. On Resolution 423 of 2021, the Council has included behavioral economics, heuristics and cognitive biases, the perception of Justice, and cognitive process of decision-making. That may represent an advance towards the understanding of human behavior from a more scientific perspective. Nonetheless, despite the academic enthusiasm that instigated this movement in the direction of interdisciplinarity, there are no other regulations about the theme so far, so judges might even get to have the knowledge,

but there is still no sufficient indication of how to apply it, which we argue is necessary as we believe more evidence-based decisions would bring fairer results.

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