YOUTUBE'S MODULATORY APPARATUS:

YOUNG CHILDREN'S PARTICIPATION IN YOUTUBE'S POLITICAL ECONOMY

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I. Abstract

YouTube is a favoured digital destination for young children between five and six years old. In contrast to accounts that celebrate YouTube as an empowering and democratising platform, this research project examines young children's interactions with YouTube using political economic and biopolitical approaches which situate children's participation in the platform as unpaid and exploited labour. The thesis employs thematic analysis drawing on 47 interviews with young children, their parents, and teachers, alongside observations of young children's usage of YouTube. The key findings are organised around the themes of happiness, attention, popularity and control, which unpack and question notions of digital labour, biopower and the attention economy in relation to the functioning of YouTube and its impact on young children's lives. Within this analysis I develop the concept of the YouTube's Modulatory Apparatus (YTMA), a strategic formation composed of the interplay of YouTube's technical components and the platform's commercial rationales. My findings suggest children's feelings, behaviour and subjectivities are influenced by a trustful, intimate and emotional rapport established between young children and the YTMA. The analysis of participants' accounts of YouTube highlights narratives that can suggest YouTube's commercial strategies or justify practices of and through its platform.

Keywords: YouTube, Political Economy, Biopolitics, Attention, Digital Labour, Control

II. Acknowledgments

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Chapter 1: Introduction

> "Expressed cynically, we can say that the Internet is one of the primary spaces for the exploitation of child labour." (Fuchs, 2010, p. 192)

When Forbes released the 2021 list of the top 10 highest-earning YouTube creators, it revealed that two of them were children, and four of the most-watched channels directly targeted children of all ages (A. Brown & Freeman, 2022). While most children are watching videos and maybe earning a few dollars a week for completing chores, these young content creators are ranked in Forbes' list of the richest content creators for 2021, with more than $28 million in earnings per year. With 2.5 billion active monthly users and $28.8 billion revenue in 2021, YouTube is the main destination of children and one of the most profitable social media platforms around the world (Iqbal, 2022). In fact, using video-sharing platforms, such as YouTube and TikTok, was the most popular activity online among children between 3 and 17 years old (95%) in 2022. Specifically, YouTube was the most widely used platform by children (89%) in 2022 (Ofcom, 2022). This points to an important fact: children are somehow heavily contributing to a significant subsection of the Internet, not only as producers but as the target audience. It is here, within this context, that the present research is situated.

Children going online at progressively earlier ages raises critical questions about how they are participating in the Internet's political economy. The digitally based political economy in which young children are currently participating provides infrastructure for value creation and capture shaped by the terms of digital companies. The changes in the political economy promoted by digital technologies have stimulated a considerable amount of research to understand how traditional capitalism has adapted to the digital context. A wide range of research has been investigating the persistence of Marxist concepts such as surplus labour, surplus value, and the intensification of traditional economies of unpaid work within social media like YouTube and Facebook (M. Andrejevic, 2009; Fuchs, 2015; Mejias & Couldry, 2019; Scholz, 2013). Beyond the mediation of the traditional paid labour, within the political economy of the Internet, the social value produced by users' interaction with content (e.g., the quantification of "views" and "likes") are promptly commodified and exploited by the capitalist economic system. This means the Internet's political economy is not based only on

the tangibility and visibility of the products it sells, but mostly on the time dispensed by its users to feed digital platforms with data. Through comments, modifications and communications, most users sustain the Internet as unpaid labourers. While young children's participation within YouTube's political economy is sometimes as paid creator labour, what is central throughout this thesis is that voluntary participation and enjoyable activities are exploited as free labour online. Within video-sharing platforms, children are putting their senses and attention to work for corporations via free access to services and content to accumulate data and profit strategically. On these bases, digital technologies have likely become one of the primary sources of child labour exploitation (Fuchs, 2010).

It is valuable to note that children's participation in the media as part of a profit mechanism is not a new concept; the idea of television audiences as a commodity, and the relationships between advertisers, audiences and broadcasters were widely discussed in the 1980s and '90s However, digital media, especially mobile devices, have taken this commodification to a completely new level. For instance, previous generations of young children grew up watching TV, an apparatus adjusted by an adult and shared with others through a single device. Mobile technology, on the other hand, is customised according to the preferences of its owner and has a range of features that permit users to be part of its content production and socially interact through the platform. Different from television, entertainment platforms' revenue is generated mostly not through data collected from users but rather on the analysis of personal data made by unrevealed algorithms, which is sold to advertisers.

This process of making a profit from user information leads to issues around the confluence of surveillance and profit, and the interference of these algorithmic strategies in young children's lives. Online, children are targeted by a multitude of monitoring devices, such as social media, wearable devices and educational software, that produce detailed data about them (Ofcom, 2022; Rideout, 2017; Rideout & Robb, 2020). The data generated by these digital technologies are often used for *dataveillance*, which may include assessing and recording details of children's appearance, social relationships, behaviour, health and educational achievements (Lupton & Williamson, 2017). The term *dataveillance* refers to information generated from data collected from people online (Lupton & Williamson, 2017; van Dijck, 2014). Currently, children are part of an intense network of surveillance from the moment their parents announce the pregnancy on social media (Leaver, 2017) until their often mandatory participation in learning analytic platforms that monitor their academic progress through cognitive and emotional learning experiences (Rientes & Rivers, 2015).

While individuals may choose to engage in self-surveillance when using self-tracking devices and apps, less consensual dataveillance practices taking place in social media platforms are concerning, as they collect and store data that are exploited and profited from (Mark Andrejevic, 2013; Fuchs, 2014; Lupton & Williamson, 2017) without taking into consideration the impacts of these commercial decisions on children's opportunities. YouTube tends to categorise users corralling young children into a controlled space "where a more monolithic category of 'child' or 'kid' viewership can be codified and marketed to within the constraints of the app" (Burroughs, 2017), which results in limiting their content repertoire online to what is profitable and engaging.

The categorisation of children on YouTube and the modulation of their attentional behaviour to keep them in profitable spaces on the platform, becomes rendered to a biopolitical logic that manages to control subjects through a disciplinary "power over life" (Foucault, 2003, p. 135). Social media like YouTube have different strategies to potentialise data collection practices that include not only the algorithmic customisation of content, but also the design and interface of the platform. This assemblage of features gives form to what I call the YouTube's Modulatory Apparatus (YTMA). Within the YTMA, different tactics work together to not only exploit value from children's uses of the platform, but also to seduce them to stay longer online in order to increase data production. This process of luring children to stay on the platform happens especially through tools like the recommendation of videos and thumbnail video design that captures their attention through a constant invitation to interaction. The mobilisation and commodification of human capacities of attention has been studied for decades now, and although, in general, attention economy theory defines attention as a scarce but quantifiable commodity (Marazzi, 2008), I argue that *attention* is a form of *biocapital* in the sense that it is a human feature that can be used to commercially discipline users and normalise practices around social media. For instance, digital visual technologies like YouTube operate directly on the attentional behaviour of individuals when they create new perceptive models and new flows of visual information (Crary, 1992). This biopower that captures attention and starts to govern life itself is what rules biopolitics, and this cannot be dissociated from the capitalist economy (Foucault, 1998).

Digital technologies have indeed brought new possibilities to domains such as education and health. Some educational apps have proved to be useful in teaching contexts and social relationships, as well as being helpful in addressing health problems like cognition disorders. For instance, YouTube has proved to be a useful learning resource to improve young

learners' English skills (Listiani & Suwastini, 2021) and the game Pokemon Go has increased the daily physical activities of those using it (Althoff, White, & Horvitz, 2016). However, it is important to consider and examine the underlying political economic models through which these applications and services operate in order to grasp elements of their functioning that are not necessarily immediately obvious, specifically to the children who use them.

Research and mainstream policy involved with children's wellbeing does not properly support the rights of children online, and important issues concerning children's practices on the Internet are left to parents. The Internet is a product of society promoted by media and advertising companies. Although often unintended, the promotion of individual rights and autonomy can result in children and caregivers making poor choices often because of insufficient or misleading information (S. Livingstone, Haddon, & Görzig, 2012). Even though there is a large body of research into children's activities online, especially focusing on digital technologies, little attention has been paid to children between zero and six years old within the political economy of digital media. A reasonable amount of research has been published regarding digital labour and biopolitics, but there is a lack of knowledge about how these theories apply to children.

The vulnerability of young children online makes them susceptible to potential risk factors that should not be overlooked. This research investigates the role of children, and their understanding of this role, within the political economy of social media. The extent to which caregivers are knowledgeable about the models of dataveillance and corporate profit-generation that occur within this digital environment was also investigated. This research merged critical and empirical analyses of the virtual context and discursive contents through interviews and observation. Ultimately, this work aimed to examine the multifaceted and fascinating relationship between children, caregivers and social media. Distinctively, it integrates multidisciplinary approaches to theory along with empirical research that brings to light the implications of young children within profit-oriented social media. This research is not *technophobic*, but it does question the uses of technologies when they involve children under the age of six.

1.1 The Research Questions

Twenty-first-century digital technologies are impacting childhood in unforeseen ways, which create public anxiety and concern, especially when related to children's wellbeing. The new

digital world comes with advantages and risks, e.g., the benefit of expanding children's social world with new online friends could also carry the risk of meeting a malicious stranger; and watching videos can be a source of useful knowledge or an escape from reality when the user is withdrawn into inactivity and fantasy. Current discussions on the benefits and harms experienced by children online are valid (Kalmus, 2009; S. Livingstone & Haddon, 2009) but it is important to go beyond the content and the activities themselves. Now we must understand the political and economic system operating under those digital technologies, as we may be missing key information that would allow us to understand children's role within the Internet's political economy.

This research starts from the premise that, like adults, young children are part of the digital labour on social media. Indeed, the political economy of the Internet provides a broader context in which to understand young children's engagement with social media as part of the platform's profit mechanisms (Fuchs, 2014; K. S. Gregory, J., 2021; Antti Paakkari, Rautio, & Valasmo, 2019; Scholz, 2013; T. Terranova, 2013). However, this body of research lies not with the narrative construction of digital labour alone, as this is a subject already explored to a considerable extent by scholarly investigation. My work concerns young children experiencing such profit-oriented environments like YouTube. In particular, I examine how children's experiences are shaped not only by the YouTube platform's commercial interests but by the knowledge caregivers have about the political economic scenario and how this knowledge informs their decisions without leaving behind the biopolitical impacts of YTMA on users' subjectivity.

Consequently, this thesis explores the relationships between children, caregivers and YouTube, as they come together through different perspectives. In doing so, I aim to address a lacuna in the studies of digital labour, biopolitics and children online by considering young children's participation in the political economy of the Internet. Given the centrality of young children's participation in the YouTube platform, my research explores participants' experiences on the platform, ensuring that children remain at the centre of the analysis even through caregivers' considerations. Doing so allows me to extend the current debate on children online (Campbell, 2018; Federal Trade Commission [FTC], 2019; S. Livingstone & Haddon, 2009; S. Livingstone & Third, 2017; Vandoninck, 2012) by considering more explicitly the relationship between young children's practices on the video-sharing platform and their reported experiences within YouTube's political economy. Specifically, the research questions are interested to understand how young children participate in YouTube's

political economy as digital labour, including how the platform affect the actions, behaviours, and narratives of young children.

The first research question is: How do young children participate in YouTube's political economy as digital labour? This question explores how young children experience YouTube's commercial strategies in producing value for the platform as paid and unpaid labour. As such, it was crucial to investigate how young children contribute to keeping the YouTube platform alive through their labour: watching videos, subscribing to channels and sometimes making the jump to becoming content creators. It was also important to understand the role of YTMA in the way children and caregivers navigate and make choices on the platform.

The second research question is: How does YouTube modulate feelings, behaviour and the subjectivities of young children? This question was specifically designed to investigate the modulation of children's experiences and subjectivity. It was also important to understand the role of the YTMA in the way children and caregivers navigate and make choices on the platform and, specifically, how the YTMA controls young children's navigation and influences their lives according to YouTube's commercial rationales. I explored children's feelings and considerations about tools designed to control their attentional behaviour on YouTube and caregivers' perspectives on the impact of these attentional strategies on children. For instance, in investigating the biopolitical and political economic topics, I aimed at things like having a conversation about children's feelings when they need to disconnect and caregivers' knowledge about YouTube's profit mechanisms. The commodification of human capacities of attention and the influence of content creators on children's subjectivity are important aspects of the YouTube platform and were the most prominent themes in my dataset.

The third and final research question is: How do caregivers' experiences and knowledge about YouTube's political economy influence children's uses of the YouTube platform? Through this question, I sought to investigate how parents and teachers perceive the relationships between children's participation on video-sharing websites and the influence of these understandings on children's uses of YouTube. Considering young children's vulnerability online, investigating the extent to which caregivers can protect children online was paramount. Based on the discussion around the participation of digital users in the

production of data, I investigated caregivers' knowledge about YouTube's political economy and how this knowledge influences the way they manage young children online.

1.2 Thesis Structure

The Literature Review chapter provides the theoretical framework and literature that situates the analysis presented in the experimental research chapters (i.e., Chapters 4, 5, 6 and 7). It explores the ways children online are investigated in contemporary western society, along with how theories of political economy and biopolitics are currently approached. I draw attention to two main points: children's participation in the labour force within an algorithmic system that modulates their experiences through attentional mechanisms, and the relationships of power and labour happening within the Internet's political economy (Foucault, 2008; Fuchs & Sevignani, 2013; Hardt & Negri, 2006; Antti Paakkari et al., 2019; Scholz, 2013; Srnicek, 2017; B. Stiegler, 2010). Later in the chapter, I outline the space where my research takes place: the YouTube platform. By exploring its owner company, Google Alphabet, and its functionalities and metrics, I bring YouTube's political economy and studies of children online together. In particular, I emphasise the relations between the way YouTube operates and children's practices on the platform as an indicator of capital accumulation (Bishop, 2018; Burroughs, 2017; Lupton & Williamson, 2017; Antti Paakkari et al., 2019).

Chapter 3 constitutes the methodological framework applied in this thesis. In this chapter, I explain the rationale behind the chosen methodologies (semi-structured interviewing and observation) and the research decisions taken to allow different voices to be heard on children's experiences on YouTube. In conducting the research, I adopt a constructivist approach, which deals with the assumption that all knowledge is socially constructed and contingent upon human relationships (Crotty, 1998). By using thematic analysis, I identified predominant themes within the dataset without denying the active role played by the researcher. The themes captured important aspects of the dataset in relation to the research question (Braun & Clarke, 2013). In other word, in this chapter, I endeavour to unpack the choices made in exploring children's relationships with caregivers and the YouTube system and the analytic process of interpreting the dataset.

Chapters 4 through 8 give form to the analytical body of this thesis. I move beyond the methodological discussion to approach the four main themes found throughout the research

findings. Consequently, each chapter focuses on a specific theme related to children's experiences on YouTube. Together, these chapters consider the impacts of the YTMA on young children's practices and subjectivity.

This research approach was designed to explore the various feelings the YouTube platform brings up in young children. However, across all interviews, the predominance of *happiness* as a relevant emotion on YouTube was clearly detected. In Chapter 4, I explore YouTube as young children's "happy place". Children are routinely involved in practices around watching and producing videos that they understand as pleasurable and familiar. Indeed, watching videos and self-display have become more common in many young children's lives (Fedele, 2018; Ofcom, 2017; Pants, 2017). My findings show that children are happy mainly because they feel safe and protected by YTMA. Although some children have had unpleasant and harmful experiences on this platform, they mostly defined YouTube as a comfort and safety zone. This points to YouTube as a social good that carries the promise of happiness (Ahmed, 2010a). Children's positive intimacy with YouTube encourages the penetration of this platform into parenting and the public space of schools and normalises young children's participation within YouTube's political economy as paid and unpaid labourers. The omnipresence of YouTube and its holding company, Google, in New Zealand schools is probably symptomatic of teachers' endorsement of the benefits of digital technologies. This presence of commercial institutions in the educational context brings capitalist interests to the classroom and can mitigate the individuation of critical rationality (B. Stiegler, 2010).

In Chapter 5, I consolidate *attention* as one of the main themes present throughout my dataset. I explore how the emotional state of happiness has important implications for the way YouTube comes to dominate the attention of young people, parents and teachers. The fact that YouTube "knows" exactly what they want to watch is valued by its young users and points to the participation of the platform mechanism in the modulation of children's attention online. The excitement of "being surprised" by YouTube algorithmic tools like the recommendation section leads children to an endless watching process that only finishes when an adult interferes. However, what became clear through my analysis is that these same tools that build this close relationship between users and YTMA are responsible for children's tantrums and misbehaviour. Social networking functions seem to reinforce online compulsive behaviour (Bérail, Guillon, & Bungener, 2019; Turel & Serenko, 2012) and this is consistent with some participants' conduct on YouTube. In this sense, YTMA seems to have a detrimental impact on children's behaviour and emotional states, which contradicts the

happiness reported by children when they talk about the platform. Although this contradiction concerns some parents and teachers, the benefits of this online "hypnosis" are often argued as being convenient as a parenting tool (Arrow & Finch, 2017) or for keeping children engrossed in a subject for longer. This means, beyond this dynamic of the cons and pros of the YouTube platform, what I bring to light in this chapter is the ways YTMA interferes with young children's attention, which brings about the commodification of human capacities of attention and the importance of understanding the processes of commodification through the relationship among bodies, cognition, culture and economy (Crogan & Kinsley, 2012).

Beyond YouTube's commodification of children's attentional capacity, Chapter 6 investigates how these processes also provide a means for self-commodification in exchange for *popularity* (Goodwin, Griffin, Lyons, McCreanor, & Moewaka Barnes, 2016; Smith, 2014). Within this wider culture of online videos and visibility, YouTube has become the preeminent form of user-generated content, and "I want to be a YouTuber" is a common saying across the subjects. To be a YouTuber is an established desire confirmed among participants, which is consistent with Fedele et al.'s (2018) research with older children (9–13 years old). Young children's willingness to be YouTube creators seems to be mainly because of the parasocial relationship established between them and their favourite content creators. This nonreciprocal relationship creates an illusionary experience where children feel they are interacting with presenters, which often results in children wanting to follow these creators' steps toward working for the platform as paid labour. Additionally, this asymmetrical relationship between children and content creators can increase their time on the platform, models their behaviour, and influences their desires outside the screen (Bérail et al., 2019; Ferchaud, J., S., & LaGroue, 2018; Rosaen, 2008). Some children, for example, speak and behave like their favourite content creators, which some parents see as a sign of improvement in their social skills. Popularity is also transmuted through the number of views into a quality metric for caregivers. Caregivers are guided by this popularity measure to choose content on YouTube. The number of views is often valued as an indicator of quality and safe content for young children. This relationship between views and quality reveals that popularity leads to more popularity and can establish a power relationship over the choices of YouTube users not only on the platform, but also outside it. Along with children wanting to be admired like YouTube presenters when they grow up, children want to have the products these creators use and endorse on their videos. This means the choices children make beyond the screens are influenced by their parasocial relationships with YouTube creators. I argue, therefore, that

YouTube is a subjectivation force that works as a system of reproduction of society and the production of life (Foucault, 2007; Mills, 2017; Negri, 2017) when it normalises consumption and self-display by influencing children to be in front of the screen now and inside the screen later.

Investigating the relationship between young children and caregivers with YouTube revealed important dimensions of happiness, attention and popularity. However, this did not come without the feeling of powerlessness, which was particularly felt by parents. In Chapter 7, the final analytical chapter, I explore *control*. Control is constantly emerging from participants' accounts with a wide range of perceptions towards it. By bringing the discussion around to human and nonhuman agency (J. Bennett, 2005; Cook, 2003; Taffel, 2019) and societies of control (G. Deleuze, 1992), I investigate YouTube as a controversial agency space that modulates control according to its commercial interests. For young children, YouTube's friendly design offers the control of strategically developed tools to attend to their demands. Young children can easily navigate through YouTube, skipping undesired recommendations and replaying what gives them joy. This kind of excitement was also common among teachers. For teachers, YouTube is a useful tool to control the classroom. On the other hand, parents often speak of feeling trapped in a valued social practice that offers both advantages and unpredictable drawbacks. Participants described a range of perspectives about YouTube as an 'inevitable' pleasure that lives on a thin line between happiness and powerlessness. This feeling of being stuck in unpredictable situations often translates into parents' pursuit of control in order to protect their children online. While searching for control, parents come up with diverse strategies for placing boundaries in front of the screens that go from monitoring closely to counterproductive actions.

In the concluding chapter, beyond reflecting on the methodological approach employed in the research and how my research extended the current academic literature, I answer my research questions. I consider the intersections between the themes and how they address my research goals. By considering the interplay between happiness, attention, popularity, and control, I shed light on the formation of the YTMA and the findings related to its agenda and strategies. Specifically, I explore the relationship between children's reported intimacy with the YTMA through their attentional behaviour and the role of popularity in the way they use the YouTube platform. In this process, I discuss the interplay between agency and control in the way participants relate to YouTube. While a few parents have attempted to resist to the uses of YouTube by their children, most caregivers' contributions reveal a discourse that

emancipates YouTube from responsibility for children's experiences on the platform. This points to a complex mechanism that extrapolates children's experiences on the platform and informs caregivers' decision to allow children online despite harmful experiences and influences. While one can say children have the right to enjoy the pleasures and opportunities available online, including the opportunity of risk-taking, I argue that much more needs to be done to ensure caregivers have the necessary knowledge to consciously support children's experiences online.

Chapter 2: Literature Review

In this chapter, I critically review the conceptual advances that have been made in theorising people's participation in the broad political economy of the Internet. This chapter's basic premise lies in the fact that, in order to investigate young children online, much can be gained from reviewing conceptual developments made in the study of political economy along with biopolitical theories. Studies of mediated labour and media consumption, along with biopolitical theories that put "living being" at the centre of political and economic strategies (Maurizio Lazzarato, 2006b), offer a wider view of the relationships in play when children are producing value on YouTube. In reviewing key literature on political economy and biopolitics, my primary goal is to present a broad theoretical overview, while focusing on core concepts that are important to consider when investigating children online, such as digital labour, the attention economy and control. After doing so, my secondary goal is to apply the theoretical approach developed in this chapter to YouTube in order to understand how YouTube reproduces broader biopolitical and political economic rationales and practices. As it is the preeminent video-sharing platform among young children, I investigate the ways YouTube modulates its users' experiences through commercial strategies, thereby interrogating how young children are participating in the platform's digital labour. To complete this task, in this chapter I offer the *YouTube's Modulatory Apparatus* (YTMA) as a key concept that I will apply and develop throughout the thesis.

There are many ways that a project aiming to understand young children's biopolitical participation in the political economy of the Internet could begin. I decided to start the first section by giving an overview of research on young children online before approaching the main conceptual theorisations mentioned above. Attention is drawn to the lack of research on children online as part of the Internet's political economy. A considerable amount of research has been conducted to investigate the ways children use digital technologies, but little research thus far has sought to examine children's biopolitical participation within the Internet's political economy.

After establishing this gap in the literature, I define my theoretical approach, exploring political economy and biopolitics before moving on to investigate the Internet's political economy. First, I consider political economic critiques that stress the media's economic functions in coordinating consumption with the needs of production in the industrial age

(Adorno, 1975; Garnham, 2000b; Horkheimer & Adorno, 2002; Smythe, 1977). Second, I visit Foucault's biopolitics to present how it can expand the Marxist approach to power relations within the political economy. The political economy that Foucault talks about addresses the whole range of power relations established within the "*social body*" (Maurizio Lazzarato, 2006b, p. 103) that goes beyond the relationship of capital and labour and explores different dimensions of power impacting individuals (Foucault, 1980). I argue that Marx's and Foucault's theoretical insights complement each other when the aim is to investigate young children embedded in a context where commercial interests are organised through a strategic coordination of forces that considers individuals' subjectivities.

Towards an understanding of the political economy of the Internet, I critically explore digital labour theories and concepts that describe the shifting of work processes from the factory to society, what Italian autonomists have called "the social factory" (T. Terranova, 2000, p. 74). Beyond children being an important commercial target for decades as consumers on traditional media, on digital media children also become producers. Children are, voluntarily or involuntarily, producing value online when their actions, interactions and creations are expropriated and exploited by digital companies. This happens mostly because labour within the digital media is predominantly unrecognisable as work. Working in digital technologies is most of the time recognised as playing (Mark Andrejevic, 2013; Hardt & Negri, 2006; Kosnik, 2013; Nakamura, 2009; Scholz, 2013; T. Terranova, 2013). On social media like YouTube, users often conceive their free labour as pleasure, "simultaneously voluntarily given and unwaged enjoyed and exploited" (T. Terranova, 2004, p. 74).

After approaching digital labour studies, I make a transition to biopolitical theories interested in the commodification of human capacities of attention and the subjective experiences being modulated by political economic rationales. I draw on the conceptualisation of the attention economy to critically understand the centrality of the human being and the commodification of individuals' cognitive capacities in the contemporary media context (Crogan & Kinsley, 2012; Hayles, 2007; B. Stiegler, 2010). Because users' attention is controlled online by different stimulus, the notion of the attention economy led me to include the investigation of control in my theoretical framework. The investigation of control encompasses the techniques of power in place that are not directly forced on individuals (G. Deleuze, 1992). Rather, it is a modulatory way of control that offers to individuals the freedom to produce, while their production follows the logic of "intangible forces" (Hui, 2015, p. 75). These theories will

support my investigation of how children's experiences and subjectivities are modulated by YouTube.

As I also present in this chapter, the relationships of production and consumption established between individuals and digital platforms collectively and cooperatively are happening at home and in schools. Digital companies are a common presence within homes through devices that help with chores while collecting personal information to customise services according to individual needs. Similarly, teaching and learning practices are also currently embedded within digital platforms. Government organisations such as public schools institutionalise data collection and learning to support tasks like calculating students' scores and for facilitating communication with staff, students, and caregivers. Children are a massive presence in these highly digitalised environments and their participation in commercial practices needs investigation. Because YouTube is a strong commercial actor at homes and schools, this video-sharing platform is my object of study to analyse young children's experiences within the political economy of the Internet.

The last sections of this chapter outline the YouTube platform and the definition of the YTMA concept, which is central to my thesis. It is important to introduce the functionalities and the commercial relationships happening within the YouTube platform's political economy to later comprehend children's feelings and behaviour related to these commercial practices. This includes defining the constitution of YouTube payment metrics and how these parameters are demarcated by its relationship with advertising companies. The investigation of children's participation in YouTube's political economy includes the understanding of the YTMA, which I define in this chapter as a group of strategies and rationales commercially oriented to discipline and modulate children's experiences and subjectivity through a modulatory apparatus. This detailed examination of YouTube's commercial strategies will act as an important precursor to the analysis of children's experiences on YouTube presented in Chapters 4, 5, 6 and 7.

2.1 Research on Children Online

While children play an important role within the Internet's political economy, scarce attention has been paid to young children producing value on social media and the impact of this political economic participation on their lives. Research on children within the political economy of the Internet is limited, and little research thus far has sought to examine young

children as part of the digital labour force and the biopower operating over them through social media. Most of the research on children online is focused on screen uses, possible risks and gains from these experiences, and the health impacts of digital technologies on young children.

A large body of research exists about the role of media in children's lives (Kabali et al., 2015; Marsh et al., 2005; Rideout, 2017; Rideout & Robb, 2020; Zack, 2009). In particular, research has examined the effects of media content, such as the educational benefits of literacy apps (D'Agostino, Rodgers, Harmey, & Brownfield, 2016) and the risks of privacy violation and exposure to harmful experiences (Cook, 2003; D'Agostino et al., 2016; Leaver, 2017; Lupton & Williamson, 2017; Radesky, 2018, 2020).

Some of the most significant international research about children online considers the importance of balancing the risks and benefits of children on social media and respecting their will to be part of the virtual world (Chaudron, 2018; Kalmus, 2009; S. Livingstone, 2009; S. Livingstone & Third, 2017; Rideout & Hamel, 2006; Rideout, Saphir, Pai, & Rudd, 2013). Some of these studies have been investigating children online for more than a decade in dozens of countries, which has brought to light important findings related to children's expectations and experiences in different contexts. For instance, Livingstone's investigation points to the importance of considering children's voices before making decisions about what is relevant and what is harmful to children in the digital environment (S. Livingstone & Bovill, 2001; S. Livingstone & Haddon, 2009; S. Livingstone et al., 2012; S. Livingstone, Smith, P., 2014; S. Livingstone & Third, 2017). Her research with multiple collaborators explores how children develop coping strategies to navigate the Internet despite risks from harmful content they may encounter: "we argue that protection must be balanced against enabling children's rights, pleasures and opportunities, including the opportunities for risk-taking" (S. Livingstone et al., 2012, p. 3). Livingstone's work includes edited books where she gathers different authors concerned with children's future online and provides extensive evidence-based findings on children's engagement with digital media and media literacy.

Most of these studies have drawn on insights that consider the Internet's part of social changes, rejecting any form of analysis that considers the impact of the Internet political economy strategies and practices on children online. These investigations use concepts from social theory, psychology and sociology to identify children's experiences, voices and actions, to determine what happens in their lives first so they can recognise the power of

institutional actors later (de Haan, 2009; Kalmus, 2009; Ponte, 2009). They explore the relationship between children's agency and the structures that enable some actions and inhibit others. These studies consider potential risks for children online, and they are wary of moral panics over risks. While these investigations provide the necessary knowledge to celebrate children's opportunities online, without the political economic considerations one can end up exaggerating children's agency and failing to address the online and offline constraining actors such as the corporate owners of the platforms, mediating their relationships and learning practices.

Another important point to address relating to research on young children online is the concentration of research on children over eight years old. Age correlates with more use of the Internet and can also impact the relationship between psychological wellbeing and Internet use (Shapira, 2000). This is probably what motivates a concentration of studies on possible risks and harms online for children online over 8 years old (Alfredas, 2012; S. Livingstone, Smith, P., 2014; Vandoninck, 2012). This means younger children are an under-investigated cohort of Internet users, which is one of the main reasons my research is focused on children between five and six years old.

Children's vulnerability online also motivated several investigations on children's rights within the digital environment and new regulations to protect them online. The participation of children in social media raises many important questions about children's rights. A multitude of digital technologies have been collecting data from children, and children's advocates and researchers are still struggling to understand the impacts of these interactions on children (Burroughs, 2017; Leaver, 2016, 2017; Lupton & Williamson, 2017) as I discuss later, in section 2.4.

Although the research mentioned above raises genuine and important subjects to investigate, I claim that the participation of young children as digital labour on platforms needs more attention and care from intellectuals and researchers. Most existing research is disinterested in economic power relationships and tends to analyse the Internet as a medium characterised by flux and dynamism. Such a methodological framework dislocates the Internet from historical economic conditions and leave behind commercial interests operating on children online.

2.2 Political Economy and Biopolitics

Against a body of research into children online that does not recognise the political economic constraints of the Internet, my theoretical approach endeavours to advance a narrative that one can only understand children's experience on digital platforms if its political economic circumstances are examined along with dimensions of power that are often overlooked. This thesis will approach its findings by engaging with the way capitalist rationales and practices affect participants along with the study of the dynamics of power present in children's relations with digital technologies. I present a synthesis of these theoretical approaches in order to draw out the salient features of the study of political economy and biopolitics. These theories structured and influenced the development of the theories I present in the next section, where I approach the political economy of the Internet, such as digital labour, the attention economy and control.

The Political Economy of the Media

The terrain of contemporary culture and media is so vast and the debates over media so complex that one must choose some perspectives and theories to the exclusion of others (Durhan, 2006). Because I am interested in understanding the role young children play as digital labour within the Internet, I chose an approach to media that focuses on the system of production and distribution. The political economic approach to media is more concerned with modes of production and distribution of the media and less interested in interpreting content (Durhan, 2006). This approach highlights the fact that culture takes place within a determined political and economic system permeated by relationships between agencies and individuals. These relationships are informed by the dominant mode of production that follows the logic of commodification and capital accumulation. Media and cultural production are mostly oriented by dominant relations of production like the profit imperative and forces of production such as media technologies. This means that the product of culture and its artefacts are to some extent shaped by the capitalist logics and ideologies (Durhan, 2006), and I am interested in investigating young children within this context.

The political economic approach opens up studies of culture to the role of technologies in cultural production and distribution (Durhan, 2006). It questions the participation of technologies in people's lives as mediators of the political economy and highlights the connections of media with economic actors. It engages with how the economic system of

production determines cultural media, such as TV, laptops and magazines, calling attention to the limits enforced by their commercial structures.

The field of political economy has various schools and traditions. Scholars who identify as political economists of the media generally take a critical approach based on Marxist traditions (Meehan, 2013). Non-Marxist scholars researching media seem to prefer terms like media economics, screen industry studies or production studies (Holt, 2009; Schatz, 1988). Scholars in these non-Marxist traditions tend to "erase the larger context within which media industries, corporations, production, employment, audiences, fans, and artefacts exist: capitalism" (Meehan, 2013, p. 40). In contrast, political economists take on the task of integrating political economy with critical studies to engage with the ever-evolving media context.

Through the 20th and into 21th century, capitalist transformations have resulted in different Marxist critical analyses of media, communication, and culture (Fuchs, 2009). In the 20th century, while culture theories emphasize how humans produce, reproduce, and consume media and culture (Gramsci, 2009; S. M. Hall, 1978; Williams, 2003), others focused on aspects of media structures and ideology (Adorno, 1975; Horkheimer & Adorno, 2002). In contrast, authors like Dallas Smythe and Nicholas Garnham proposed a change in perspective that moved away from the exclusive focus on media ideology to a critical political economic approach that brought the economic functions of the media to light (Garnham, 2000a; Smythe, 1977, 1984). There are also broader approaches that consider the different roles media have in capitalism, focusing on different dimensions such as media (Fuchs, 2009) as a means of advertising and production and media as systems that reproduce human labour (Kellner, 1999; Marcuse, 1973; T. Terranova, 2000). Although there are differences between certain Marxist media and cultural theories, they all focus on the critique of class and capitalism to interpret and change contemporary media (Fuchs, 2009). The political economy of the media approach offers an important base for my analysis of children's experiences online because it brings to light commercial interests operating on them online. It approaches media primarily as industries, as commercial organisations (Garnham, 2000a). It is interested in the way media produces surplus value through the production and consumption of commodities (Garnham, 2000a, 2004).

Dallas Smythe is one of the authors who opened the pathway to later studies which consider the media industries not only as entertainment broadcasters but as the producers of audiences

to be sold to advertisers. In "Communications: Blindspot of Western Marxism" (1977), Smythe argued that scholars' attention was focused exclusively on content and ideology, and an important aspect of media economy – the material ground through which media's content was distributed – was being disregarded. Smythe developed the concept of the "audience commodity" to highlight the audience's role in the media industries, and to help us understand how the production of value – the transformation of use values into exchange values – within commercial media occurs (Dolber, 2016). According to Smythe (1977), the media industries are "the principle producers" of the audience commodity along with the audience research industry (p. 5). The "demographics" reports produced by research companies offer audience specifications such as age, sex, income level and family composition to media producers. The media producers sell the target audience according to the advertisers' needs (p. 4). That is, content is the decoy that captures the attentive capacities of the audiences to watch advertisements and create demand for advertised goods (Durhan, 2006). The relatively low cost to the audience of consuming media is incompatible with the high costs of producing media content. This inconsistency is equalised by advertisers' financial contribution which permits them to display their products to the media audience. Although Smythe's theory is criticised for disregarding the problem of ideology entirely (Murdock, 1978), his work brought to light the role of the economics of commercial media and the importance of understanding the commodification of the audience in critically investigating young children within the political economy of the media.

In this sense, the propaganda model is probably one of the best-known works of political economy of the 1980s. It approaches the monopolistic control over the media by the dominant elite. It focuses on "this inequality of wealth and power and its multi-level effects on mass-media interests and choices" (Herman & Chomsky, 1988, p. 1). The propaganda model aims to understand how money and power influence media decisions to serve the private and government sectors' interests. It suggests that media content passes through a series of filters to arrive at the definition of what is newsworthy. These filters are oriented by media ownership and profit to narrow down the number of possible news items and imposing limits on what can be published. The model emphasises that propaganda campaigns are defined by the government or by media corporations, and the model would help to "anticipate definitions of worth" (Herman & Chomsky, 1988, p. 26).

While political economy of media can be useful to analyse the media infrastructure and its effect on young children, it can have some limitations if used as a single perspective (Durhan,

2006). The political economy of the media tends to consider media and culture as a reflection of the dominant economic system. This theoretical approach considers that culture is mostly a result of the media economic interests that control the technologies used for cultural production. Based on this context, the best practices in terms of maximising profit will dictate the cultural format and content (Durhan, 2006). For instance, the production of a song needs to fit in three to five minutes to be able to be reproduced by the radio distribution system. That is, this cultural production will need to follow structured rules and conventions imposed by commercial institutions (Durhan, 2006). In this sense, Nicholas Garnham (1986) emphasised the need to elaborate a "political economy of culture with a political economy of mass-communication" (p.17). He argues that the traditional historical materialist theories are inadequate to deal with "real practical challenges" because they tend to be "reductionist explanations which favour either a simple economic determinism or an ideological autonomy" (p. 17).

Media and cultural studies are permeated by discussions and accusations that political economic critique focuses too much on the materialist analysis of the media and fails to address the ideological processes or that cultural studies focus too much on the ideologies and subjectivities of cultural production and fail to consider the economic imperatives influencing these knowledge fields (Durhan, 2006). On one hand, cultural studies are criticised for not considering the historical materialistic aspects where they are inserted. The critiques stress the fact that is only possible to adequately understood ideological apparatuses when they are related to their position in a capitalist system and their economic history (Murdoch, 1979). On the other hand, while it is undoubtedly important to focus attention on how media manufacture audiences and sell them to advertisers to understand how media structures their economic system, often political economic theories fails to account for processes such as the role of the state or the cultural commodities exchanged within the same economic context (Garnham, 1986).

The claims made in the 1980s about the need to review the limitations of political economy are even more urgent in the current highly digitalised political economy scenario. Data have become the raw material of capitalism in the 21st century, and the main source of data is media communication (Fuchs, 2009). The production, circulation, and consumption of signs are part of the 21st century, which locates the individual in general as a critical component of the digital economy. There are debates on the exploitation of the unpaid labour of Internet

users and the commodification of users' data (Fuchs, 2012; Mejias & Couldry, 2019; Scholz, 2013). The economic demands that emerged with the digital economy inaugurated a field of possibilities for new experiences of visual representations through media, which I will explore further on in this chapter.

Because of the persistence of some limitations of the political economic approach to investigating the more complex digitalised media context, my theoretical framework goes beyond the materiality of the media to include the power relations between different actors on digital platforms. While it investigates the media companies' commercial interests and the technologies limitations, it is interested to understand how ideologies and narratives are reproduced through different actors, human and nonhuman. In this sense, this thesis views the investigation of the relationships of power that discipline the production and regulate individuals as imperative for a complete analysis of children's experiences online. To fully grasp the effects of media over children, I decided to adopt a biopolitical approach that does expand the notion of ideology beyond material grounds to understand the broader power relation dynamics involved in these processes. To make this decision clearer, the next section present how the Marxian concept of ideology was advanced through the history to construct my argument for my choice of adopting the theory of biopolitics to integrate my theoretical framework.

From Marxian Ideology to Foucauldian Biopower

Viewing children's participation in the political economy of the media from a perspective that takes into consideration the analysis of the system of production and reproduction, may reveal how media reproduce the dominant corporate and commercial culture through their young users. The investigation of media and their uses often reveal forms of a social order based on relations of domination and subordination (Fuchs, 2014; Gramsci, 1985; K. E. Marx, F., 1976; Murdoch, 1979). The concept of ideology promotes the constant search for bias in the cultural production that could reveal ideas serving the interest of the groups in power (Durhan, 2006). It has been explored by different authors throughout the history, and to think about how this term evolved will provide a necessary knowledge base before approaching the grounds where the concept of biopolitics stands.

Media offer stories, discourses, spectacles, and a range of entertainment forms that generate meaning, identities, and political effects. Media can transcode political discourses and

perspectives and advance political positions on issues like human rights and sexuality (Durhan, 2006). In this sense, the concept of *ideology* was conceived by Karl Marx and Friedrich Engels to describe the dominant ideas and representations that reproduce the point of view of dominant social groups in society (K. E. Marx, F., 1976). Broadly, ideologies reproduce and legitimate forms of social dominance when they "replicate existing inequalities and hierarchies of power and control" (Durhan, 2006, p. 14).

Marx and Engels began a critique of ideology in a capitalist society where competition and individualism are central characteristics. They worked towards an investigation that could show how predominant ideas were reproducing dominant societal interests to legitimate a system of values that benefits the established power (K. E. Marx, F., 1976). Classical Marxism considers the uses of media to propagate dominant ideologies through cultural forms like books and films (Durhan, 2006).

Antonio Gramsci advanced the concept of ideology and explored the idea that different social groups take part in the management of dominant ideas. He argued that these groups have *hegemony,* or dominance, in creating and disseminating the ideologies that will smooth over conflicts and negative relationships (Durhan, 2006; Gramsci, 1985, 2009). In this sense, while some social institutions directly impose social order (i.e., the military, police), others induce consent to the dominant ideologies (i.e., church, school, media). A culture hegemonic analysis would involve explicating how dominant ideas became dominant in the media and culture at large. It demands a social contextualisation of these ideas since institutions induce consent to the dominant order through establishing the hegemony, or ideological dominance, of social orders like capitalism, socialism and so on.

The Frankfurt School scholars further developed the concepts of hegemony and ideology. These scholars developed a critical approach to culture and media that acknowledge the predominance of capitalist economic interests in the way they reproduce the market. Through critical studies of mass communication and culture, this group of authors analysed how the propagation of ideologies was inducing consent to the hegemonic social order (Durhan, 2006). To do this, they defined the *culture industries* concept as the reproduction of contemporary societies in which media is a central agent of socialisation and a political mediator (Adorno, 1975; Andrae, 1979; Horkheimer & Adorno, 2002). The Frankfurt School was concerned with how the culture industries were replicating values that promoted the stabilisation of capitalism; they applied the political and economic perspective to critique the

mass culture and communication culture industries. Horkheimer and Adorno's culture industries made a parallel to "Fordism" as a mode of production and homogenising regime which seeks to generate mass behaviour and desires to promote consumerism (Durham & Kellner, 2006; Horkheimer & Adorno, 2002). The mass media was essential to creating modes of thought and behaviour and homogenising the social order.

The economic growth in the 1960s revolutionised the market with new products and new forms of labour, which resulted in new theories that brought the effects of societal structure into discussion (Durhan, 2006). The consumer society provoked debate especially among French scholars and resulted in a variety of discourses and theories that understand ideology as the effects of the structure of society (Althusser, 1971; Barthes, 1972; Levi-Strauss, 1978). These theories advanced Marx's thesis that the mode of production determines the social and cultural constitution, combining psychoanalysis and structuralism to understand how ideologies compelled individuals to fit into preconceived forms of subjectivity and function to reproduce contemporary capitalist societies. For instance, Louis Althusser's (1971) work on the Ideological State Apparatus (ISA) brought to light certain number of realities which "present themselves to the immediate observer in the form of distinct and specialised institutions" (p. 142). He conceptualised this term in contrast to the Marxist State Apparatus (SA), which was concerned with repressive institutions such as government, police and prisons. The ISA is different from the SA because it functions "by ideology" while the SA functions "by violence" (p. 142). The reality of the working-class factory was changing, and intellectual and cognitive skills were emerging as new qualifications of living labour.

Production and distribution were not happening only inside industries, but in "the space and values of communication and of knowledge" (Negri, 2017, p. 4). Political economy was, for the first time, in a terrain where labour and processes of commodification were expanding into social life. The dominant ideologies were transiting through different ways and places, and new theories were developed to attempt to reform the political and ideological system established after the Second World War (Negri, 2017).

Among these authors was Michel Foucault, a French philosopher who brought power and living being to the centre of political economy discussions. Foucault articulated the relations between historicity and subjectivation. He offered a different perspective on subjects to that approached by Marx. Foucault was critical of traditional Marxism and some of his arguments conflict with Althusser's point of views. After his critiques of Marxism in *The Order of*

Things, he became more sympathetic to some Marxist discourse and concepts in the 1970s. While Foucault dedicated part of his work to revealing the limits of Marxist discourse, he also developed a new understanding of Marx that has allowed new theoretical insights to become possible. This analysis leaded to the possibility of an investigation employing a "Foucauldian Marxism" investigation (Ryder, 2013).

Some of the concepts Foucault created can be seen as a development of central Marxist analytical insights. For instance, the Foucauldian transition from disciplinary to power techniques can explain the transition from a Fordist to a post-Fordist mode of production (Negri, 2017, p. 11). Foucault examined "life" into history through the development of political economy. He analysed the way the techniques of power changed in the very moment that economy and politics became intertwined as a "government-population-political economy relationship" (M. Lazzarato, 2002, p. 102). Foucault's political economy is different from Marx's binary relationship between capital and labour as the source of all power relations and social dynamics. Foucault's political economy includes the power dynamics that amplify disciplinary relations between forces. The contemporary political problem that Foucault brought to play is the multitude of forces that act and react upon individuals to subject them to the power in place. Foucault's concept of biopolitics as a power network of the reproduction of society, the production of forms of life and the circulation of immaterial and material goods offers a dense body of analysis that added to the political economic approach. It offers a wide range of possibilities for the analysis of children's experiences within the political economy of the Internet.

The emergence of 'life' as an object of politics to manage people's bodies is the central subject of Michel Foucault's biopolitics (Foucault, 2008). In *The History of Sexuality: Volume 1, The Will to Knowledge* (1998), Foucault introduced biopolitics as a concept to describe the governmental rationality concerned with managing the population. He presented the idea of biopower to generally refer to this new regime of power over people's bodies (Mills, 2017). Although Foucault did not invent those terms (biopolitics and biopower), his work is of central importance for contemporary debates on this government rationality. The concept of biopolitics concentrates on the analysis of political economic practices of social regulation through biopolitical technologies. Biopolitics represents a new form of government undertaken by a new dynamic of forces (Maurizio Lazzarato, 2006a).

The birth of biopolitics took place from the 18th century onwards when the power was in place to begin to consider the "processes of life" and the possibility of controlling and modifying them. Less evident than the monarchical power of life or death, biopolitics describes the influence of a variety of *dispositifs* (G. Deleuze, 1992) or apparatuses (Agamben, 2009) on individuals' subjective dimensions (B. Brown, 2014). Foucault used to use the concept of dispositif in an interchangeable way with apparatus. In one of his interviews, when he was defining what a dispositif is, he used the term "apparatus" as a replacement for dispositif: "what I am trying to identify in this apparatus is precisely the nature of the connection that can exist between these heterogenous elements" (Foucault, 1977, p. 194). Foucault's definition of apparatuses, or dispositifs, can be considered an advance on Althusser's conception of ISA, in the sense that Foucault expands the concept of apparatuses to include more than the ideologies present throughout the SA such as family, church and schools. Foucault was interested in the relations established between these elements: "the said as much as the unsaid" (Foucault, 1977, p. 194). These dispositifs, or apparatuses, are physical and knowledge structures that create a dynamic of forces that make it possible to exercise power over individuals. They are heterogenous ensembles of discourses, narratives, institutions, regulations and laws that connect and create relationships; "In short, between these elements, whether discursive or non-discursive, there is a sort of interplay of shifts of position and modifications of function which can also vary very widely" (Foucault, 1977, p. 194).

Foucault's search for dispositifs or apparatuses of power focuses exclusively on the practices of individual subjectivation as a way to resist the power that disciplines and guides people to be economically active individuals. Subjectivity is the bridge that connects politics and life; it is the "battleground of politics" (Mills, 2017, p. 8). Foucault developed the concept of subjectivation as the process of "becoming a subject" (Dorrestijn, 2012, p. 232). This subjectivation process is introduced through the emergence of self-reflexive and self-conduct mechanisms of power that build from a base where the knowledge of human species-life informs strategies that will influence individuals' social life.

Media is constantly influencing the way people govern and fashion themselves. They are important players in processes of subjectivation and understanding how these biopolitical processes happens with children online is a core issue for this thesis. Negri (2017) understands the concept of subjectivation in Marx's theory as knowledge: "knowledge of tendency, a coming to awareness, science" (p. 12). Foucault repurposed the theme of

subjectivation and reformulated this concept more assertively and in a materialist manner as a problem of the body. Because of this, for Negri (2017), Marxists are indebted to Foucault for having created a way to solve two main problems: the definition of power and the genealogy of subjectivation.

In biopolitics, power is displaced to the active economic subject, and the subject's body becomes their capital as they make possible a future income (Foucault, 2008). Similarly, Marx considers this objectivation of individuals as capital producers within the economic system: "The proletarian is merely a machine for the production of surplus-value" (K. Marx, 1867, p. 742). In a way, Foucault's investigation of individuals' bodies as part of the political economy advances Marx's assertion about individuals as part of the production process as machines when it brings attention to the power dimensions acting over individuals' bodies in the production and creation of value. I argue that the Marx and Foucault complement each other and can amplify the range of possible analyses and understandings of the investigation of young children's participation in the Internet's political economy; together, they give form to what Negri (2017) called an ontology of actuality.

Both Marx and Foucault bring individuals to the centre as a place of power and economic disputes but through different perspectives. While Marxist theories investigate the capitalist political economy to understand the antagonism among productive forces, relations of production and the exploitation of labour, Foucauldian studies are interested in the invisible power relationships placing individuals as active economic subjects from a perspective located in the intersection of 'life' and 'politics'. Foucault approaches power not as something exclusively related to the state, providing a wider perspective about relationships between power, knowledge and social institutions. That is, Marx's and Foucault's theories have commonalities and discrepancies, but I argue that they are complementary when investigating young children's labour within the political economy of the Internet, which is one of the aims of this thesis.

2.3 The Political Economy of the Internet

To turn to the theoretical framework that investigates individuals' participation within the political economy of the Internet, this section critically reviews work that builds on the wider political economy and biopolitics literature presented in section 2.2, bringing these discussions to the digital realm. These theories offer a body of knowledge on individuals'

biopolitical participation in the political economy of the Internet that I aim to contribute to through my analysis. In doing so, I draw most heavily upon analyses of digital labour (Fuchs, 2014; K. S. Gregory, J., 2021; Antti Paakkari et al., 2019; Scholz, 2013), the attention economy (Crogan & Kinsley, 2012; Goldhaber, 1997; Tiziana Terranova, 2012) and control (Cheney-Lippold, 2011; G. Deleuze, 1992).

It is crucial to take economic interactions within culture and media seriously to understand the role of communication in the political economy of the Internet. Although all features of traditional capitalism need to be reconsidered online, the class concept is central in the analysis of knowledge labour in western communication studies (Fuchs, 2010). The profits of social media platforms such as Facebook and YouTube are grounded in commercial strategies based on the exploitation of users' labour and the commodification of personal data (Fuchs & Sevignani, 2013) and it is crucial to analyse the class structure today to understand who is exploiting and who is being exploited.

In the political economy of the Internet, the notion of class needs to go beyond the traditional dual classes – the capitalist class and the wage labour class – and include everybody who creates on the Internet the products exploited by capital to accumulate capital (Fuchs, 2010). As part of investigating children's participation in the digital economy, it is of paramount importance to include the unpaid labourers' dynamics online. Knowledge labour produces and reproduces communication, information and social relationships (Fuchs, 2010), which has a direct and indirect relationship with capital accumulation. There are direct workers – wage labour in companies or self-employed labour – who produce the knowledge services and goods that are offered freely in return for data or commodified and sold on the market. And there are the indirect workers who produce and reproduce the necessary conditions for the existence of capital and wage labour, such as housework, communication, children caring, social relationships, etc. These are forms of unpaid work performed, not exclusively but to a certain extent, by people who do not have a regular income – students, retirees, houseworkers, the unemployed, informal workers, underpaid workers and migrants. Unpaid labour allows the reproduction of the capital and wage labour that consume the services and goods of indirect workers for free. This means that unpaid workers are exploited by both capital and waged labourers. An entire economy has been constructed online based on what capitalism can extract from our lives for free, and on how to legitimise, normalise and naturalise this expropriation in the long run (Couldry & Mejias, 2019).

The Internet has become a system that offers the opportunity to intensify the traditional exploitation of unpaid and underpaid work. Such an argument entails the view that the avalanche of activities involving users online is free labour (T. Terranova, 2013, p. 33). For instance, working to build a community is unpaid work exchanged for the pleasure of communication: "it was, therefore, free, pleasurable, not imposed" (T. Terranova, 2013, p. 47). Some authors state that the logic of capitalist exploitation shifted from factories to society (Mark Andrejevic, 2013; Hardt & Negri, 2006; Scholz, 2013; T. Terranova, 2000). Terranova describes people's contributions online as both voluntary and subject to exploitation "Free labour is the moment where this knowledgeable consumption of culture is translated into productive activities that are pleasurably embraced and at the same time often shamelessly exploited" (T. Terranova, 2000, p. 37) .

In an argument cognate to Terranova (2000), Hardt and Negri (2006) argue that this knowledge labour force is a powerful structure organised as a networked body class called *Multitude*. The product of this emergent labour class is immaterial products, such as information, ideas, images, knowledge and affects. Immaterial labour is changing the contemporary scene of labour and production, which produces immaterial products through unpaid work (Hardt & Negri, 2006, p. 65).

In the process of producing immaterial labour online, it is important not to disregard the influences of paid labour's demands on individuals' subjectivities. Over time and through exposure, this kind of work's requests to adapt to commercial goals progressively controls the subjectivity of those working, according with the demands of those who have the right to control the communication through the work relation (Hardt & Negri, 2006). By repeatedly reproducing the narratives imposed by the company exploiting the communication transactions, the subjectivity of the worker is "ever-more, though not entirely, overtaken by the needs, wants and desires of their bosses" (B. Brown, 2014, p. 706). These influences over the subjectivity of these paid digital labourers are not only widely discussed by the body of literature on digital labour but are also central to biopolitics. The biopolitical impact of unwaged forms of digital labour on individual subjectivity happens in the same space and at the same pace as that happening under the wage relation. Online, everybody is producing something within a commercial space that is, at some level, modulating their subjectivities.

This brings us to Deleuze's society of control and the importance of understanding the difference between *moulding* and *modulation* when investigating attention and political

economy. Deleuze (1992) conceives of control societies as a paradigm shift from Foucault's disciplinary society. Deleuze describes the society of control as the shift from a form-imposing mode to a self-regulating mode or, as he characterised it, from "moulding" to "modulation" (G. Deleuze, 1992, p. 36). In contrast to Foucault's disciplinary society, where society was commanded by through disciplinary power in institutions (e.g., factories, prisons, asylums), control societies are not about respecting social codes or being obedient to institutional rules. Modulation, as a new type of control, is about "creating a space for the individual, as if he or she has the freedom to tangle and to create, while their production as well as their ends follow the logic of intangible forces" (Hui, 2015, p. 75).

The role of modulation in Deleuze's theory led me to think about this concept within the political economy of the Internet, especially how digital technologies create the perfect space to modulate people according to political economic forces. The emergence of new graphic technologies, such as photography and computer graphics, reconfigured the relationships between the viewer and modes of representation through people's bodies. The fact that the economy has become more virtual and networked has resulted in a greater emphasis on embodied performance and physical capital (Adkins, 2005). For instance, the value of popularity as metrics and goals online guide users' experiences and naturalise self-display, which produce the immaterial goods that serve commercial institutions (Boyd & Crawford, 2012; Goodwin et al., 2016).

This immaterial labour often places the political economic rationales in the locus of the body and raises questions about the commodification of our cognitive capacities. Some scholars have been studying for decades how subjective experiences are commodified, regulated and subjectivised by political economy rationales (G. Deleuze, 1992; Foucault, 2008; Goldhaber, 1997; Mirsky, 1991; Posner, 1990; Tiziana Terranova, 2012). The deliberate capture of human attention and the capacity of digital technologies to retain and exploit human cognition has become a popular concern, and several researchers have dedicated their studies to understanding the design of such systems and how users react to them (Alrobai, McAlaney, Dogan, Phalp, & Ali, 2016; Alslaity & Tran, 2020; Crogan & Kinsley, 2012; Gram-Hansen, Jonasen, & Midden, 2020; Radesky, 2018). Attention economy studies go beyond an understanding of the brain and attention capacities per se to investigate "how attentional technologies and techniques mould human minds and bodies in more or less intentional ways" (Pedersen, 2021, p. 309).

This has led to research at the intersection of the humanities and neuroscience to understand the impact of digital technologies on attention. Hayles (2007) engages with neuroscience to explain a "generational shift in cognitive styles" between "deep" attention and "hyper" attention (p. 187) and what this represents for educational institutions. The "hyper" attention cognitive style deals with "rapidly changing environments in which multiple foci compete for attention", while the "deep" attention style relates to "solving complex problems represented in a single medium" (Hayles, 2007, p. 188). Hayles (2007) draws upon investigations around attention pathologies, hyperactivity and media technologies to shed light on the challenges these cognition shifts represent to teaching and learning.

In this sense, Stiegler (2010) argues that attention commodification logic must be understood as a formulation of biopower operating not only at the level of the body but also of "*psychopower* operating within mentality and upon brain" (Crogan & Kinsley, 2012, p. 12). This form of attention consists of the tendency of digital technologies to mobilise attention capacities through increasing collaboration among users. This hypersocialisation of attention results in the detriment of "deep" attention and can be correlated with attention deficit disorder and hyperactivity (B. Stiegler, 2010). Over time, this exposure to these collaborative cognitive technologies alters the subjectivity of the individual in biopolitically significant ways (B. Stiegler, 2010). Biopolitical ways here means the biopower, or "power over life", that captures attention and that governs life itself, which is what rules biopolitics.

An understanding of the processes of attentional behaviour and commodification is required to be able to investigate the relation between bodies, cognition and economy, and research has done this in different ways. Attention can be theorised as a scarce resource. Since information is abundant through an increasing number of media devices and systems, our ability to pay attention to that information is scarce (Beller, 2006; Crogan & Kinsley, 2012; Goldhaber, 1997; Simons, 1971). However, beyond attention scarcity, our attentional behaviour is also embodied as a cognitive capacity controlled by screen media and exploited by the capitalist system (Beller, 2006; Hardt & Negri, 2006). That is, media are the practical organisation of attention since they act through cognition itself as a form of cognitive capitalism (Beller, 2006).

Capitalism transforms the worker into a machine in the sense that the worker will produce income streams (Foucault, 2008). Our senses, such as vision, are part of the worker as machine, and they allow workers' bodies to work. Vision is deposed from a physiological

activity to a cultural and economic one, “the eye constructs the meaning and value of the image” (Bucci, 2010, p. 290). According to Lazzaratto (2006) digital labour happens under capitalist modern management techniques that establish command over subjectivity itself, which characterises digital labour as biopolitical. Digital labour is biopolitical in that it is oriented toward the creation of forms of social life. Hardt and Negri (2006) also claimed that digital labour is biopolitical:

> Ultimately, [...] the production involved here is the production of subjectivity, the creation and reproduction of new subjectivities in society. Who we are, how we view the world, how we interact with each other are all created through this social, biopolitical production (p. 66).

This means individuals become the recipients “through which power flows as subjectivity” (Cheney-Lippold, 2011, p. 169), and in the political economy it happens mostly through the dispositifs of power such as digital platforms’ terms and conditions, videos’ narratives and social media’s discourses. Digital media make possible a modulatory form of control based on a numerical language that gives form to the interface, functionalities and features of the platform, materialised by the uses of algorithms. Algorithms’ uses have raised questions about how society is structured regarding data use and understanding algorithms’ uses can clarify the participation of young children within the Internet’s political economy.

2.4 Algorithms

Algorithms are the elements that put together a series of instructions based on companies’ interests that allow the automation of decision-making processes. They aggregate users’ information and searches to identify the composition of a consumer audience as well as social trends (Battele, 2005; Cheney-Lippold, 2011). Through algorithms, patterns within data can be identified, labelled and matched against existing behaviour and identity models (Cheney-Lippold, 2011). The classification of the audience according to behavioural models makes it possible to suggest content based on the history of a user’s interactions with the system. This means the definition of who the user is believed to be and what kind of content that user may want to see will change according to the data gathered from them. The constant influence of algorithms over decisions about and the constitution of social practices raises concerns over their impartiality related to racial, gender and social inequality (Amoore, 2020; Eubanks, 2018; Noble, 2018; Phan, 2021).

Algorithms are what automate decisions on digital technologies, and their presence within important social spaces where children's presence is massive, such as homes and schools, has been consolidated in the last decades. Home technologies are becoming popular for offering a range of benefits. A smart home is equipped with technology that anticipates and responds to the needs of the occupants (Aldrich, 2003). A range of products can be connected to the Internet collecting data from home occupants, including children. It is possible to find "smart" TVs, refrigerators, ovens, doorbells, nannycams and more. One of the most popular smart home devices was introduced by Amazon in 2014. The Amazon Alexa home assistant is capable of voice interaction, which makes it accessible to young children. It helps home young occupants to play audiobooks, listen to music or to find a product they want to buy. Its "by the way" option supports Alexa's algorithm in learning to provide a high level of personalisation when it asks unrelated questions after some requests. For instance, after asking Alexa for the weather, Alexa can ask if the home occupant would like to check their horoscope or the status of an order. This level of personalisation comes at the price of users' data. Smart home statistics in the US show that 57.4 million households will be using smart home devices in 2022. This is a 6.7% increase from the 53.8 million people using smart devices at home in 2021 (Oberlo, 2021). The same pattern of increasing uses of digital technologies and smart devices at home is found in educational institutions. Technologies have been adopted for smart learning systems to improve learning experiences (Qureshi, 2021). These systems are supported by digital platforms that allow caregivers, students and the school staff to monitor children by using the Internet and smartphone devices (Qureshi, 2021). The communication between devices provides opportunities for collecting and generating a vast amount of data. The data collected can be used on educational platforms to predict learning progress, suggest educational pathways and even diagnose emotional states (Lupton & Williamson, 2017). Learning analytics deals with gathering and analysing data from learners and learning contexts to improve educational solutions such as measuring subjects' grades and completion of the course (Montero, 2014). Some of these solutions consider students' emotional aspects as well. They collect emotional data that reflect learners' affective states to discover the emotional patterns of a learner. This is useful for identifying emotions such as anxiety and frustration and creating an intervention plan to avoid early dropout (Rientes & Rivers, 2015). In this digital educational scenario, Google Classroom is an important player and seems to be a consolidated choice for schools. According to the company, more than 30 million children were using Google education apps in the United States in 2017 (half of the country's primary and secondary school students)

(Sincer, 2017) with around 70 million users adopting G Suite for Education worldwide (Lardinois, 2017).

YouTube is the preferred destination for children online (Netsafe, 2019; Ofcom, 2017) and comes along with Google Classroom services. Google supports the school's staff and students with Google Classroom Application Programming Interface (API) on different fronts. Google G Suite is part of Google Classroom. It offers a package of applications comprising calendar management, cloud storage, administration tools to produce spreadsheets, forms, documents and websites, and communication channels between students, teachers, and staff. School-age children can access YouTube on Google Chromebook running the Chromium OS based on applications and data uploaded to Google's cloud service.

Within social media like YouTube, algorithms manage the flow of content to improve content discoverability and rank information in ways that create conditions of interaction for content creators and users (Golino, 2021). Algorithms are used to consider different aspects of a dataset and find patterns in how people use social media tools so algorithms can work to adjust content according to each user's preferences to approximate individuals' experiences to what is ideal for them. However, algorithms do not take only users' preferences into consideration; they are also defined by the intentions of the coders who created them (Amoore, 2020). This means they are bifurcated to consider individuals' needs and desires along with companies' commercial goals (Bishop, 2018; Rieder, 2018; van Es, 2020). The way coders approach algorithmic design has different consequences. Algorithms can save users time searching for what they want to watch or alert people to avoid going a long way around to arrive at their destination. Algorithms can also work in collaborative ways in matching users to other users with the same interests to predict what an individual will may want to watch in the future.

This constant transformation of users' history into who they are, to enable the system to suggest more content, can be understood as a form of control. But this is not a direct form of control based on rules and laws. It is a form of control that regulates a variety of mundane activities happening online, such as a book recommendation or offering a content repertoire based on some specific preferences detected by the algorithms through individuals' web navigation history. These dynamics of control that explore patterns within individuals' daily life are intertwined with education, labour and consumption practices

Algorithms can also shape culture in different ways. When coders set algorithms to consider users' geographic location, they can limit the dissemination of specific information to a particular area (Golino, 2021). This approach can manipulate access to knowledge according to users' location and create information gaps within society. For instance, YouTube uses personal identifiers to detect children's preferences and habits. For this, YouTube's algorithms are designed to detect variations in the number of views. Once a video starts to collect increasing views, the YouTube recommendation tool places it into its section for that kind of audience (Burroughs, 2017). Children like repetition, and once they like some of these videos, it leads to the astronomical number of views some videos have on YouTube (Bridle, 2019). This way of managing children on the platform may "corral young children into a controlled space without unexpected participation and play, where a more monolithic category of 'child' or 'kid' viewership can be codified and marketed to within the constraints of the app" (Burroughs, 2017, p. 1).

This classification and separation of users according to their characteristics leads to issues around data discrimination. Research has exposed a culture of racism and sexism in the way information is found online and that users are exposed to without noticing (Eubanks, 2018; Noble, 2018; Phan, 2021). The combination of private interests along with the dominance of a small number of search engines can lead to a biased set of search algorithms. These algorithms are often organised to consider not only preferences and habits, but physical characteristics like race, gender and skin colour. By conducting a search on "black and White crimes" as well as "black girls" over a particular period of time, Safiya Noble (2018) found that most of the Google search results promoted anti-Black hatred. Her research on Google's commercial model and algorithmic design brings into discussion the algorithms' objectivity and the inevitable human components that are part of these algorithms. Noble (2018) argues that Google's commercial interests influence the search engine results, which bias information in favour of the company's lucrativeness when it wilfully follows "a profit imperative that makes money from racism and sexism" (p. 5). The categorisation of race is intrinsic to algorithmic systems, which allows the creation of different racial formations "through correlations, inferences or proxies that may or may not be traceable, in the last instance, to what one looks like" (Phan, 2021, p. 4)

Algorithms' racial bias generates concerns about the influence of Google's search engine on society's "common sense" formation over an algorithmic logical system that benefits some groups to the detriment of others. There are several political and ethical concerns surrounding

the way algorithms have become arbitrators in decision-making processes in a wide range of social activities ranging from medicine, law enforcement, education profiling and military warfare (Amoore, 2020). The uses of algorithms for decision-making play a sensitive role when they are involved in processes in which young children are immersed, such as within the education context. There is a common believe that algorithms' bias can be treated like a "glitch", something that can be easily removed or fixed. It is implicit in this assumption that algorithms follow a logical numeric program that can be tweaked. However, algorithmic systems are "characterised less by the series of steps in a calculation than by relations among functions" (Amoore, 2020, p. 11). These algorithms operate not through a deductive and objective form of reasoning, but via a correlative form of reasoning that takes into consideration all sorts of information, including error and failure. As a result, the main problem emerges from "a machine learning that generates new limits and thresholds of what it means to be human" without public consent (Amoore, 2020, p. 65). Because algorithms are constantly modifying to adjust considering new data gathered, it is not possible to understand how they operate just by checking the source code. The only way to critically investigate algorithms is to concentrate attention on their outcomes as a focal point of concern (Amoore, 2020; Noble, 2018), which is what I seek to do when investigating children's experiences online.

The understanding of the impact of some digital technology features on children can reveal how the agency of algorithms extends beyond their computer code by working upon behavioural mechanisms of decision-making. These algorithms are not only organised by preferences and metrics, but by data on, for example, race and gender that can profoundly impact young children's behaviour. These algorithmic systems are widespread and are embedded in individuals' everyday lives. A range of devices is facilitating the way people live while learning from them through data collection and how to make their lives even easier. Research shown that algorithms can be biased and are constantly changing, which make it difficult understand their real influence in important decision-making processes impacting children in different ways. In this extremely digitalised context, children need special attention. They are the most vulnerable group being affected by digital practices that will impact their present and future. As the capacity to consent evolves as the child develops, the younger the children, the more vulnerable they are.

2.5 Children's Participation in the Internet's Political Economy

Children are embedded within an algorithmic context in the political economy of the Internet. Digital technologies are all around us, and algorithms are part of children's everyday life. As mentioned in the previous section, some digital technology features make it easy for children to go online at an early age. For instance, young children's abilities allow them to find content through a voice assistant or touch their fingers on the screen to play games on digital platforms. However, online, children are the objects of an increasing number of data collection practices. Children may engage with these practices themselves, and their online presence is already being mediated by their caregivers before they can choose what is best for them (Leaver, 2017).

The growth of children online is not only in the number of people but in the range of age. A recent Ofcom (2022) study showed that nearly all children between 3 and 17 years old went online in 2021 (99%) in the UK. The same study showed that 99% of households with children between 0 and 17 years old had access to the Internet at home. Among them, 9 in 10 children owned their own mobile phones by the time they reached the age of 11. Another report developed four waves of a survey from 2011 to 2020 (Rideout & Robb, 2020). It documented media-use patterns among 1,400 children from birth to eight years old. Combined, the results of the four waves of the survey show unprecedented numbers of young children using digital technologies. The study shows that 95% of families with children aged eight and under had a smartphone in 2017; 63% of these families had a smartphone in 2013, and less than half of these families (41%) had this technology in 2011. These changes represent an increase of 54% of young children's parents using smartphones in just six years.

In New Zealand, mobile ownership increases with children's age (Netsafe, 2019). While only a quarter of year 4 (eight years old) students have their own mobile phone, smartphones have become a nearly universal part (98%) of college students' lives. New Zealand's children also have frequent access to the Internet, with 77% of the participants declaring they often or always go online (Netsafe, 2019). This means that children online have become objects of a proliferating range of algorithmic practices collecting vast amounts of data and learning from and about them. Despite laws forbidding children's data collection without consent, adult advertising technology collects 72 million data points on a child by the time they are 13 years old (SuperAwesome, 2017). More than that, research shows that children are exposed to 1 to 2 million trackers per year (SuperAwesome, 2017).

The term *dataveillance* refers to collecting information from people using forms of data (Lupton & Williamson, 2017; Raley, 2013; van Dijck, 2013). The practice of dataveillance usually takes place via digital technologies, and people's participation in those practices can be voluntary or they may lack knowledge of specific processes involved. People may engage in self-surveillance practices when they use self-tracking devices and software such as smartwatches and rings (Albrechtslund, 2013; Lupton & Williamson, 2017). Less consensual forms of dataveillance take place through practices like CCTV cameras, where a group of people in a position of power observe people frequently without them noticing (Elmer, 2003), or Internet companies' constantly monitoring online interactions for commercial purposes (Leaver, 2017). Online, children are embedded within a space where dataveillance is a premise, and the process involved and the impact of this procedure on their future, are unclear to users.

The personal data collected in this kind of practice tend to become part of the political economy of the Internet. Individuals' data are available for different uses by a variety of agencies and actors for purposes often unknown to most people (Kitchin, 2014; Lupton & Williamson, 2017). Most of the data collected are stored on commercial platforms that expropriate and exploit these data according to their profit goals. The amount of data collected from people gives commercial advantages to companies like Google, YouTube and Facebook that can profit from them, which has inaugurated new forms of power relations (Andrejevic, 2009; Lupton & Williamson, 2017; van Dijck, 2013).

Currently, the biggest video-sharing platform in the world is YouTube, which is part of the Google Alphabet conglomerate. From YouTube's first posted video in 2005 to the current company with more than 2 billion unique monthly users globally (Statista, 2021b), YouTube has changed considerably. Mostly after Google purchased YouTube in 2006, the video-sharing platform transformed from a no-advertising amateur website to a leading global advertising platform. These changes directly impact how users experience YouTube's platform, especially children who have found themselves immersed in the most prominent advertising platform in the market, both in the numbers of users and revenue (McLachlan, 2022).

Watching video content is currently the main reason children use screen devices (Ofcom, 2022). In New Zealand, a study providing a list of websites and apps for children found that 8 in 10 children use YouTube regularly to watch videos; YouTube was the most popular digital

platform, representing the first choice of 81% of participants (Netsafe, 2019). The same pattern can be seen in the UK and US. Half of three- to four-year-olds and more than 80% of 5-15s spend their screen time watching videos on YouTube in the UK. (Ofcom, 2022), and 82% of US parents of zero- to eight-year-olds let their children watch videos on YouTube (Centre, 2019).

As per the theoretical approach mentioned earlier in this chapter, this means children on YouTube are producing the data this platform will profit from. This process of generating profit from children's data on the platform classifies online interactions and interactivities as unpaid labour (Mark Andrejevic, 2013; Fuchs, 2010; Mejias & Couldry, 2019; Scholz, 2013; T. Terranova, 2013). Following the discussion developed around the constitution of biopolitics and digital labour exploited by digital platforms, it is paramount to understand how children are inserted into an environment where labour is predominantly unrecognisable as work. There is a lot of unpaid labour happening on social quantification platforms. The impact of the algorithmic organisation of these digital spaces is particularly profound for children and their vulnerability online.

Considering the central role of social media and the significant number of children participating in the political economy of the Internet, in my thesis I take the YouTube platform as a case in point to analyse specific issues of social media political economy along with the impact of this commercial organisation on young children's actions, subjectivities and feelings towards its constitution. To support this, the following two sections explore the YouTube platform and the practices children are involved in while online. First, the next section (2.6) of my literature review presents YouTube as a commercial institution and its operational practices. Second, to conclude this chapter and give a sense of children's current role in YouTube's political economy, section 2.7 explores children's participation in the YTMA, a concept I develop later in the same section.

2.6 YouTube and Children

YouTube is part of Google Alphabet, one of the most prominent multinational technology conglomerates in the world (M. Brown, 2020) with a multitude of applications (apps), services, hardware and software. In 2017, after rebranding its package of companies to Alphabet, Google completed its business reorganisation by establishing a new holding company called XXVI Holdings Inc. XXVI allowed Alphabet to legally separate Google

from its subsidiaries such as its biotech company (Calico) and its artificial intelligence (AI) research division DeepMind (Lomas, 2017). The current structure allows Alphabet to keep Google's search engine revenue confidential, as it is not a public corporation anymore (it has only one investor, Alphabet). Furthermore, the actual company organisation disconnects possible investigation of its subsidiaries from Google's ad business, such as YouTube, as they are not legally associated (Lomas, 2017).

Google's advertising system is what makes it possible to offer platforms and interfaces like YouTube for free. While YouTube's users navigate it for free, advertisers support these practices by paying Google to access consumers through advertisements. Google is an advertising platform selling ad space based on users' information analysis (Srnicek, 2017, p. 49). Google AdWords is a digital advertising service based on cookies and keywords. Overall, cookies are files stored on the user's computer while browsing the Internet. These files hold certain amounts of information, such as historical browsing activities, e-mail accounts and the information used to fill in online forms. Keyword advertising is the use of historical web searches made by users to deliver a specific ad to this same user. Together, cookies and keywords allow Google and YouTube to deliver customised advertisements according to users' preferences and thus amplify sales opportunities. The global ad market budget has increased from US$226.6 billion in 2017 to US$464.73 billion in 2022 (Statista, 2020). Google's 2021 net digital ad revenue was US$209.49 billion, which means almost half of the global ad budget was spent on Google (Statista, 2021a).

In *The Googlization of Everything*, Vaidhyanathan (2011) defines Google's core business as having a consumer profiling strategy, which gathers dossiers on its users by tracking their browsing preferences. The author posits Google as a black box that knows a tremendous amount about us while we know almost nothing about it (Vaidhyanathan, 2011, p. 9). Search engines are the current lens through which people view the world, even considering that it often "refracts, more than reflects" what people think is real and essential (Vaidhyanathan, 2011, p. 6).

One of the most valuable companies within Alphabet's corporate structure is YouTube. YouTube has more than 2 billion users (meaning almost one-third of the Internet). Every minute 400hrs of videos are uploaded to YouTube, and almost 5 billion videos are viewed on it every day (Spangler, 2019). In February 2020, Google revealed for the first time in nearly 15 years how much money YouTube generates yearly. On an annual basis, YouTube made

US$15 billion in 2019 and contributed 10% of Google's revenue. Google also announced having more than 20 million subscribers on YouTube pay-to-watch channels – Premium and Music Premium platform – which is an ad-free service. For an advertisement platform, having fewer people to target advertisements on its free platform could impact YouTube revenue, but it is balanced with users' membership contribution for YouTube Premium services. Also, putting subscriber number into perspective, 20 million subscribers correspond to only 1% of YouTube's 2 billion users of its free platform (Statt, 2020).

In 2017, YouTube spent US$6.36 billion on developing new features to amplify the business and retain its audience (Ha, 2018). At that time, YouTube developed the first skippable video advertising and the mandatory pre-roll and mid-roll ad video format, which changed the way users navigate the platform. These changes in the way ads are presented give autonomy to users to skip some ads while restricting their freedom to move away from ads when it does not fit the commercial agreement established between YouTube and the advertiser. Also, towards its diversification plan, the video-sharing company started offering services like virtual reality videos in its YouTube 360, a commissioned space in Los Angeles called YouTube Space, an advertisement-free option through YouTube Red and an online cable TV service in the United States with YouTube TV (Ha, 2018).

Although YouTube states that the video platform is not for children under 13 years old, as I presented earlier this streaming website is the most popular video-sharing website among children (Ofcom, 2022) and is part of teaching practices around the world (Sincer, 2017). Child-directed channels are among the most popular channels on YouTube. Channels such as ChuchuTV Nursery Rhymes, Ryan ToysReview and FunToys Collector are part of the top channels on this platform, some of them making more than US$4 million a year (Burroughs, 2017). Child-related channels are part of YouTube's 10 highest earners representing US$162 million in revenue between 2018 and 2019. In Forbes' Top-Earning YouTube Stars ranking for 2019, Ryan Kaji (Ryan ToysReview) was the top earner with US$26 million, followed by several other content creators producing videos for children (some of these content creators have videos with more than 800 million views). The trend continued until 2021, when Forbes revealed that the most-watched channels on YouTube were targeting young children (A. Brown & Freeman, 2022).

According to a Pew Research Center study (2019), videos for children or featuring children receive three times more views than other types of videos. The researchers used a custom

mapping technique to analyse a list of popular YouTube channels (with at least 250,000 subscribers) and conducted a large-scale analysis of the videos produced by those channels in the first week of 2019. The data collection resulted in a total of 43,770 high-subscriber channels, producing a wide range of insights on the video platform. According to the same research, these channels alone uploaded almost a quarter of a million videos in the first week of 2019, representing a total of 48,486 hours of content. Van Kessel et al. (2019) put this in perspective when they considered that a single person watching videos for eight hours with no break would need 16 years to watch all videos posted for this specific group of channels in just one week. Also, collectively, those videos were viewed 14.2 billion times in their first week on YouTube.

The rise of children going on YouTube raises questions about what attracts them to watch those videos. The most popular videos for children on YouTube are "open-eggs" videos (Bridle, 2019). These videos show people opening egg-like objects to reveal what is inside. The eggs' surprises vary: they can be toy cars, dolls, candies, stickers and so on. Some of these videos last for more than an hour. What is interesting about unboxing videos is that it indicates that the video's content does not need to be well-crafted to catch young children's attention. In fact, it seems that "the younger the children, the less the actual content seems to matter" (Bridle, 2019, p. 216). Children can spend hours playing the same video repeatedly, while the recommendation tool offers them more of the same.

In fact, the participation of children online is remarkable, and the launch of the YouTube Kids app (YTK) proves that the company acknowledges this trend. YTK videos have been viewed more than 70 billion times since the app was launched in 2015 and was used by 11 million families by 2018 (Gibbs, 2018). The YTK app is designed in a way that even an infant can navigate it, featuring huge buttons and instant full screen. YTK app was pitched to offer parents a means of control over their children viewing inappropriate videos.

Also, advertising is an integral part of YTK. The YTK *Parental Guide* (YouTube, 2020) states that it allows paid ads to run so as to be able to offer the app for free to users. It is stated in the 'Notice for Parents' displayed when YTK is open as a signed-out service on laptop browsers and on YTK's terms and conditions. YouTube presents a list of information they collect from kids on YTK: device type and settings, log information, unique application number, unique identifiers, the videos children watch and unspecified interactions with contents ads in the app. YouTube states they use this information for internal operational

purposes, such as harm prevention, spam, preferred language, content licence restrictions, and providing and improving the service. They also declare they use children's data to offer users personalised content. YouTube says it uses identifiers to identify videos watched, searches made, and to provide customised advertising. Interest-based advertising is not allowed on the YTK platform. With the caregiver's consent, YTK can share users' information with outside companies, organisations or individuals. On YTK, caregivers can access what their child has recently watched and clear the watch and search history in the parental settings of the app. Interestingly, YouTube recommends periodically uninstalling and reinstalling the app to reset the identifiers used to gather data from watch and search areas.

Google updated YTK features to let parents control what their children are watching, and maybe we will witness some changes on the app in the next few years. In April 2018, YouTube announced some improvements on its app to allow parents to approve individual videos or channels manually, giving them the facility to handpick a collection of videos for their children. Also, when parents turn off the search function within the app, the YTK app will limit the video recommendations to only those from human-verified channels. These YouTube initiatives are broadly positive, but we cannot forget that a considerable number of children are still watching the main YouTube platform, which features inappropriate content for young children and keeps the advertising model firmly in place (Gibbs, 2018). All videos available on the YTK app are also on the YouTube platform. Even with an app version intended for kids, Google chose to keep children's content on YouTube's main platform, acknowledging again its audience of children. A survey conducted in 2017 reported that 71% of US children watch YouTube videos either on its main website (43%) or on the YouTube app (38%); only 24% of them use YTK (Rideout, 2017).

In 2020, Google was fined US$170 million for violating children's privacy on the YouTube standard platform. YouTube had failed to comply with the Children's Online Privacy and Protection Act, commonly known as COPPA. This law draws a line for websites and apps, placing several requirements on tech companies that they must follow to protect the personal information of children under the age of 13 in the United States. COPPA established that websites and apps for children under 13 must get parental consent before collecting data from kids, present a clear and comprehensive privacy policy and keep children's information confidential and secure. In a complaint filed against Google and YouTube, the FTC and the New York Attorney General alleged that YouTube violated the COPPA rule by collecting children's personal information without getting previous consent from caregivers. YouTube

was accused of making millions of dollars using identifiers, known as cookies, to collect personal information and deliver targeted ads to viewers of child-directed channels. In the complaint, the FTC argued that YouTube claims to be a general-audience site; however, some of its channels are clearly child-oriented, such as those operated by toy companies. YouTube, known to be a preferred destination for kids, was accused of informing advertising firms that they did not have to comply with COPPA because their audience is above 13 years old (Henderson, 2019; Singer, 2019). The settled charge is the largest civil penalty ever imposed by the FTC in a children's privacy case (the previous record fine was $5.7 million against the TikTok app). However, children's advocates argue that the fine amount does not represent a problem for the giant tech company, and YouTube had simply agreed to comply with a children's privacy law it was already obligated to abide by. Although the settlement forbade YouTube from using and sharing children's data, no individual was held accountable, and the fine allowed YouTube to profit from its lawbreaking.

In addition to the financial penalty, YouTube agreed to develop a system that allows creators to identify child-directed content. With this identification, YouTube must not place targeted ads in videos for children. From January 2020, creators must label any video that may appeal to children; when a producer marks a video as directed at kids, YouTube blocks data collection for all viewers. These videos would also lose some popular features like comments and end screens. "When companies and governments crack down on platforms, platforms may place that burden on creators," argues David Craig (2019), co-author of a series of books about creator-driven industries and culture. The new YouTube system presents some challenges for creators over what exactly is considered kids' content and what would happen if they mislabelled videos. YouTube's most famous channels, such as toy reviews, gaming and family vlogging, fall into a grey area. In line with Craig's (2019) arguments, the new rules place most of the burden on creators, reducing their revenue from ads and holding them directly responsible to the FTC for any misleading content produced.

Google dealt with privacy violations several times in recent years (Singer, 2019). In 2011, Google was accused of deceptive data collection related to its now extinct Buzz Social Network. One year later, Google was fined US$22.5 million for bypassing privacy settings in Apple's Safari browser to track users for the purpose of showing them advertisements. To minimise some of the expected losses, YouTube said it would heavily promote YTK to shift parents away from YouTube's standard platform. However, despite YouTube procedures to control harmful content and advertising, sponsored videos are not subject to YouTube

advertising policies, leaving children vulnerable to unscrutinised commercial and promotional materials uploaded by users (YouTube, 2020).

The impact of ads on children is remarkable. For instance, according to research undertaken on Malaysia's childhood obesity problem, a crucial environmental factor influencing children's food preferences and choices is exposure to food and beverage advertising on television and digital devices (Tan, 2018). Considering that online videos have surpassed television as the primary choice of children's screen time, the research's object of investigation was the most popular YouTube videos (n=250) that target children. Advertisements encountered while viewing videos were recorded and analysed. A total of 187 ads was encountered, a large proportion of which promoted food and beverages (38% / n=71). The results have depicted a situation where policies regulating food marketing to children have to urgently be extended to cover online content. In New Zealand, research on children conducted by the Ministry of Health (2017) shows that obese kids spend more than two times the recommended time in front of a screen. The research focus was exclusively on time, and the content these children were exposed to while staring at screens was not investigated. These findings were acknowledged by the American Academy of Pediatrics, which recently published an article to alert parents and pediatric healthcare providers to the risks of childhood exposure to advertising messages (Radesky, 2020). The organisation reviewed the different forms of advertising children encounter online and their associated risks for children. The article reinforces the findings mentioned above about unhealthy behaviours related to advertising, such as the intake of high-calorie and low-nutrient food. The academy claims that advertising is particularly harmful to children, as they have immature critical thinking skills and impulse inhibition. Special care is indicated by the American Academy of Pediatrics for advertising embedded within a social network and reinforced by influencers.

Despite children's vulnerability, tech companies like YouTube still profit from their lawbreaking. Child advocates' efforts seem to cover just the very tip of the iceberg. Content selection on the YTK app is currently made by algorithmic filtering, user reporting and human review. This combination does not guarantee that inappropriate videos do not slip through the gaps via searches, exposing children to harmful content and unclear commercial interests. Unless a user blocks a video, it will be available to be seen by millions of kids; human review cannot cover all videos offered on the platform.

2.7 Children Within YouTube's Political Economy

There is a range of ways young children participate in practices that generate value online. With the number of young children going online increasing, digital companies and child-related businesses are expanding and exploiting children's experiences in the virtual world through constantly evolving data collection strategies. From a digital labour perspective, there is a variety of forms of labour children are performing on the Internet while they are being entertained but, as we saw above, young children's most preferred activity online is watching. Therefore, it is important to understand how YouTube expropriates and exploits data from its young audience online; some grey areas need to be investigated.

Unlike older children, I consider that children under six years old are mainly data labourers on the digital platform. By data labour, I am considering activities that extract value from the most basic interactivities between users and platforms online, such as counting the number of views and clicks instead of content production, such as videos, comments, and texts. This would classify the most basic labour individuals would perform online. Although there is a celebratory discourse around YouTube as a democratising force and an empowering digital tool (Burguess, 2009; Strangelove, 2010), young children are mostly spectators on this streaming platform. While some young children can count on parents or siblings to produce content on YouTube, most children under eight years old like to spend their time watching videos on the streaming platform.

The quantification of video views represents a central feature in the YouTube business model. The number of views is not only a monetisation criterion but a cultural and social orientation for YouTube, users, creators and advertisers. In general, the number of views can be understood as a the sign of an emerging trend and connotes success to YouTube users (van Es, 2020), but its influences maybe surpass these considerations and are worth further investigation.

The view serves as the running logic of YouTube and can be seen as a 'pervasive' category throughout the platform (van Es, 2020). This metric orders productions, establishes hierarchies and produces inequalities. The view impacts creators' monetisation, popularity and visibility and determines advertisers' preferences and costs. A critical understanding of this feature offers a wider understanding of the political economy of the YouTube platform, including how advertisers interact with the company.

Views orient how much creators will earn, but also determine how much companies are going to pay for advertising on the YouTube platform. Advertisement costs with YouTube are based on cost per view (CPV), which is determined by considering the number of views advertising received and certain interactions related to them. As creators, advertisers are encouraged to produce interesting videos that capture viewers' attention via the view-through rate (VTR). By increasing VTR numbers, advertisers lower their CPV (Oetting, 2020).

Counting views is one of the main metrics for evaluating success on YouTube (Bishop, 2018; Ha, 2018; van Es, 2020). Through views, it is possible to assess and compare channels' performance. The number of views is publicly visible and displayed in a prominent position on the YouTube page. In this sense, the understanding of views goes beyond YouTube's own analyses and becomes part of viewers' perceptions of content.

It is important to notice that, lately, YouTube has moved its focus from views to watch time, which can be considered a prolonged view (van Es, 2020). Watch time complements viewing metrics with view duration. As part of increasing work demands from YouTube, currently, content creators must think not only of how to boost their views but of how to engage their viewers and prolong their stay on their channels. YouTube assumes that the length of time viewers spend on a video determines their engagement with the content. This assumption expands the notion of the view and includes the intentionality of viewers that it captures (van Es, 2020). It also means creating strategies to keep users, including children, in front of their screens for longer.

Although the view is a feature that orients most of YouTube's political economy, other elements are working together to make the platform profitable. YouTube's platform interface with young children happens mostly through its design and functionalities, which are what draw children in and persuade them to keep watching through to the "next" video. YouTube is a place where the viewer's gaze is dispersed across the competing elements of the screen and where persuasive tools are used. Persuasive technology (PT) aims at "changing people's attitudes or behaviours through persuasion and social influence" (Gram-Hansen et al., 2020). The PT is implemented within platforms like YouTube to guide people's actions and decisions. The main channels used to persuade people online are offered through the application interface, such as content and sections like the recommendation tool, comments, and subscribe buttons. The interface is orchestrated by algorithms, and it is the scale visible to users. Although there is a range of scales interacting within digital platforms like

YouTube, I am interested in the interplay of its elements such as content, interface, and algorithms. This means I am not exploring types of content or how algorithms operate to determine the platform interface, but I am interested in how young children are modulated and influenced by these players.

Along with the persuasive tools, content creators play an important role in attracting and retaining viewers. As presented earlier, producers on YouTube are guided by YouTube metrics and reports about time, preferences and the searchable words users are looking for on the video-sharing platform. There are software and applications on the Internet certified by YouTube to help producers to enhance their videos' number of views and consolidate YouTube leadership among streaming platforms, such as Social Blade and vidIQ. In return, YouTube shares its ad revenue with its YouTubers.

The YouTube's political economy is composed of rationalities and strategies, some of which I have presented earlier in this chapter; however, there is a lack research into how these rationalities and strategies work together to discipline and control individuals' participation in the platform. As presented in section 2.2 as part of the biopolitical capitalisation of our bodies, Foucault (2008) argues that the capitalist economic revolution coincided with innovative ways of managing society, such as the control of workers' values, affects and senses through the accumulation of knowledge about them.

Metrics also played an important role in the way media was revolutionised by digital platforms. The numbers produced by users on digital platforms determine not only preferences but influence the way people navigate its content. This interference redefines algorithmic platforms as biopolitical tools for capitalist production employing users' bodies, affects and senses when they influence preferences and narratives (Lupton, 2016). The media scenario has changed drastically since Foucault's ideas were conceived, and the possibilities brought about by these new technologies have revolutionised the way society is managed. Multitudes of data are collected as part of algorithmic platforms like YouTube to allow features such as the customisation of interface, content, and recommendation systems to modulate users' behaviour and subjectivity according to the platforms' business goals.

With this in mind, I offer the term *YouTube's Modulatory Apparatus* (YTMA) to name these groups of components and rationales that I attempt to understand through my analysis. While I introduce it here, I will pursue and refine this concept throughout my thesis in relation to my qualitative analysis and return to it in my conclusion. The concept of the YTMA is central to

my thesis, as it gives form to these strategic formations composed of the interplay of YouTube's technical components and the platform's commercial rationales, but it is not limited to its features and strategies. The YTMA is the relationships between these elements, the dynamic of forces happening within and through the YouTube digital platform. It includes the ideologies being disseminated and subjectivities being produced through its system without leaving behind the relations with and among its users. I am looking not only for the ways the uses of YouTube influence children's relationships with the platform, their parents and teachers, but also for discourses and narratives that can suggest YouTube's commercial agenda or justify the practices of the apparatuses.

I am using the word *modulatory* to compose the YTMA concept because the modulation of control offers the fluidity and instability that characterises YouTube and that I investigate through my findings. I am interested in understanding the impact of the mutability of this algorithmic system that changes according to each user's agency but also acts on them. This system of action and reaction is exactly what Foucault defined as power. Foucault defined power as "an action on the action of the other" (Negri, 2017, p. 12). I am looking for the dynamic of forces modulating human and nonhuman agency on YouTube that can point out new power dimensions.

I decided to use *apparatus* as part of my definition of the YTMA mostly because it is a term that transits between both political economy and biopolitical theories. Although apparatus is a concept adopted by political economy and biopolitics, different meanings have been attributed to this concept throughout history. As I have already presented previously in this chapter, apparatus was used by Marx in reference to the State Apparatus (SA) to give sense to the repressive forces operating through institutions like the government, army and policy (Althusser, 1971). Marx identified different levels of society as being part of what he called the infrastructure, or economic base, and the superstructure, which includes political and legal institutions. Marx also identified the ideological role of the superstructure through some features of society, such as the family, religion and media (Fuchs, 2019, p. 7). Althusser (1971) called these political and institutional groups the Repressive State Apparatus. Althusser does not reject the Marxist model, but he explores the more pervasive ways in which ideologies are propagated. He advanced the Marxian SA concept when he defined as the concept of the Ideological State Apparatus (ISA) to point out "a certain number of realities which present themselves to the immediate observer in the form of distinct and specialised institutions" (p. 142). The ISA foregrounds the "mode of production and ideology

as social structures and the human being as a bearer of structures" (Fuchs, 2019, p. 5). Thus, in ISA, Althusser had proposed a term that would bring ideologies and the relations among structures together. His approach to structuralist Marxism has influenced, among others, Michel Foucault. Although Foucault disagrees with some of Althusser's arguments such as his understandings about Marxism as an anti-humanism, Foucault's definition of apparatus is at a certain level similar to Althusser's definition. Like Althusser's, Foucault's definition of apparatus dislocated attention from the materiality of the physical repressive power institutions to focus on "what was not immediately visible" (Althusser, 1971, p. 143). Foucault was also interested in understanding the "nature of the connection that can exist between these heterogenous elements" (Foucault, 1977, p. 194) that are not evident, "the said as much as the unsaid" (Foucault, 1977, p. 194). As mentioned earlier in this chapter, Foucault's uses apparatus as a synonym for dispositif. The Foucauldian use of apparatus is defined by Agamben (2009) as "a set of practices and mechanisms (both linguistic and nonlinguistic, juridical, technical, and military) that aim to face an urgent need and to obtain an effect that is more or less immediate" (p. 8). All uses of the concept of apparatus mentioned above pass through the importance of materiality and structure to understand the production and reproduction of society. Thus, my use of apparatus as a concept brings my concern with the materiality of the media, such as interface, data, design, metrics and algorithms, together with the modulatory aspect of the power present within the specific context, YouTube, that is the focus of my analysis.

2.8 Conclusion

There is a lack of research on children online from a biopolitical and political economy perspective. Capitalism is renewed within the Internet's political economy, and children are active participants in the expropriation and exploitation of value. Processes of production and commodification are happening on digital platforms where entertainment is the main purpose. On platforms like YouTube, children are exposed to a range of tools and narratives that give form to an assemblage of strategies and practices that need to be investigated. I decided to investigate YouTube as a case in point to illustrate these biopolitical forces operating over children within the political economy of the Internet, which I have named the YTMA.

Investigating children on YouTube through the perspectives of political economy and biopolitics offers a theoretical framework that focuses on capitalist processes of expropriation

and exploitation without disregarding the resistance to power happening concomitantly in the locus of individuals' bodies. This perspective can inform the investigation of users' disputing of power within processes of commodification online. Specifically, it offers the grounds to explore digital labour relationships and attentional strategies while considering the centrality of children's bodies – in the sense of their senses, behaviour, and feelings – within the myriad of forces operating over them.

In this digital political economic scenario, new features and processes were introduced. While interface, design and content are important players, algorithms are present in most commercial organisations or social institutions. Algorithmic devices connect human desires to nonhuman objects and translate desires and purposes to system functionalities. Although often imperceptible, algorithms are in homes, within smart devices like refrigerators and voice assistants, and at schools, through smart boards and learning management platforms. Young children are embedded within algorithmic spaces and everyday devices are now responsible for the production of data that is exploited by digital companies for profit, which often happens without user knowledge or informed consent.

In the process of data production and dataveillance, children produce value in different ways. Via e-learning analytics or on social media, children are responsible for a sizeable part of the data collected online. Because of this, children must be considered by studies that take into consideration the free voluntary production that occurs online as digital labour while considering the disciplinary and modulatory forces operating to control users online. To do this, I investigate children within YouTube's political economy and endeavour to understand the YTMA to illustrate what is happening on a much bigger scale throughout the Internet. I now turn to my research, starting with a discussion of the methodology chosen to conduct this study.

Chapter 3: Methodology

The literature review chapter presented how the categorisation of children and the modulation of their attentional behaviour on YouTube are rendered to a biopolitical logic that manages to control subjects through a disciplinary "power over life" (Foucault, 2003, p. 135). Social media like YouTube have different biopolitical and commercial strategies to increase data collection practices from users that include not only the algorithmic customisation of content, but also the design and interface of the platform. This assemblage of features gives form to what I called the YTMA. Within the YTMA, different tactics work together not only to exploit value from children's uses of the platform, but also to seduce them into staying longer online in order to increase data production.

In order to understand the impacts of YouTube commercial strategies on young children's experiences online, the study was designed to allow different voices to be heard on children's uses of YouTube. Through thematic analysis, I decided to gather data from three associated groups and conduct observations of children. I wanted to enable all children, parents, and teachers to voice their experiences and their opinions that frame their choices through semi-structured interviews, which provided insights into the political economic connections and the biopower relationships among them and exerted over them. It was also important to watch children using YouTube to enable me to contextualise participants' narratives and this is the reason why I conducted observations sessions with young children using the platform.

In this sense, my methodology was designed with three research questions in mind. My first research question was: How do young children participate in YouTube's political economy as digital labour? This question explored how young children experience the YTMA in producing value for the platform as paid and unpaid labour. As such, it was crucial to investigate young children's participation on YouTube as part of its biopolitical mechanism through their interaction with commercial tools like views and subscriptions.

The second research question was: How does YouTube modulate feelings, behaviour and the subjectivities of young children? It was specifically designed to investigate the modulation of children's experience and subjectivity. It was also important to understand the role of YouTube in the way children and caregivers navigate and make choices on the platform and, specifically, how it controls young children's navigation and influences their lives according to YouTube's commercial rationales. I explored children's feelings about and considerations

of tools designed to control their attentional behaviour on YouTube and caregivers' perspectives on the impact of these attentional strategies on children. For instance, under the biopolitical and political economic topics, I aimed at things like having a conversation about children's feelings when they need to disconnect and caregivers' knowledge about YouTube's profit mechanisms. The commodification of human capacities of attention and the influence of content creators on children's subjectivity are important aspects of the YouTube platform and were the most prominent themes in my dataset.

The third and final research question was: How do caregivers' experiences and knowledge about YouTube's political economy influence children's uses of the YouTube platform? Through this question, I sought to investigate how parents and teachers perceive the relationships between children's participation on video-sharing websites and the influence of these understandings on children's uses of YouTube. Considering young children's vulnerability online, investigating the extent to which caregivers can protect children online was paramount. Based on the discussion around the participation of digital users in the production of data exploited by digital conglomerates, I investigated caregivers' knowledge about YouTube's political economy and how this knowledge influences the way they manage young children online.

In brief, my research aimed to investigate children's experiences on YouTube through different peoples' lenses and theoretical perspectives that consider the role of the digital platform's users within YouTube's political economy. The research goal is to highlight possible areas of divergence and commonality among participants that can be addressed so as to have a better understanding of children's specific uses of media in producing economic value and further enhance knowledge about children within the political economic system to improve outcomes for children's wellbeing online.

3.1 Research Design

My research design sought to explore the experiences of each child participant through a combination of interviews and observations. With this aim in mind, it was designed to investigate participants' perspectives on children's experiences on YouTube through a triangulation among children's, parents', and teachers' contributions. I was particularly interested in participants' considerations about YouTube, their feelings and considerations about their uses of the platform, as well as the emotions connected with the experience. For

this exploration, semi-structured interviews with parents, teachers, and children, and observations with children, were undertaken to best address the empirical research goals whilst adhering to a constructivist epistemology.

The study of children online represents an evolving and dynamic field of research. There is a wide discussion around the appropriate methodology to use in the study of children online (Christensen & James, 2000; S. Livingstone, 2006, 2009, 2013). Different types of qualitative methodologies constantly emerge in history, but, in general, all forms can be grouped into four basic methods: interviews, observations, documents, and audio-visual materials. Although there are other innovative ways of collecting data, such as journaling in story writing, virtual focus groups, and blogs (Creswell, 2013; Garcia, Standlee, Bechkoff, & Cui, 2009; James & Busher, 2007), choices for this research were made based on a more traditional participant approach through interview and observation, seeking to have a close interaction with the subjects.

In this sense, my search for knowledge seeks to understand others' views of the world in order to provide insight into the meanings they attribute to their experiences. However, my stance also acknowledges that a real and knowable world can only be partially accessed by researchers since knowledge is socially influenced (Madill, Jordan, & Shirley, 2000). The sense that the nature of reality is socially constructed leads to the assumption that all knowledge is contingent upon human practices, and it does so by constructing meaning through humans' relationships with their world and by being transmitted within a social context (Crotty, 1998). Based on this epistemology, my choice of methods sought to investigate people's experiences within their social context through semi-structured interviews and observations conducted within their natural settings. The research was organised in two phases with phase one being the pilot research. The first phase was conducted to test ways to approach potential participants, the interview design, and children's acceptance of observation sessions. It was also used to provide information on the best way to organise the interview questions and on the length of children's attention span during interviews. The pilot identified practical and theoretical challenges early and enabled me to adjust the project to better achieve its aims (O'Reilly, Ronzoni, & Dogra, 2013). The pilot research was approved by the Massey University Human Ethics Committee, which means that data collected during the pilot stage could be included in the final research database.

Phase two gave continuity to what had been done in the first stage but with a few changes to increase the effectiveness of the fieldwork. In phase two, I gave parents from low-decile schools the possibility of being interviewed in the local library so any concern about their family privacy would be overcome. I also changed the order of the interviews and started interviewing children before parents to avoid children being influenced by their parents' contributions. Figure 3.1 summarises the qualitative research data collection procedures up to data analysis, which I will detail in the sections which follow.

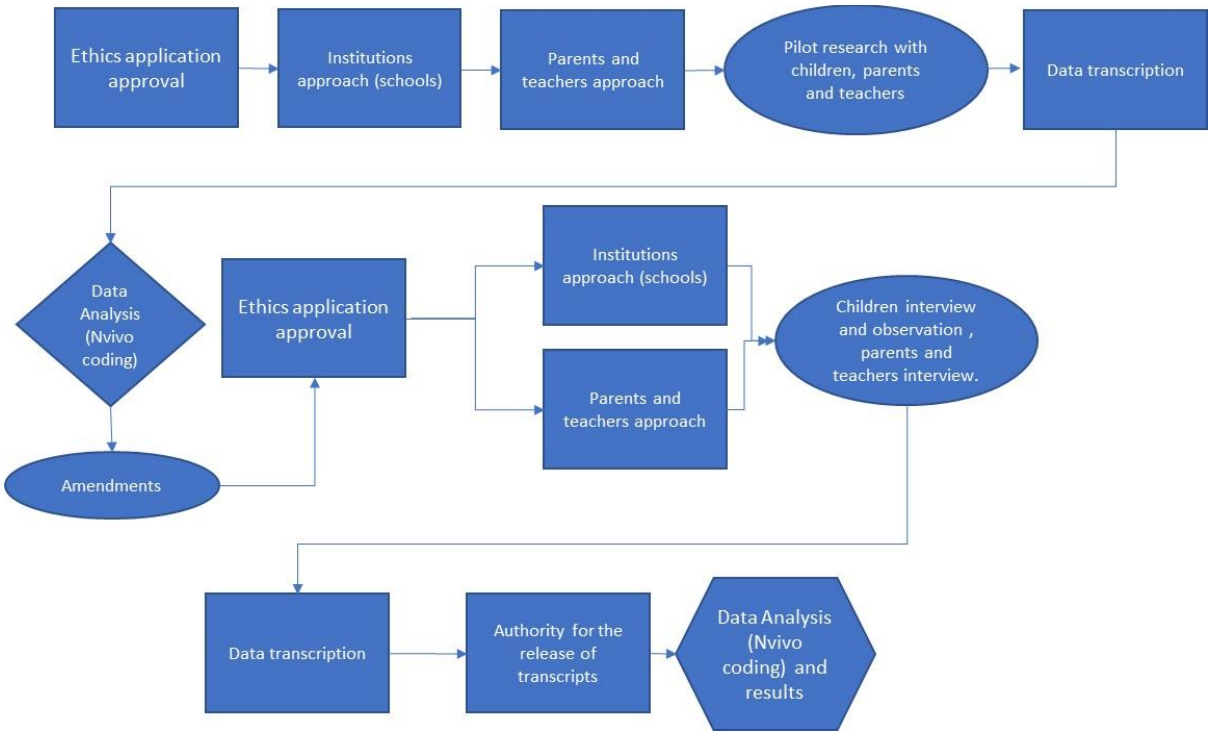

Figure 3.1 - The Qualitative Research Stages

3.2 Participant Recruitment

The first step in the research design was the definition of the sample frame from which participants were eligible to be selected. The sample frame consisted of children aged between five and six years old who are frequent users of YouTube (one hour x three times per week minimum), their parents, and their teachers. The target age for children was thought of in terms of having children who could express themselves sufficiently and for whom image itself would be their main tool of communication – a condition that can be found within children who are not yet reading in a conventional sense or are at the beginning of learning to read.

Once I defined the participant target, decisions had to be made about the most appropriate participant approach. In the pilot stage, I went to schools, talked in person with the principals, and gave them the research information sheet and the "Permission to Enter the Institution" letter. Principals were receptive, and the authorisation to deliver the research invitation to parents and teachers was gained straightaway in most schools. I approached 19 schools, delivered more than 700 hard copies to parents, and had 39 signed consent forms returned to me, as per Table 3.1.

TOTAL (Pilot + Official)							
Schools Approached	Permission granted	%	Qt Children	Consent back	%	Interview + Observ Done	%
19	10	53	738	39	5	20	3

Table 3.1 - Recruitment Overview

Once contact with school principal was enacted, principals asked for differing approaches to parents, as they each had different communication strategies with families within their schools. Some principals requested a printed invitation, some asked for a printed invitation along with a digital version to include in the school's newsletter, and some wanted just the digital invitation to include in the school's app.

For the schools that asked for hard copies, I delivered the parents' information sheet attached to the consent form to schools, which consisted of four pages of research information. Teachers of Years 1 and 2 students sent it home with children. To increase potential participants' interest in being part of the research and meet the demand for the digital research invitation, I shortened the invitation and created a website address to access the information sheet, together with a consent form to send back to the school. It was made in both formats: digital and hard copy. This model augmented the number of consent forms returned to me, and I had more people willing to participate.

After receiving the hard copy of the invitation, parents could send the consent form back to the teacher or access my website. On the research webpage (see Figure 3.2), visitors could find a channel to contact me directly to schedule a home visit and have access to the digital version of the participant information sheet. The research website allowed participants to have more information about the study promptly and enabled them to be in contact with me.

Figure 3.2 - Research Website: https://aggioamanda.wixsite.com/aggioamanda

The research venue also had an impact on the recruitment process. Most of the participants were interviewed and observed in their natural settings. I have focused upon the need to set participants carefully in their social context. Conducting qualitative research in participants' natural settings is especially recommended when investigating children; a site in which a culture-sharing group has developed beliefs, values, and assumptions in common is important for participants to feel comfortable and relaxed (Creswell, 2013). However, after many attempts to recruit parents with no success, I decided to change how to interview and observe participants (amendment approved by the Massey University Human Ethics Committee). According to teachers' feedback, some parents would probably be part of the study if they had the option to be interviewed in a public setting. Thus, I gave parents the option to meet me at school or at a public library. Parents from low-decile schools preferred the library setting.

Beyond schools, parents, and children, I also recruited teachers. Principals introduced me to teachers to facilitate the initial approach. I had access to teachers' emails and talked to them directly after the principals' introductions. I had the chance to send them the link to the information sheet available on the research website and discuss meeting availability. Although some teachers of participants declined to be part of the study, I had enough teachers from participants' schools willing to be part of the study.

Some teachers were approached directly by me. I went in person to schools and asked at the reception to talk with teachers or have their contact details. This tended to be particularly helpful if I could visit schools to talk with teachers during their staff meetings. During

teachers' breaks, I could approach several teachers at once and clarify any doubts about the research they may have had.

The recruitment of teachers was conducted to give preference for child participants' teachers. Having the teachers of the participants would provide a holistic view of participants. However, I could not have the agreement of all the participants' teachers to participate in the research. For this reason, some of the teacher participants were from participants' schools but not specifically the teachers of the child participants. Even though the ideal scenario in this study for the data analysis would have children, their parents, and their own classroom teacher, having the teachers from participants' schools but not the teachers of the participants themselves remained interesting and insightful as they were immersed in the same cultural environment. In particular, I decided to not engage with the teachers' perspectives on children online but focused instead on gaining a broader understanding of the YouTube uses within the school culture.

3.3 Ethics Approval

Gaining access to individuals and sites ethically entails several steps. While having the university's ethics board approval is essential, the possible harms and benefits of being part of the research also needed consideration. Each one of the steps taken toward respectful and ethical research helped me to design my investigation oriented by my study goals without losing sight of participants' wellbeing.

The first step was getting Massey University Human Ethics Committee approval for researching with children. As research with minors, this investigation required a review by the committee and a full application had to be completed. This process involved submitting a document to the Massey University Human Ethics Committee that detailed the procedures in the study, including giving all participants control over the interview process through information about their rights during the whole process.

On the one hand, my concerns during the field work were around thinking about the entire fieldwork process and considering possible risks and harms in advance. For instance, I had to consider situations where participants or myself may be at risk of harm or whether interview and observation approaches might cause discomfort or embarrassment to the participants. While considered unlikely, some questions could prompt parents and teachers to question

their responsibility for children's Internet practices, causing some discomfort. Also, there was the possibility of some children coming across something inappropriate while watching a video.

There were several strategies I used to deal with parents' and teachers' possible discomfort. The main ones were: to remind participants at the beginning of the interview that there were no right and wrong answers, just ideas, experiences, and opinions, which were all valuable; to reinforce the participants' rights before the interview; and to be vigilant and, if I noticed any sign of stress with the participants, to immediately stop the interviews. Regarding inappropriate content, as the "inappropriate" concept does not have a consensual definition, a question about what is inappropriate for parents and teachers as part of the interview and its answers guided my decision if any inappropriate content came up during the observation session. During the observation sessions, there was no experience of children being in contact with inappropriate content.

On the other hand, I considered and outlined the possible benefits of the project to individual participants, groups, communities, or organisations. In this sense, I analysed how the research could promote children's welfare online among children's advocates, educators, policymakers, and parents as well as benefit individual participants from reflecting on their children's uses of digital technologies. When my PhD is completed, my plan is to go back to participants and arrange workshops in local libraries to discuss the research findings.

While all these steps in the research process are important, my central concern was having vulnerable people as participants in the research. I had to take extreme precautions to avoid any harm or risk of psychological embarrassment or discomfort for them. In this sense, and in line with the philosophical assumptions adopted in this research that sought to hear children's voices, children participating in the research had the opportunity to decide if they wanted to be part of the research or if they wanted to withdraw before the interview started.

Children's consent was obtained through a consent form that I developed, primarily to allow them to consent while considering their limitations. Before starting, I read them information about what I was planning to do next and, subsequently, I asked them if they would or would not like to talk with me, pointing to the two boxes printed along with two figures beside each one. One box had a picture of a thumbs up next to it, and the other box had a thumbs down figure (see Figure 3.3). The children seemed to be very proud of themselves for taking the pen and ticking the box that represented what they would like to do; it automatically

established a respectful relationship between the participant and me, which was also a means of softening the relationship of authority between the interviewer and interviewee. I had one participant that decided to withdraw after reading the consent form.

Figure 3.3 - Children's Consent Form

Finally, I enrolled myself in a Treaty of Waitangi course to be aware of Māori culture. Having access to the homes of Māori people or having a conversation face to face with them must follow their beliefs and norms to establish a respectful relationship. My goal in doing this course was to know and respect their social and cultural heritage when interviewing them (see Appendix L).

3.4 Participants

The participants were students from 10 primary schools in the East Auckland region, their parents and teachers. This region was selected as it has an eclectic range of decile ratings of schools. The decile is a metric used to determine the socioeconomic position of a school's student community related to the national scenario. Decile 1 is 10% of schools with the highest number of students from low socioeconomic communities while decile 10 is the 10% of schools with the lowest number of these students. My dataset is composed of participants from different deciles, which indicate that participants come from low-middle and middle-class homes. This class difference aligns with the maximum variation sampling approach; this method consists of determining in advance some conditions that differentiate participants to increase the likelihood that the results will reflect different perspectives (Creswell, 2014). The breakdown of participants by school's socioeconomic status is provided in Table 3.2.

Children and Parents		
School Decile	**#Dyads/Participants**	**%**
High (6-10)	9/18	45
Middle/Low (1-5)	11/22	55

Teachers		
School Decile	**#Participants**	**%**
High (6-10)	2	33
Middle/Low (1-5)	5	83

Table 3.2 - Participants per Schools' Decile

This research was developed to consider the quality of the analysis – time and care spent analysing interviews – rather than quantity and repetition, so as to produce a valuable investigation. The issue of "how many" participants is a recurrent discussion thread in the research methods field, but conclusive discussions on this issue are still scarce in academic texts (Baker, Edwards, & Doidge, 2012). Since qualitative research is exploratory by nature, it is difficult for qualitative researchers to know in advance how much data to gather. According to Ragin and Becker (1992), a qualitative approach is usually interested in identifying commonalities between types and drawing out the impact of these commonalities on the whole scenario. Ragin and Becker suggest that researchers may conduct their research up to the point that the evidence is so repetitive that there is no need to continue. However, Bryman (2016) argues that researching until saturation is a challenge as it requires a constant back and forth dynamic between sampling and data analysis and skips the simplicity of the linear approach. Based on this, I recruited 20 children, 20 parents, and seven teachers (see Tables 3.3 and 3.4). The number of teachers is smaller because there are some teachers of more than one child participant. In total, the research database included 47 interviews and 20 observations.

Interviews				Observations
Children	**Parents**	**Teachers**	**Total**	**Children**
20	20	7	47	20

Table 3.3 – Number of Interviews and Observations

Participants (Pseudonym)				
Children	**Gender**	**Ethnic Group**	**Parent**	**Teacher**
Ghita	Female	New Zealand European	Tessa	Amelie
Justin	Male	New Zealand European	Sandy	Amelie
Philippe	Male	New Zealand European	Jeanne	Sonia
Katherine	Female	New Zealand European	Jeanne	Sonia
Martin	Male	Maori	Nick	Alex
Una	Female	New Zealand European	Annie	Sonia
Briana	Female	Chinese	Gracie	
Elsa	Female	Indian	Ana	Carol
Vanessa	Female	Sri Lanka	Olga	Carol
Chad	Male	Indian	Helene	Carol
Sofia	Female	Maori	Tina	Kirsten
Connor	Male	New Zealand European	Leslie	Alicia
Peter	Male	Filipines	Suzy	Kirsten
Marcus	Male	Filipines	Irene	Kirsten
Lucy	Female	Indian	Rita	Carol
Jean	Male	Other	Simone	Carol
Jaime	Male	Other	Cersei	
Caio	Male	Filipines	Simon	Kirsten
Arya	Female	New Zealand European	Catelyn	Sonia
Leon	Male	New Zealand European	Rose	
				Elisa

Table 3.4 - Participants per Gender and Ethnic Group

3.5 Data Collection

Semi-structured interviews with children, parents, and teachers, and observations of children using YouTube, were the methods of data collection used for this thesis.

Semi-structured Interviews

This research was designed to employ tools that offer children the maximum opportunity to put forward their views. One of the methods I applied to get closer to participants was semi-structured interviews. Instead of hearing from adults exclusively on how young children experience YouTube, in my research, children were able to express themselves during the interview, reducing the social distance between the researcher and each of the children.

In parallel, parents and teachers were interviewed as an acknowledgement of their influences on children's lives. They had the opportunity to voice their expectations and concerns about

children's uses of YouTube, allowing me to confront and compare participants' narratives on the same subject (Bucknall, 2014). Thus, children's, parents', and teachers' narratives were analysed to give access to different and coexisting perspectives on young children on the YouTube platform. The interview guide and questionnaire can be found in Appendices E, F and H.

A semi-structured protocol allowed me some flexibility in the dialogue with participants. Through semi-structured interviews, I could investigate participants' perceptions about YouTube's political economy, questioning them about things like how YouTube uses children's data or how YouTube captures users' attention. My interview questions opened up an important discussion about how YouTube operates and gave me access to participants' knowledge about the platform.

The semi-structured interview was designed to let participants talk freely about their opinions and considerations, without losing sight of the research topics. Some questions were formulated to indirectly connect with their awareness of the YouTube's political economy. For instance, instead of asking about digital labour, I asked how YouTube "makes money" and survives as a business. As a result, I could grasp different yet important insights from participants' awareness of the Internet's political economy.

I did have a broad list of topics I was interested to explore, and I organised them within a semi-structured interview format accordingly. To develop an interview protocol that considered different questions without digressing from the objective of the study, I expanded the research questions into critical concepts and sub-questions. Each interview question was marked with a colour according to the relevant research concepts, as shown in Table 3.5, below.

The research topic guides		
Topic	**Description**	Classification
Access	how children access and use Internet	
Practice / skills	what children do online and offline	
Biopolitic	how parents, teachers and children understand the capture of children's attention and data	
Digital labour	Are parents and teachers' concerns and perceptions of digital platform related to economic value (cross-subsidiation business, algorithms, data gathering)	
Parent and teacher mediation	how parents and teachers control, influence and guide children online	

1. **About children's data and privacy online** 

a) How do you feel about the collection of your child's data online?
b) How do you think YouTube can use your child's data? What impact does this use have on your child?
c) Do you know if YouTube Company relates to any other digital service?
d) How does your child access and use the Internet?
e) How does your child access the YouTube (website, app or YouTube kid's app)?

Table 3.5 - Example of the Semi-structured Interview Questions

Although the topics of interest permeated the interviews with all participants indiscriminately, the ways they responded to them were different. While adults could answer questions with more precision, young children had a shorter repertoire and reduced critical and focus skills. The ability to consider past and future experiences as well as make generalisations are developing in most children at this stage (Ahmad, Ch., Batool, Sittar, & Malik, 2016; Houde & Meljac, 2002), which makes it harder for them to make comparisons and correlations. Naturally, my young participants tended to get lost or change the subject instead of answering what the question asked for. When my participants started deviating from the question, I brought them back to the subject being investigated by repeating the initial question.

Because children struggled to answer the questions related to their feelings on the platform, like "what do you think about YouTube", or to express personal opinions, I decided to elaborate on the question, "If YouTube was a person, what kind of person would it be?" Children's answers to this question gave me insightful data about their relationship with YouTube. The challenge of interviewing children at young ages is that they usually have difficulty putting into words what they are thinking or feeling (Bell, 2007; Christensen & James, 2017). Thus, asking children to think of YouTube as a person helped them use their creativity to translate their thoughts into images. Children's answers to this question gave me insightful data about their relationship with YouTube. As a friend or as a superhero, participants' personification of YouTube gave me a lot of information about the kind of relationships they are establishing with the platform without demanding much of participants.

In terms of timeframe, interview length varied according to participants' profiles. It was desired that children's interviews be kept to a maximum length of 20 minutes as this appears to be the attention span of a child of five or six years of age. A normal attention span for a child is three to five minutes per year of a child's age (Schmitt, 2011). Parents' interview length was of 50 minutes maximum. As they were at home or a place familiar to them, conversations were relaxed in terms of time. In contrast, the teacher interviews had to be of no more than 20 minutes duration as teachers were at school in their break time or at the end of their workday.

Participant Observations

As one of my methods used to study participants, my research design included observation sessions with children. The observation method allowed me to practically investigate what participants mentioned in the interview with regard to children's uses of YouTube, such as how they handle digital technologies, the kind of stimulus they receive from outside their devices when they are online, and the kind of hardware and applications used.

Observation sessions were held in children's homes or familiar public spaces at the end of their interviews. This meant that after interviewing children and parents, I could observe children watching videos on YouTube on their devices and make field notes to include in the analysis. My notes detailed children's activities during the observation sessions and were included in NVivo as part of my thematic analysis. The observation session was done after interviewing children, which means that it was not possible for me to play the role of a complete observer because I had already been seen and noticed by the participants (Creswell, 2014). It was important to play Fine's (1987) suggested "friend role" when observing participants. This role means that I attempted to "couple a positive relationship with a minimal amount of authority" (Fine, 1987, p. 224). In this sense, I often asked children to teach me how to use the platform, which transferred my role of authority to them. They then tended to feel empowered and more willing to cooperate with me. The observation protocol can be found in Appendix G.

Observation sessions were video recorded. In general, children were anxious to have some time with their digital technology, which facilitated the transition from interviewing to observing them. However, children felt curious and sometimes uncomfortable with the camera recording them. In these cases, the best procedure was to let them play with the camera and check the camera's screen to see what I was recording. I let the camera be positioned behind participants and sat down close to them, watching their devices with them and writing my notes.

The observation sessions were initially planned to be around 30 minutes, but this turned out to be too long for parents to fit in their family schedules since the total time of the interview and observation was more than one hour. Thus, the observation session length was adjusted to 25 minutes maximum, and this was sufficient to provide enough information for the research analysis.

During the interviews and observations, several important insights and understandings emerged for me as a researcher. As a commitment to self-reflexivity, I recorded an audio file after each participant meeting with these reflections to use as my first impressions and analysis of participants. The time spent with the transcripts of the interviews and observation audio files was a natural process of data analysis since I gave careful attention to every action the participants did and every word mentioned.

Equipment Used For Data Collection

The equipment used to conduct the qualitative research fieldwork was a notebook, a voice recorder, and a professional camera and tripod with my little buddy "George" attached to it – the plush monkey was important to make some of the participants feel more comfortable with the observations (see Figure 3.4). As a koha (donation), families received a children's book and teachers a notebook at the end of the meetings (see Figure 3.5).

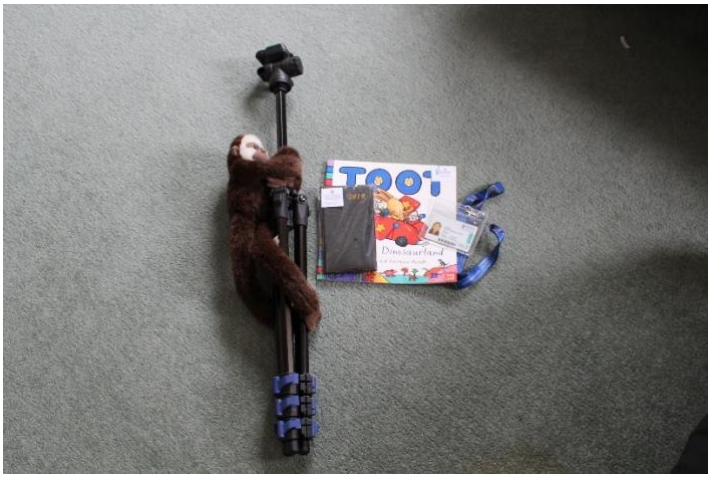

Figure 3.4 - Data Collection Support Material - 1

Figure 3.5 - Data Collection Support Material - 2

3.6 Data Analysis

Thematic Analysis

The data, including transcriptions and observation and audio files, were added to the NVivo software for coding and finding the final research themes. The data analysis process aimed to identify, analyse, and report on repeated patterns of meaning within the dataset. It was important to choose a method of data analysis in the planning stages to guarantee coherence between the data gathered and the chosen form of qualitative analysis (O'Reilly et al., 2013, p. 221). This research has approached the dataset through the *thematic analysis* method. Thematic analysis is an independent data analysis method that can be applied across different theoretical and epistemological approaches (Braun & Clarke, 2013).

Thematic analysis allows for identifying, analysing and reporting patterns within the dataset as opposed to the *content analysis* that establishes categories for coding in advance. Although in the beginning I tended to define the categories according to my research goals, the fact that some important themes emerged from my dataset moved my data analysis approach from content analysis to thematic analysis. Braun and Clarke (2006) highlight the importance of not misinterpreting the comment "themes emerging", considering that themes reside in the data, and denying the active role played by researchers. The four themes that constitute my thesis findings were the result of an extensive process of analysis based on the theoretical framework that led to some specific patterns being found throughout the dataset.

Along with the data analyses, I sought ideas, assumptions, and conceptualisations latent in the data, which meant looking beyond descriptions and semantic meanings. Qualitative researchers seek patterns as "somewhat stable indictors of humans' ways of living and

working on rendering the world more comprehensible, predictable and tractable" (Saldaña, 2016, p. 6). The aim was to explore meanings and experiences socially produced and reproduced within participants' contributions – feelings, opinions, and behaviour patterns in regard to using YouTube. Driven by the theoretical perspective adopted to approach the data, I tended to provide less of a description of the data overall but more of a detailed analysis of specific aspects of the data.

Coding and Categorising

Coding depends on the theoretical filter along with the researcher's perspective. The researcher's filters and lenses influence the formulation of the questions and, consequently, the research answers; it will also reflect their analysis, interpretations, and results. For Sipe and Ghiso (2004), all coding is a judgment call since all researchers include their subjectivities and personalities in the research process. As each researcher has their own particular and peculiar view of life, it is possible to say that multiple realities can be found within the same data corpus (Saldaña, 2016).

My research coding was a cyclical process that required several rounds of coding data to arrive at a result that could capture the essence of participants' contributions. My process of coding was an organic one, in which the first cycle codes interacted with further observations in the second cycle and were implicated in new connections for the third round. It was an "insightful qualitative analytic discovery over mere mechanistic validation" (Saldaña, 2016, p. 13).

I used the NVivo software to analyse my dataset. NVivo software is a data analysis computer software package designed especially for qualitative research. The software tools enable researchers to cluster and split data efficiently, making the whole process of analysing the data and finding its essence faster and clearer. NVivo was central to organising and exploring the research data collected.

Preparing data for coding in NVivo gave me a certain familiarity with the data collected. It was comparable to preparing before the proper analysis began (Saldaña, 2016). I had planned, organised, and analysed the research data corpus in full, which means I was present and involved during the whole data gathering process, including interviews and observations, and

audio-recording transcription. Data analysis was an ongoing process that began with the first interviews and has gone beyond participants' quotes to arrive at the most prominent themes.

It took me around six hours of work to transcribe one hour of conversation and two hours analysing and taking notes of 25 minutes of video. In total, the work consisted of around 46 hours of interviewing, four hours of videoing, and more than 280 hours of transcribing and note-taking. Transcribing interviews and observations right after they happened optimised my time as it was easier to remember any outside influence over participants, or phrases and words that were unclear in the audio file.

With interviews and observations uploaded to NVivo, I used an automatic coding tool to organise the research findings. Codes are defined considering the essential elements of the research story that, when clustered according to their patterns, give form to categories: code and category are "interchangeable" (Saldaña, 2016). For instance, initial codes were defined for participants' contributions to advertisements on YouTube. Some of the codes were "I want to buy", "Not kid ads", and "Just skip it". These codes were clustered under the "Ads and Children" category. Clustering participants' contributions gave me a good start in investigating similarities and regularities and, consequently, in enabling me to notice emerging codes and categories among participants' narratives. The coding process was organised according to patterns and similarities to make them part of the categories and, later, of the themes.

The coding was initiated after clustering participants' answers. Before starting, it was important to avoid some pitfalls, like using interview questions as themes, themes that do not work together, too much overlap between themes, and mismatch between research questions and the form of thematic analysis used. Interpretations should be consistent with the theoretical framework (Braun & Clarke, 2006). My approach was to analyse the categories and investigate the underlying causes of participants' accounts to find similarities and discrepancies based on the political economy framework. These patterns emerging from the dataset resulted in four themes approached in the four findings chapters, Chapters 4 to 7.

Three Cycles of Coding: Descriptive, In-Vivo, and Pattern Coding

Within NVivo software, the data corpus went through three cycles of coding: descriptive, in-vivo, and the pattern method. The coding methods were chosen so that the dataset could be divided into smaller codes and the codes grouped into meaningful categories and themes at

the end. Through detailed analyses that consider line-by-line coding, dividing can generate a more "nuanced analysis" from the beginning (Saldaña, 2016).

The first coding cycle was guided by the *descriptive* coding method. Also called "topic coding", descriptive coding is a standardised coding method. The method can be applied in most qualitative research and is particularly recommended for novice researchers. Descriptive codes seek to define the topic that describes a passage of qualitative data in a word or short phrase. The codes are identifications of the topic, not abbreviations of the content; the topic is what is talked about while the content is the quotes (Tesh, 1990). For example, the interview extract below was coded using the topic that describes the passage:

The anticipation of getting a box of something (1) and then, 'hey guys, what are you doing today? We've got this'. And they, you know, if they get a present, they will mimic (2) that, which is good. I don't know if this is good or bad (3). But I definitely, when I was a young girl, like four (4), I noticed. Definitely, they are learning words from YouTube (5).

(1) Toy review
(2) Mimic
(3) Uncertainty
(4) Comparison
(5) Learning

Descriptive coding provided a basic level of data analysis that could help me in the initial organisation of the data analysis. To reach more complex and theoretical analyses, I had to go beyond simple descriptive words and phrases. Thus, coding methods that allowed categories and themes to emerge from the data were chosen for the second and third cycles of my data analysis.

The second cycle of coding was approached using the *in-vivo* coding method. Also labelled "natural coding" or "verbatim coding", in-vivo coding consists of using a word or short phrase used by participants (Strauss, 1987). The main reason I picked the in-vivo method to analyse the research results is that it "prioritise[s] and honour[s] the participant's voice" (Saldaña, 2016, p. 106), which is one of the main philosophical assumptions that sustains this investigation; coding with participants' actual words enhances an understanding of children's narratives. Coding with participants' words gave me another perspective over the same data, as shown in the example below:

The anticipation of getting a box of something (1) and then, 'hey guys, what do you doing today? We've got this'. And they, you know, if they get a

(1) A box of something
(2) They will mimic
(3) I don't know
(4) When I was young
(5) Learning words

present, they will mimic (2) that, which is good. I don't know if this is good or bad (3). But I definitely, when I was a young girl, like four (4), I noticed. Definitely, they are learning words from YouTube (5).

Using participants' own words made me step back from generating codes based on my perspective to create codes inspired by data collected. In general, in-vivo coding provides evocative content that promotes theme and concept development. However, relying only upon in-vivo coding can limit the researcher's capacity to achieve theoretical analysis and insights (Saldaña, 2016).

For this reason, and to align with the thematic analysis, the third and last data analysis cycle was to group codes into smaller categories and themes, and *pattern coding* was used to achieve this aim. Pattern coding is appropriate for clustering large numbers of codes into a smaller analytic unit, developing major themes from the data (Saldaña, 2016). The pattern coding helped me to look for regularities and find the essence of some research passages through clustering similar codes. Different ideas were compared and analysed, such as:

"Inevitable" (a descriptive code from the initial coding cycle that defined the trending topic from some of the parents' quotes)

"It's About Us" (an in-vivo code from the second coding cycle that seemed to summarise parents' understandings about the roles they play with children online that guided the remaining codes)

Several ideas from these codes were considered so as to arrive at the following pattern code:

"Monitoring" (a pattern code that suggests action and feelings)

The pattern code was used as a stimulus to describe the major theme as it represents a pattern of action and perception in the data. The relationship between the three sets of coded data above led me to define one of the major research themes. **Control** seems to holistically translate the latent experience many parents have been through on YouTube, in the sense of being in control of what their children watch and also being controlled by the way YouTube operates. The same process was done for the other three themes.

The **Attention** theme was one of the themes most present and clear throughout my dataset, and it encompasses an important part of participants' contributions. Codes like "Creates addiction", "Vicious cycle", and "He is deaf" were clearly related to attention. Although approached differently by parents, teachers, and children, Attention is a predominant issue in participants' accounts.

Children's desire to be a YouTuber, along with the influence of advertisements and the number of views in the users' experience on the platform, brought the **Popularity** theme to the discussion. "I want to be a YouTuber", "More popular would be the good one", and "I want to buy" are in-vivo codes that have popularity as a central value. Although not foreseen, Popularity turned out to be a present concern in participants' contributions and one of the main themes for analysis.

Finally, **Happiness** was the most evident theme across children's accounts. As giving voice to children is one of the goals of my second research question (How does YouTube modulates the behaviour, narratives and subjectivities of young children?), the analysis of children's happiness on YouTube is core to this thesis. While several children reported being "Happy", codes like "Children's happy place" and "He is not stopping" were contributions by parents and teachers that confirmed the importance of this emotional state in the analysis of children's uses of YouTube.

In moving from in-vivo coding to pattern coding, the research codes reduced from more than 85 categories to the four final themes, as shown in Figure 3.6.

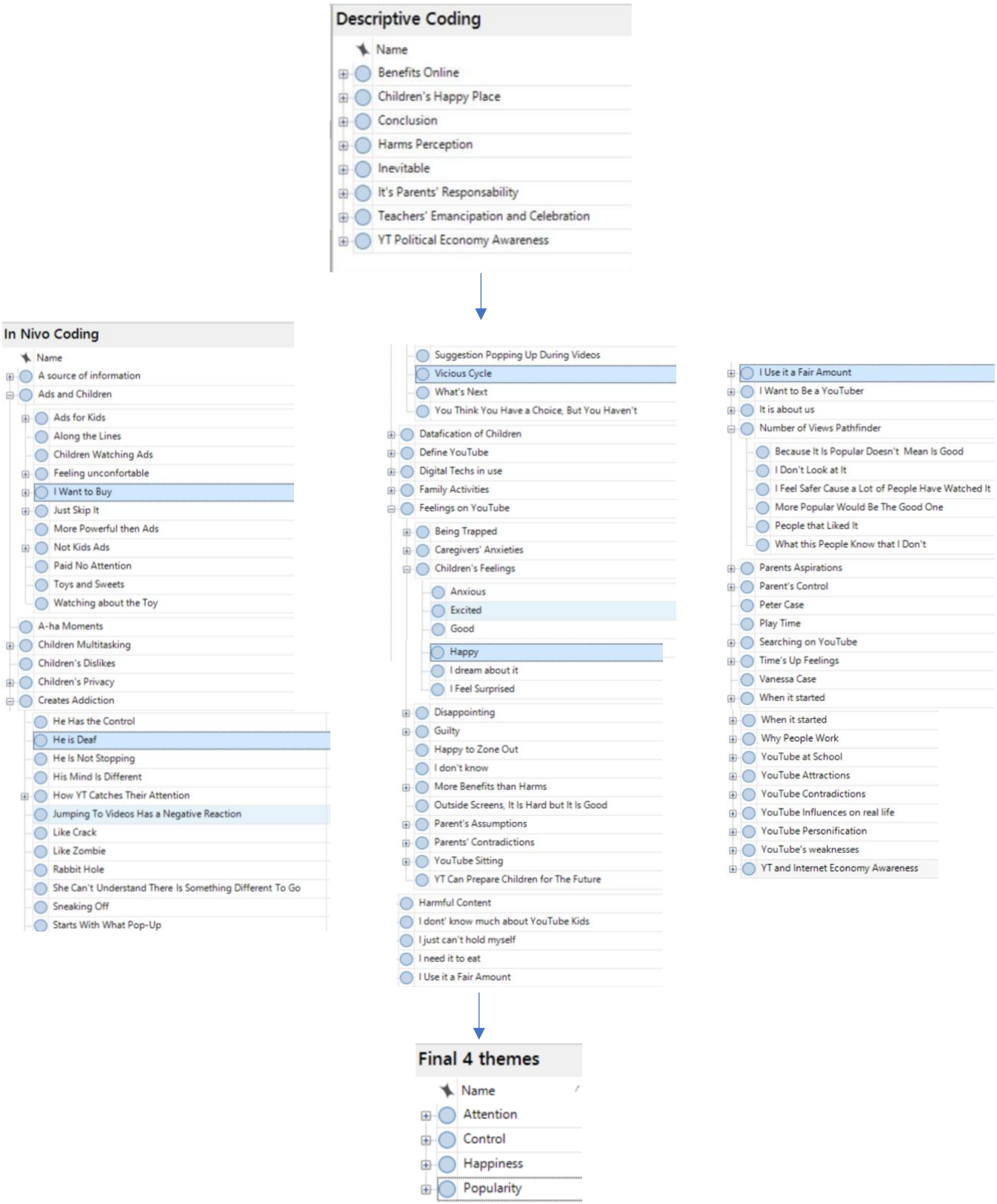

Figure 3.6 - NVivo Coding: From Descriptive Coding to Final Research Themes

3.7 Final Research Themes

The final four themes were organised according to participants' contributions and the research story. To this end, I had looked for themes emerging from participants' passages using the lenses of the theoretical perspective while constantly referring to the research questions. Thus, in the following chapters, the research questions were explored through the following four themes:

1) Attention;
2) Control;
3) Happiness; and
4) Popularity.

Thus, the data analysis is the result of an investigation that started with the interviews and observations and ended after three coding cycles, as shown in Figure 3.7.

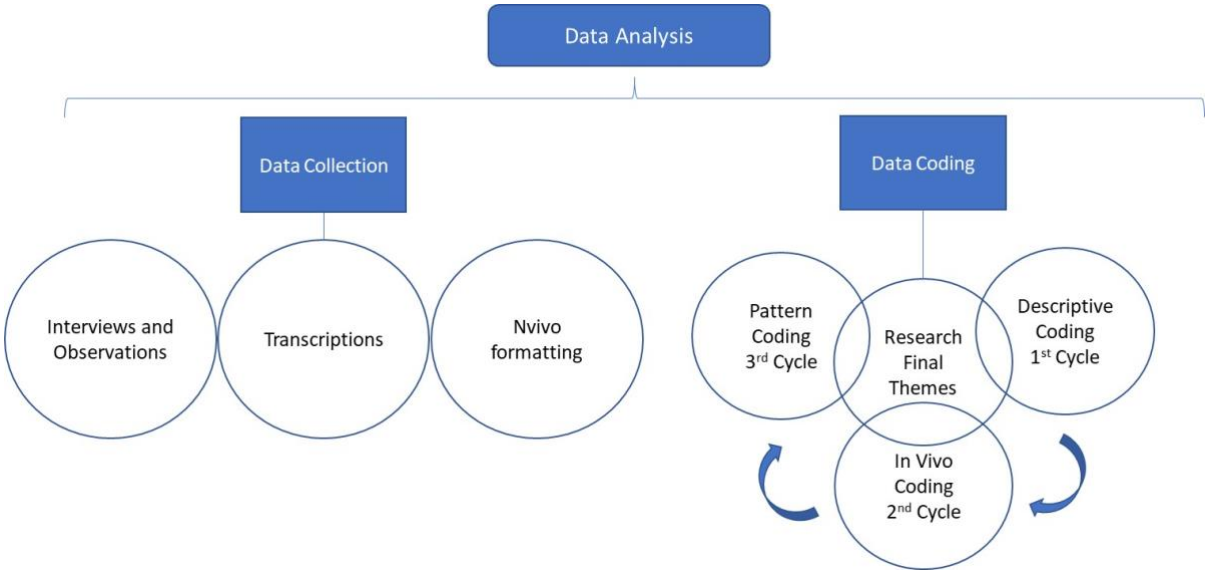

Figure 3.7 - Data Analysis Process

Overall, I developed a close and intrinsic relationship with the research data that gave me the consistency necessary to identify the "story" each theme tells and consider how it fits into the broader overall "story" about this investigation, which I will explore in the following four chapters.

3.8 Conclusion

This chapter has outlined the philosophical assumptions of the current study, the research questions pursued, and the methodology chosen to follow the study strategy. It has revealed the theories behind the choices made and the challenges presented throughout the field work pathway. I presented how the willingness to give voice to children defined most of the decisions made. Ultimately, this chapter sought to expose every stage of the research from designing the fieldwork to arriving at the major themes I will present and explore in the next four chapters.

Chapter 4: Why YouTube? A Happy Algorithmic Relationship

In Chapter 2, I have already made the case that young children's voices are not usually heard in qualitative research that studies children online. In general, research with children online concentrates on children above eight years old or adults' narratives about children under seven years old. To fill that gap, I decided to begin the findings chapters prioritising young children's voices. I start my findings analysing happiness as it was children's predominant emotion of choice when speaking about their experiences on YouTube.

This chapter presents how YouTube pleases children and how an intimate relationship is established between young users and the YouTube platform. When young children speak about being happy on YouTube, it extends beyond happiness exclusively because of the possibilities offered by video content. It includes the feeling of being comfortably supported by a mechanism that knows children's preferences. The materiality of YouTube and content are inextricably linked in the way children experience YTMA. Young children's experiences on the platform not only revolve around its videos, but the way children navigate content is also a conditional part of participants' happy experiences.

I also illustrate the influence of YouTube's commercial interests on the content presented on the platform. While the common understanding of algorithms is a set of instructions that allows the automation of decision-making processes, from going deeper into the YouTube business model it is evident that this series of instructions is also a content shaper when it ends up guiding creators' production and, consequently, what young children are watching online.

Although caregivers have concerns about the impact of watching and producing videos on children's emotions and behaviour, it became clear that this happy intimacy experienced by children on the platform can further encourage the adoption of YouTube into parenting and teaching. On the one hand, YouTube is a useful tool for family management, and its uses revolve around aspects such as a bribe, a threat, or babysitting. On the other hand, the widespread use of YouTube and its holding company, Google, in New Zealand schools is symptomatic of teachers' endorsement of the benefits of digital technologies in the classroom. This points to the participation in and modulation of children's experiences,

feelings and behaviour according to YouTube's political economic strategies, which aim to transform, discipline, and optimise these experiences, feelings and behaviour to specific ends; this is a reasonable place to begin the first of my findings chapters.

4.1 YouTube: The Unicorn That Punches Meanies People

When I asked participants to personify YouTube, they usually responded with positive images of people or animated icons that may bring values of "care" and "safety", like a cartoon hero or a close friend. The way participants anthropomorphised YouTube connected to the interview and observation findings around children's intimacy with the YouTube system. Children's embodiment of YouTube also revealed children's emotional attachment to the platform and illustrates salient aspects of happiness related to users' experiences on the platform.

The child participants who personified YouTube did this in different ways. For some of them, YouTube was a familiar good "person":

Connor: A cool boy.

Katherine: A good person.

Jean: It's a person that I know.

These participants are constructing YouTube's image based on positive interpretations. There is a sense of proximity and intimacy with YouTube that emerges when children talk about YouTube as a known and good entity. An interesting description was given by one of the participants:

Interviewer: Good, when you think about YouTube, is there any image that comes to your mind? For example, if YouTube was a person, what kind of person would it be?

Arya: A girl, a lady with a unicorn's horn.

Interviewer: So, it would be a nice person, right?

Arya: Yeah, and it would punch meanies people.

(…)

Interviewer: Oh! So, it would be a person that fights against the mean people

Arya: Yes.

Arya personified YouTube as the lady unicorn that punches meanies people. Arya is an energetic child who loves to watch music video clips on YouTube. What she also likes is watching YouTube's suggestions for new songs and singers. Unlike some participants, Arya had not had any harmful encounters on YouTube. The most unusual situation she had experienced on the platform was when she watched a "cat pooping on a toilet". Arya loves YouTube's content, and she gets "sad" when watching time is over. Perhaps her positive experiences on YouTube are why Arya portrayed YouTube as a nice fairy-tale character that protects her from bad people.

Arya values YouTube for its power to protect her in a place where children's vulnerability is exposed. Her account denoted the value of "safety" even though she acknowledged risks from being on the platform. Intriguingly, Arya seemed to acknowledge the possibility of harmful experiences from being on the YouTube platform when she considered the existence of "meanies people" online. Considering that Arya had not reported any risky situation on the Internet, it is possible that this sense of hazard was installed in her by adults' advice or friends' experiences. During her interview, Arya's mother mentioned her worries with some aspects of Arya's interactions online and how she is constantly monitoring and guiding her watching time (I approach parents' control of children's time online in Chapter 7).

The positive personification of YouTube can be seen across the dataset, and it is a constant even when a participant has already encountered scary and risky situations on YouTube. This is illustrated in the case of two six-year-old boys, Peter and Caio. Peter and Caio are part of the "gaming spectators" group of participants (see section 4.2) and have already been impacted by the risks offered by this kind of content. Both reported harmful experiences on YouTube, most of them related to game characters. However, these bad events have not prevented Peter and Caio from positively portraying the YouTube platform. Peter described what YouTube would be like if it was a person:

> **Peter:** I think he would have a moustache like this because he is too old. Because he wants everyone to be happy; he wants people to be happy.

Peter's description reinforces the emotional relationship of young children with YouTube as a familiar and happy experience. Peter made a strong point when he said that YouTube "wants everyone to be happy". YouTube was seen as a video repository and an entity that is continually working to make children happy. His quote points to a reciprocal intimacy where he knows YouTube, and YouTube knows him. YouTube is an entity that knows how to make

him happy, and Peter knows YouTube to the point that he can confirm YouTube wants people's happiness.

Indeed, Peter has an intimate relationship with YouTube. He is one of the participants who spends a great deal of time on the platform. Peter has his own devices and can use his tablet and mobile freely every day of the week. He is also a content creator. He showed me several toy reviews and prank videos he had uploaded to his YouTube channel, which took his mother by surprise. Peter's mother, Suzy, became aware of most of his activities on YouTube during the interview session, and she was visibly worried about some of the videos Peter recorded. During the transcript delivery, Suzy mentioned that she had imposed time restrictions and deleted videos from Peter's channel after our meeting.

The way another participant, Caio, embodied YouTube is also interesting. For Caio, if YouTube were a person, it would be a tall, confident man.

Interviewer: For example, if YouTube was a person, what kind of person would YouTube be? A man, a boy, a girl?

Caio: It would be a man.

Interviewer: Tall, short?

Caio: Tall.

Interviewer: Tall. And how would this man be – happy, sad, good, bad?

Caio: He would be confident.

Although I gave Caio some ideas to stimulate his creativity – man, boy, girl, tall, short – Caio's characterisation of YouTube as a confident man was a genuinely surprising definition. In a sense, Caio's perspective shows his admiration for a platform that he probably understands as being assured and assertive. These characteristics can be related to the YouTube platform and as qualities Caio admires in his favourite YouTuber.

The children in this study are assessing YouTube as a whole experience, and the absence of clear boundaries between user experience and content results in a happy and familiar involvement. YouTube provides a mechanism that is not merely beneficial for entertaining but also because it is simultaneously perceived as a comfort zone. Participants' personification of YouTube reveals that watching videos on YouTube is an individualised happy experience where children feel actively protected and looked after. This familiarity and intimacy created by a mechanism that knows how to fulfil children's desires with customised content creates a relationship that is solidified as an important part of participants' lives. The

findings about how young children see YouTube "physically" reveal important aspects of the relationship between young children and digital technologies, especially the emotional rapport with its mechanism. With this context in mind, the next section shows how children's contributions echo the way they anthropomorphised YouTube.

4.2 Children's Happy Place

My interpretative approach was designed to explore the various feelings YouTube brings up in young children. One of the leading research goals was investigating the prominent feeling coming to children's minds when talking about their experiences on the video-sharing platform. Across all interviews, the predominance of *happiness* as a relevant emotion with regard to YouTube was identifiable. Children are routinely involved in normalised practices around watching videos, which they understand as pleasurable, friendly, and familiar. However, when children say they are happy on YouTube, what does it mean?

The notion that YouTube is a happy place manifests itself in children's narratives about YouTube throughout the dataset. Children's happy experiences on YouTube are not only affected by the video content watched (that is, what one feels happy for) but by the way its platform operates (that is, how happiness is experienced). Children are happy on the platform because the YTMA links children's experiences and feelings to the operation of knowledge and power in continual circuits of intensification, regulation, and discursive elaboration (Foucault, 1990; Mills, 2017). This means that watching videos on YouTube is an immersive experience for young children where different forces operate through a range of stimuli that guide children's experiences on the platform, such as recommendations of videos and links to suggested videos. I have already made the case in Chapter 2 that the YTMA is constituted by all the tools and commercial strategies that work together to keep children online, including video content and algorithms. Even though I am less interested in the content, I clarify in the next section the distinction between content and the user experience. I start explaining which content makes children happy on YouTube, followed by the findings on the way the YTMA influences children's experiences on the platform.

Young Children's Happy Content

YouTube content is responsible for countless happy moments for young children on the platform. Participants identified different types of content promoting joyful moments on YouTube. Children were happy about watching their favourite content creators playing games, reviewing toys, having experiences with sweets, or spending time with their favourite cartoons. Investigating children between the ages of five and six years old, it was possible to notice that this age range is a transitional stage from infant videos (mostly educational videos) to child-oriented content (mostly content creators and games), which leads to a certain differentiation in content across participants.

Watching educational cartoons is a considerable part of participants' happy experiences on YouTube and seems to be related to early habits formed on the platform. Practically all participants started watching educational videos on YouTube at an early age. Throughout the dataset, it was clear that by the time they were five years old, they were already seasoned YouTube users. Paw Patrol, Minions, Peter Pan, Peppa Pig, and Kung Fu Panda were some of the variety of cartoons participants liked to watch on YouTube. During observations, some participants opted to watch cartoons during the whole observation session. Martin (child) opened his iPad and scrolled through the recommendation section to find what video from "Thomas and Friends" he would watch. He spent all his time in the session watching and singing with Thomas the Tank Engine. Similarly, Lucy (child) watched a few episodes of one of her favourite cartoons on YouTube during her observation session.

Even though cartoons remain an important part of what most young children watch on YouTube, they also frequently referred to game and toy reviews as an area of growing interest. Indeed, gaming videos and product reviews appear to be fascinating for young children. The excitement of opening surprise eggs and toy boxes or getting prizes for games feeds children's imagination and makes them happy, as I explore in this section.

During interviews and observations, participants watched and cited several content creators as part of their favourite content to watch on the platform. Katherine (child) decided to watch a single toy review video during her entire observation session. The video presents a YouTuber with just over one million subscribers. The YouTuber was giving a review for a LOL lip balm and a perfume box. As Katherine did not choose the full-screen mode, the recommendations were on the right side of the screen the whole time. Most videos in the recommendation area were from the same YouTuber, which indicates that Katherine's preferences likely revolve around videos of people unpacking products.

The same pattern could be seen in Ghita's (child) observation session. Ghita chose to watch a YouTuber well-known for her do-it-yourself (DIY) videos in which she makes costume and stationery items, mostly using sweets. The YouTuber has a channel with more than 10 million subscribers that also reviews products. Ghita watched a video showing Sara creating homemade costumes with marshmallows and jellies during her observation session. The presenter showed how processed food can be used to make creative homemade products while eating them and displaying their brands.

Children' happiness when watching toy review videos was mentioned by some parents:

> **Rose (Leon's mother):** I don't know; kids love to watch other people playing with toys. I don't know why they love to do that more than play with toys themselves; I don't know. He loves watching people unpacking toys.

Rose's account points out to YouTube's content trend for young children. Product review channels seem to be one of the top genres in children's preferences on YouTube. A quick search on YouTube can give us an idea of the magnitude of these types of videos on the platform. Opening egg surprise videos, such as "Play-Doh Sparkle Princess Ariel Elsa Anna Disney Frozen MagiClip Glitter Glider Dolls", has accumulated 598 million views in a six-year period (2014–2020),[1] and Ryan ToysReview was one of YouTube's top earners for 2021 (US$27 million profit) (A. Brown & Freeman, 2022). Among content creators cited in the dataset, Ryan ToysReview was the one most frequently mentioned by participants, followed by the gamer, DanTDM.

Gaming and watching videos of gamers is a sub-theme that emerged from some of participants' accounts and observations. DanTDM (or Daniel Middleton) has long been on the list of the most popular clips on YouTube and is one of YouTube's top-earning stars. Middleton was cited by participants, and his popularity with young children was mentioned by one of the teachers:

> **Alex (Teacher):** I have known for a while that DanTDM is a YouTuber. I don't even know what he does, but a lot of them were obsessed with him!

Participants' preferences for games were also cited by a few caregivers in the interviews and witnessed through the observation sessions. A considerable number of the six-year-old boy participants spend their hours on YouTube watching gamers playing games, and this preference was mentioned by some caregivers:

[1] https://www.youtube.com/watch?v=I8vzbIuvhoo

> **Rose (Leon's mother):** I don't think it's particularly YouTube over other things. So, let's say his favourite thing to do on this tablet is Minecraft, and he's quite good in that for five years old; and watching. (…) There is time he goes into YouTube, and he could watch it for an hour.

For several children, watching someone playing their favourite games seems to be greater than their desire to play the games themselves. This is what intrigues Rose about Leon's use of YouTube. According to her, Leon loves to play Minecraft, but he can also spend hours just watching someone else playing this game on YouTube and learning from others' experiences. Unsurprisingly, Leon chose a game channel to watch during his whole observation. He seemed to have fun watching the different ways to build a world on Minecraft; Leon laughed and smiled during the time spent on his tablet.

Considering this connection between children's preferences and what they choose to watch on YouTube, the following teacher's account suggests that what children watch at home can influence what they do at school:

> **Elisa (Teacher):** I know a lot of them have got tablets and game consoles like Xbox or PS4 at home, and, by the sounds they make, they do spend a bit of time on those after school and during the weekends, playing like the violent kind of games. A lot of them like games like Fortnite. That is like the recent one (laughs). And they will make bases, and they will find a stick, and they'll be like 'this is my gun' and what they do see on the screens when they are playing at home does impact how they play at school.

Elisa's account of how games influence children's play at school reveals that young children are in contact with games restricted to persons 13 years and over at home. Elisa's observation about how children play shows that the influence of games on young children beyond the screens, and it is constantly present in young children's happy moments at school as well. What would need further investigation is if this experience comes exclusively from watching gaming videos or from playing the game itself.

The game Elisa mentioned is a popular online multiplayer shooting game for children older than 12 years old. Briefly, the main aim of Fortnite is to attack and shoot enemies with different weapons and build defences. As with several online games, players create areas that fall outside of the game rating, and there is a constant risk of hearing profanities, such as racist expressions, while gaming. The number of videos about Fortnite on YouTube is extraordinary, and it is easy for a young child to get lost in endless recommendations for these types of videos. Research has found that one of the factors for Fortnite's global success among children is its intersections with YouTube and game live streaming (Carter, 2020).

Shifting between games and YouTube seems to make children happy, and this behaviour and emotion were witnessed during observation sessions. Two participants shifted between game apps and YouTube in their screen time without their parents' awareness. Chad (child) had downloaded a Ryan ToysReview game app while watching Ryan ToysReview videos, and he kept navigating between the game and the video during the observation session. "Tag with Ryan" is a runner game for all ages where users can collect costumes and complete missions. Chad was very excited to show me the game and how he mastered its challenges. He was proud that he downloaded the game but also upset that his parents blocked his access to the Apple Store after this incident. Likewise, Caio (child) decided to play games during his observation session. A considerable part of Caio's session was spent playing games on his dad's phone. Caio transited between two apps—a fighting and a hunting game. He wrestled a robot and caught fish. It was possible to see that Caio was used to playing these games; he knew exactly what to do to defeat the robot and to fish for the best sharks in the tank.

Gaming videos introduced a contradiction in my findings, showing that children's happy place can often upset some participants. Although most children did not mention any harmful encounters during their interviews, caregivers' contributions exposed several uncomfortable situations participants experienced related to game content on YouTube. Besides Fortnite, most of the games mentioned by participants are not age-appropriate for young children and expose them to harmful content without adult supervision. For instance, on YouTube, Peter (child) had several experiences with horror gaming characters, such as Sonic EXE, Slender Man, and Jeff the Killer.

Interviewer: Have you ever seen something that you didn't understand on YouTube? You said to me about the Momo and about the scary statue

Peter: Caught in camera, it's called like that […] Slander man…and even Momo. Michael Myers; he has a knife […] and he kills people

Peter's mother, Suzy, only discovered Peter's contact with this content during our interview. These characters are categorised as adult entertainment and are unsuitable for young children.

Caio (child) had met some similar harmful content on YouTube but, different from Peter's parents, Caio's father was aware of these encounters.

Simon (Caio's father): He used to watch the characters, like the killing stuff, Jason and Michael Myers. And what is the name of the one that was drawn on the window— it's like a horror house, the one with a smiling face that you were drawing before on the window?

[…]

Caio: It's Bendy (a PlayStation game).

Interviewer: You are not afraid of that?

Caio: No.

Simon: He is afraid, even when he says he is not. He doesn't want to go to the toilet.

Interviewer: So, he was watching, but he didn't say that he was scared, but he was afraid to go to the bathroom.

Simon: Yes, to the bathroom.

Simon realised Caio was in contact with scary content on YouTube when his son started having difficulties staying alone in some situations, such as going to the bathroom. After investigation, Simon discovered some YouTube videos instigated Caio's fears, and he decided to drastically reduce his son's time on the platform.

My dataset suggests that games have an important impact on young children's happiness on YouTube, and the fact that most caregivers did not mention any concern related to games on YouTube during interviews shows a lack of awareness about the relationship between YouTube and game apps. Watching gaming videos on YouTube has some implications that seem unforeseen by caregivers.

Young children going outside of the bounded space of YouTube to play games also raises some points of concern about parents' awareness of children's exploration of the digital environment without caregivers' consent and supervision. First, videos of people playing the games often serve as a link to inappropriate game applications outside the YouTube platform, which represents a potential risk for young children online. Second, children often do not recognise gaming videos as a source of harmful content. As noted, although the harmful encounters some of participants had on YouTube are related to horror characters adapted for games commonly displayed on the platform's videos, children do not usually associate YouTube and harm when they declare they are happy to be on the platform. While gaming videos are part of the reasons young children love YouTube, the risks involved with YouTube and gaming need further investigation.

4.3 Young Children Within the YouTube's Modulatory Apparatus

I have already pointed out that YouTube is the children's happy place where happy experiences are the result of video content (that is, what one feels happy for), but the content is not the only reason children are happy on YouTube. I have so far focused on children's favourite content and how they interact with it. However, beyond content, the relationship between gaming and YouTube emerging from my dataset points to participants' accounts of the YTMA as, for example, how being "happy" is felt as part of their experiences on the platform. The links to connect with games outside the platform space illustrate the assemblage of strategies and navigation tools that gives form to YTMA. Because of these findings, in this section I am focusing on the role some navigation tools play on children's happiness state and the often-unclear role of YouTube features such as the interface and algorithms as part of its YTMA.

Unlike watching TV on an apparatus restricted to the remote-control functionalities, the watching of televisual content by children is an immersive experience on YouTube, which includes elements that go beyond content and extend to the constant invitation to interactivity offered by the platform. All participants interacted with their digital technologies while watching videos. They were able to do such activities as open the app, scroll through the recommendation area, press play, press stop, and visit websites. Even though the children are not commenting on or sharing content, all these action buttons transformed the act of watching on media completely, as we could see in children flipping between gaming and watching.

These findings suggest that the intuitiveness of touchscreen technologies is an important part of what makes children happy and comfortable on YouTube. Because the touchscreen utilises gestural movements rather than learnt procedures or symbolic language, it more accessible to people, regardless of literacy level (Nansen, 2016). The contemporary media interfaces incorporate a vanguard of intuitive technological modalities (Norman, 2010; Widgor & Wixon, 2011), and that is particularly evident in Bitsey's (Martin's mother) account: (Widgor & Wixon, 2011).

> **Bitsey (Martin's mother):** I think it's how to skill this, like navigating around in the iPad or like touching technology. Before going to school, for a while, he thought that everything was touched.

The touching of a screen is young children's main way of interacting with technologies, and, although there is research on how this technology's intuitiveness is reshaping the way we interact with media, little attention has been paid to how children feel about these new

interactive media formats. As Bitsey identified, as a result of children's interaction with their devices, they try to interact with their non-digital world through touching as well. It is possible to say that touchscreen technologies are even more important when we are investigating children at early stages of literacy.

YouTube's navigation tools, like the recommendation section and skip button, also play an important role in is young children feeling happy online. Children's reading and writing limitations can be surpassed via touch, vision, and voice interfaces (Hourcade, Mascher, Wu, & Pantoja, 2015). Practically all children observed in my research started their navigation on YouTube using visual tools such as the recommendation tool; just one participant used the microphone to find what she would like to watch, and one asked help from her mother to write "Barbie" in the search tool. Therefore, the YouTube navigation tools facilitate children's navigation, but the recommendation tool plays a central role in children's happy experiences on the platform.

Across participants, it was possible to notice that the emotional aspect of the relationship between YouTube and young children also emerged from participants' interactions with the platform's recommendation section. As mentioned before, my findings show that children are happy not only to watch their favourite content but also because YTMA forges a comfort zone for children, which happens especially through the recommendation section. Specifically, beyond YouTube's child-friendly accessibility, young children feel they are being taken care of by YouTube's recommendation tool. For children, the recommendation of content is not only important to maintain the excitement level between videos but also because it simultaneously feeds (and builds up) their desires:

> **Lucy (child):** Because on YouTube, videos are a little bit funny. […] You go on YouTube, you go up, and you can see they have already chosen (what I want). When you like that, we just press it and then it will come.
>
> **Ghita (child):** I feel happy (when a new video pops up). (…) So, I can see how much it brings for me. (…) When I'm on YouTube, I just find the things that I want.

Considering participants' age-related limitations in expressing themselves, the accounts above reveal that children are happily experiencing YouTube's content and navigation tools. Lucy's articulation implies a relationship with the embodiment of YouTube – in this case indicated as "they". For Lucy, these "people" know her and have already chosen what she wants to watch on the platform. Ghita also suggests a personification of YouTube when she

talks about the platform. Like Lucy, her view of the platform goes beyond content and encompasses the YouTube platform's intentionality and how "it takes" the content to its users. For Lucy and Ghita, YouTube is an entity that is constantly offering what they want to watch on the platform. The anticipation of what YouTube will bring next to Ghita makes her happy. Lucy's and Ghita's accounts indicate that YouTube is a trusted entity for young children. There is a certainty of finding what they like once they are connected to the platform, and this intimacy and care relationship established with YouTube is directly related to their emotional happiness state on the platform.

Also, Lucy's and Ghita's comments imply the ease of navigating the platform when they use "just" to describe how they find what they want on YouTube. The use of the "just" points to how easy it is for children to access what they want on YouTube and how this is connected with their account of happiness. Everything is ready and at their fingertips, making the platform their comfortable, happy zone.

It became clear that children believe that YouTube's recommendation system is a form of intentionality that actively seeks to make them happy through providing the content they like to watch, and this leads to a consideration of the role of algorithms in young children's happiness on the platform. Participants often mentioned their satisfaction with the way YouTube brings content that meets their expectations. The dataset shows that children and caregivers acknowledged that there is an underlying process commanding the interactive tools available on YouTube and that it is a source of happy experiences for young children. However, the understanding of what drives it differs. Children tend to personify the algorithm function, while caregivers better understand the profit-driven orientation of the algorithms on the YouTube platform.

Through algorithms, YouTube chooses what will pop up on users' screens or, in other words, what will make children happy on the platform. As already presented, the algorithm is a set of instructions based on a mathematical model that can automate decision-making. Algorithms process a large amount of data in a short period of time, improving their models as they process the information. They employ all kinds of data "to predict and influence future behaviours" (Taffel, 2019, p. 41). Through social media data mining, algorithms can harvest data from different places and interactions. This process can involve counting shares and likes or analyses that consider sentiment, mentions, hashtags, and sources (Kennedy & Moss, 2015). Although it was noticed during observations that children's recommendations are

mostly based on their preferences, algorithms are not open to users' examination as they are not disclosed by YouTube (Covington, 2016).

YouTube seeks to scan its users through forms of data collection that feed their algorithms but gives regulators little information about their own procedures. YouTube's power resides in scrutinising others while avoiding scrutiny itself (Pasquale, 2015, p. 3). Children's data feeding YouTube's algorithms configures the platform as their safe, comfortable, happy place, but this modulatory apparatus impacts young children when it creates a self-regulatory practice that dictates the regime of knowledge users are exposed to on the platform. YouTube's algorithmic design actively limits what users see and consume, narrowing users' possibilities of choice (Bishop, 2018). Digital companies are increasingly collecting data on their users while fighting regulations that seek to protect those same users (Singer, 2019). Child advocates have raised several issues around YouTube (Federal Trade Commission [FTC], 2019), and the platform has made some notable changes to its regulations for children's content published on the platform (Binder, 2020).

Beyond limiting children's content repertoire online, the role of the YTMA on YouTube can put some limitations in place in terms of children's welfare on the platform, the central one being young children's literacy level. Children's early stage of literacy development makes them subordinate to the YTMA during most of their interactions with the platform since they are mostly unable to search on their own. Leon's (child) articulation about his experiences on YouTube brings an interesting perspective to this issue:

Interviewer: When you open the app, how do you find what you want to watch?

Leon: Like, I don't really search […] cause I don't actually know how to do it.

(…)

Interviewer: OK, what do you do when a video is over?

Leon: Well, you just switch to another video; but when the video stops, it just chooses for you. If you leave it to the very actual end, it will choose for you.

Interviewer: And do you like it chooses it for you?

Leon: Yeah, sometimes.

Interviewer: And why do you like this?

Leon: Because sometimes it's a video that I haven't watched yet.

Interviewer: So, it brings something new, something interesting for you.

Leon: Yeah.

Interviewer: And how do you feel when a new video comes up, when a new video pops up on the screen?

Leon: Good.

Leon admits that he does not "really search" on YouTube as it chooses what he is going to watch for him. This means that YouTube builds up Leon's recommendation list and auto-play sequence, and its accuracy results in Leon feeling "good" on the platform.

Leon is a huge fan of gaming, and he spends most of his time watching people playing Minecraft. Leon likes that YouTube chooses videos for him because "sometimes it's a video that I haven't watched yet". Here, Leon reveals that the YTMA not only brings the videos he has already chosen but it offers new content. YouTube offers Leon content that he has never seen before. Generally, Leon watches the content suggested, which results in other videos on his recommended list. Although it is not clear if YouTube offers Leon videos within or outside the same genre, YouTube's recommendation algorithms constantly shape children's online experiences through videos targeted according to their interests.

Leon's account is a clear example of how the YTMA is influencing young children on the platform. Through algorithms, children engage in happy experiences on YouTube; meanings are generated in and around a space that produces joyful moments, driving users toward more automatic and less voluntary behaviour. That is, the platform chooses on users' behalf in different situations, and children are happily used to going with the flow of the content, one video after another.

Decisions that would demand human reflection, like choosing what they will watch next based on their preferences or pushing play to start watching a video, are now automated and mostly unnoticeable for young children. Although a few children mentioned they would go and play with siblings or stop watching videos to respect their screen time limits, when I asked children what they do when a video is over, most participants could see just one option – watch another video:

Arya: 'Um' … I just wait for another one to pop up.

Brianna: Find another one.

Caio: I just watch another video.

Jean: I turn another one back on, or I could wait for another one to turn back on. If I like it, I'll go on again.

Peter: You can just press that thing, and it will go back to the screen where there are all the YouTube videos and then just pick a video.

The findings above show an automatisation of children's actions influenced by the YTMA. Participants tended to rely on YouTube's recommendations ("I just wait for another one to pop up") and accessibility ("You can just press that thing") to choose what they are going to watch. The YTMA blurs children's sense of limits, and they understand their experiences on YouTube as an endless joyful experience.

I argue that the YTMA, which encompasses algorithmic functionalities like the recommendation section and the auto-play, helps to create a power relationship between young children and YouTube that is translated by the value of "happiness". YouTube offers children a controlled space that gives them the pleasurable illusion of agency. Children are happily scrolling and engaging with their favourite content along with a flow of recommendations that are just a touch on the screen away. YouTube tools facilitate not only children's navigation on the platform but the reflection time that precedes the choice. The YTMA is based on the construction of a comfortable, familiar space that is constantly monitored and modified, considering patterns and choices made by its users. At the same time that children are happily accessing a world of endless content on YouTube, their agency becomes ever more restricted to YTMA's algorithmic choices.

The happy, intimate relationship between the YTMA and young children raises concerns about growing up online on an invasive platform that is positively evaluated by its young users. For young children, algorithms operating under the "recommendation" section on this platform are also emotionally attractive for this group of users. My findings show that YouTube's navigation tools, along with content, have an important role on YouTube for young children

4.4 The Impact of YouTube's Political Economy on Children's Happiness

The power of the algorithm influencing YouTube's video content and modulating children's experiences became clear throughout participants' accounts on their happiness at being on a digital space that knows how to please them. In the face of this finding, it is important to bring to discussion YouTube's commercial interests to understand children's participation within YouTube's political economy and the risks it can imply. While the YTMA leads to happiness on YouTube, it can also lead to harmful experiences.

In an article published in the famous magazine *Wired*, a former YouTube engineer said that "working at YouTube on recommendations, I felt I was the bad guy in Pinocchio: showing kids a colourful and fun world, but actually turning them into donkeys to maximise revenue" (Orphanides, 2018). As an advertising business, YouTube is seeking to increase users' engagement on the platform and to expose them to advertisements. This creates an interest bias that needs to be investigated (Bishop, 2018; van Es, 2020), especially when the subject is young children (Burroughs, 2017). Participants' contributions show the overlap of commercial content, such as games and toy reviews, with young children's entertainment videos, and some risks that an algorithmic platform mainly oriented to profit can pose for young children.

The content creators are a conditional "cog-wheel" for YouTube's operations, and YouTube pays for their work. Based on an earning metric developed by the company, YouTube's advertisement revenue is shared with its producers. Creators' content attractiveness plays an important role in bringing in and maintaining users for longer periods on the platform. To this end, YouTube has certified several software applications online, such as Social Blade and VidIQ, to help creators enhance their number of views and watching time. One of the purposes of these apps is to offer creators a report with the most searchable and clickable words to support content creators' performance. With this information, content creators can adjust their production to the users' demands.

The use of these words is the reason why we see bizarre and nonsensical titles for children's content. During observation sessions, some video titles followed this pattern. For instance, Jaime (child) watched a toy and food reviews video called, "Baby Shark Tooth Play/Learn Colours with Play-Doh Ice Cream/Car Learning Videos for Kids/WeToy", while Peter (child) watched "Power Rangers DX Ninja Steel Megazord Toys Unboxing Fun With CKN Toys". These titles are a sequence of high-frequency search words on YouTube that creators organised into their videos' titles, hoping to increase their audience (Bridle, 2019). Here, it is possible to see that YouTube is working as an intermediary between users' desires and creators' productions, guided by its business needs. Giving support to content creators, YouTube guarantees that its content will increase users' time on the platform and contribute to users' happiness on the platform. This means YouTube is not restricted to originality and creativity but originality and creativity within the platform's commercial boundaries of interest.

This commercial configuration organised by the YouTube platform imposes some risks for young children as the pressure on creators' production has resulted in their effort to enhance views, subscribers, and watching time at all costs. An easy way to get more views on YouTube is to copy and pirate other content (Bridle, 2019). For instance, since brand channels are trusted channels with high-frequency search words, the influence of algorithms on content has incentivised creators to illegally use licensed characters, so their videos are prioritised on the search results and in auto-play queues. Such a practice has resulted in new children's genres on YouTube, and, among them, some are rather concerning. Clear examples of disturbing videos for children include dark parodies of famous children's characters rudely animated featuring adult performers wearing superhero and Disney characters' costumes. A couple of participants had experienced this kind of content:

> **Tessa (Ghita's mother):** I find it bizarre when adults play with the Barbies and Ken and
> or you know, this sort of stuff. I just can't find the motivation for someone to do that strange. (…) Some of the stuff they watch, I think, is just complete garbage. And I find it bizarre when adults are doing things with Barbies, and they watch them, just like, some of this stuff is mind-numbing.

Tessa (Ghita's mother) is not happy with some content on YouTube. She finds videos that apply known children's characters into a different context to be something that can represent a risk for young children. For her, these videos are "bizarre" and "mind-numbing". The encounter with one of these videos was reported by Gracie, one of the parents:

Interviewer	Regarding YouTube's video content, what do you consider inappropriate for your child?
Gracie:	One day, a video of Elsa and the Spider-Man, all the cartoons (characters) together in one video. I am not sure who made it. It looks they use the gang to kill other people on the screen. They don't talk as well. They just acted on the screen. After that one, then I talk to them to stop watching.
Interviewer:	It was with Brianna or with the other children?
Gracie:	With all of them.
Interviewer:	All of them watched the same video?
Gracie:	Yeah, they were watching.
Interviewer:	And they brought it to you or…?
Gracie:	(in overlap) It was on the TV.
Interviewer:	You saw them watching it?

Gracie: Yeah.

Interviewer: They didn't come to talk with you if you didn't notice it…?

Gracie: (in overlap) They quite like it.

Interviewer: They like it?

Gracie: Yeah, they like it.

This excerpt from Gracie's interview about Brianna and her siblings' contact with an inappropriate video demonstrates that the understanding of harmful content online is different between parents and young children. Young children like watching their favourite characters despite what they are depicting on the screen. These characters are familiar to young children and watching them is comfortable even though what YouTube is featuring in the video is unusual to them, which reverberates with the findings I presented in section 4.2 around Caio and Simon's perceptions on inappropriate gaming videos. This indicates that, different from adults, children cannot foresee any hazard coming from this genre of videos. This also maybe explains why Gracie's children did not bring to their mother any issues from watching their favourite heroes murdering people. It is likely that Gracie would never know that her children watched the questionable superheroes' videos if she had not paid attention to what they were watching at that specific moment.

In fact, my findings show that young children tend not to share harmful encounters with their caregivers, and, apart from children's particular understanding of harmful content mentioned above, the reason why is mostly built into the YTMA. Most participants declared that they change videos when some weird or scary content pops up on the screen instead of asking for help from an adult, revealing that clicking on the next video makes more sense to young children than asking for help. Some expressions used by participants to explain their actions when something unexpected appears on the screen are: "I switch to something else" (Leon, child) or "You swipe and watch another video" (Chad, child). When I asked children if there were any bad things about using YouTube or anything that made them feel uncomfortable on the platform; the answer was a "no" in unison. As participants mentioned above, the recommendation of content makes children "feel good" and, even when some algorithm recommendation results in a "weird" or "scary" video on the screen, the YouTube navigation tools makes it simple and fast to do as Peter (child) described: "I just turned that scroll buttons and chose another video that was cooler." That is, on YouTube, young children are independent enough to dodge unpleasant content to stay in the happy flow of videos.

The way the YTMA operates often tells us more about children's happiness on YouTube than the content it streams. The YTMA offers participants not only the tools to easily find what makes them happy, but a quick way out of what make them unhappy. This points to the centrality of the YTMA in children's experiences on YouTube and its powerful influence over children's decisions online. The power YouTube exercises over young children's behaviour and emotional state via its content and functionalities points out to what Foucault conceptualised as biopolitics (Foucault, 2008; Maurizio Lazzarato, 2006b). My findings reverberate with Foucault's definition of biopolitics where he points out that "live" and "living being" are at the heart of current political and economic battles, as they are in this case, on YouTube. That is, children's experiences, feelings and subjectivity are constantly disciplined through a modulatory apparatus tuned to profit-making. The effects of YouTube on young children pierce different layers of their human constitution and are exposed in my findings through a range of themes. In this sense, I argue that YouTube is a biopolitical mechanism of power and knowledge that uses the processes of life to control and strategically modify living beings in a living world (Foucault, 1984; Maurizio Lazzarato, 2006b). That is, our conditions of existence, probabilities of life, and collective and individual welfare are harnessed by digital technologies that bring into question the forms of life itself and reinforce the power in charge – in this case, YouTube.

YouTube is a biopolitical mechanism in the sense of being a wider ensemble of power strategies that ties people to one another by shaping their subjectivity and behaviour through the way it works and the content it offers. YouTube's biopower over young children's constitution can be exemplified by Jeanne's account:

> **Jeanne (Katherine and Phillipe's mother):** Because tablets and screens, particularly touchscreens, are different from television and movies and that it requires your input to keep it going. You need to touch something or pause or move or select. And it requires, you know, comments or likes. Like your phone: you need to be scrolling. It requires your reaction, whereas television and movies don't need you to do anything; it doesn't. If you don't touch the screen to interact, it plays the whole thing; it's much more passive. So, I believe that there's a direct connection between that kind of dopamine activity. It is the same with adults as well; I think the same thing, they get addicted to that whole interact touchscreen.
>
> **Katherine (child):** Touch, touch, touch.
>
> **Jeanne:** Touch, touch, touch.

For Jeanne, the YTMA is responsible for changing users' behaviour, creating addiction, and having a central role in the intimate relationship between how YouTube operates and

children's happy feeling state on the platform. The close interactivity established between users and YouTube happens most of the time through children's bodies' affordances (sensorial organs, chemical production, and cognitive processes). This means that YTMA works in favour of satisfying children's immediate needs and gratification, which might nonetheless be predicted, regulated, enhanced and exploited (Feitsma, 2019) see also (Knox, 2020). "Touch, touch, touch" simplifies YouTube's interactive way of operating at the same time that it points to the complexity of YouTube's happy experiences for young children.

The premise that happiness is good is social common sense and is one of the main presumptions of research on happiness (Belliotti, 2004; Blackman, 2008). Although research on happiness has flourished for more than 30 years, the concept of happiness has been "elusive" (Oishi & all, 2013, p. 559). The happiness literature is filled with descriptions, instructions on how to achieve this emotional state, and models of authentic joy. These studies presume that it is possible to measure happiness based on people's reports about how they feel – if we feel good, it is because something is good, and the opposite is bad (Oishi & all, 2013). In this sense, a considerable amount of research on happiness is based on subjective experiences about how one feels in a particular situation.

However, although happiness is a feeling state, it also turns us toward objects (Ahmed, 2010b). We are affected by something that makes us happy, and to "… be 'made happy' by this or that is to recognise that happiness starts from somewhere other than the subject who may use the word to describe a situation" (Ahmed, 2010b, p. 21). These happy objects accumulate positive affective value and are somehow normalised as social goods. Happy objects could be described as those objects that affect us in a positive way and that give us pleasure (Ahmed, 2010b).

YouTube is children's happy object since it affects children in a good way. The way children are affected by YouTube defines how they interpret the platform – "To be affected by an object in a good way is to have an orientation towards an object as being good" (Ahmed, 2008, p. 10) – and this emotion promotes values of care and security when they are online. The fact that YouTube makes children happy online perpetuates YouTube's own power and may lead to a neglect of detrimental outcomes for young children.

I argue that children's happy experiences within the YTMA encompass the comfort of being in a place where vulnerability is diminished by the predictability of what is coming next in a place where their desires and pleasures are attended by a mechanism that affects them

positively in alignment with their behaviours and desires. Thus, three points are important to the constitution of YouTube as children's happy comfort zone. The first is a feeling of intimacy afforded by offering what children desire to watch that goes along with, secondly, the feeling of familiarity provided through the constancy of the recommendation system, including content, timing, and format, and, thirdly, the reassuring feeling of being in control through the accessibility of the YTMA (I explore the value of control in Chapter 8).

YouTube is children's happy place and making users happy is an essential part of YouTube's political economy. As I have presented in this section, children say they are happy on YouTube as a result of the content they watch and the mechanism they participate in. Even though the content is a central feature of young children staying on the platform, the YTMA forges a predictability that establishes a happy relationship between the platform and its young users.

4.5 Children's Happiness Influencing Caregivers' Perspectives on YouTube

I found that young children's happiness on YouTube involves familiarity, intimacy, and security. Examining children's relationship with the YouTube platform reveals that young children are happy and comfortable on YouTube despite harmful encounters. This emotional connection established between children and YouTube seems to be changing parenting and teaching, and this does not necessarily mean diminishing children's vulnerability online. On the contrary, children's close relationship with YouTube contributes positively to caregivers' assessment of the platform, leading them to maximise the benefits and minimise the risks when they think about children on the platform. Because YouTube makes children happy and is solidified as one of their preferable activities, caregivers tend to accept YouTube's presence at home and school as a "sociable happiness" (Ahmed, 2008, p. 10), which maximises screen time and, consequently, data collection.

YouTube as family management tool

As YouTube is a child-friendly apparatus, children can navigate it without adult support. Children's happiness on YouTube often influences the way caregivers manage their family time. Beyond YouTube being a source of information for a range of parenting demands, it is also a way to keep children busy when parents need time out to relax or work. This means YouTube can be used to give parents some time off while images are displayed on the screen.

Parents' accounts of children on YouTube reveal the aspect of parenting associated with watching videos:

> **Leslie (Connor's mother):** Once they are having breakfast and are getting dressed,
> I'll let them watch some TV. […] and then I got sick of them fighting in the afternoon if I was trying to get dinner, so they could have that (YouTube) until dinner was ready. And then, once dinner was ready, the TV must go off. I think if you need parents to be fully honest, you do use it as a babysitter or bribe or treat.

Above, Leslie made a claim on behalf of all parents, "I think if you need parents to be fully honest, you do use it as a babysitter or bribe or treat". Based on Leslie's experience as a parent, she understands that YouTube is convenient for parents despite possible harms. Leslie justifies her own choices of using YouTube for family time management and she used the word "honest" as she noticed parents' avoidance of admitting that. Even though parents are aware of YouTube's risks, they also have benefits arising from young children's uses of YouTube. Like Leslie, Tessa mentioned she uses YouTube to manage her parenting time:

> **Tessa (Ghita's mother):** On my phone, it is probably a lot of time where she uses YouTube. Probably from when she was younger, we were building this house, and if I had to talk to the builder or something, I let her using my phone to keep her entertained. She couldn't be walking around the building. And when like, we were out for dinner last night for my dad's birthday. After kids had finished their meal, we were still eating, and the kids go getting a little bit distracted, so we gave them my phone to watch YouTube.

Both Leslie and Tessa use YouTube to make children happy when they, the parent, need to give attention to another subject (e.g., cooking dinner, socialising with extended family). Similarly, Tessa has YouTube as a way out of situations where she needs Ghita quiet and still. In a sense, the fact that parents acknowledge YouTube is affecting children in a good way emotionally orients parents towards YouTube as being mostly good, and they end up validating and expanding the platform's uses at home.

Tessa recognised that she had been using YouTube as a parenting tool for a while with Ghita, since she "was younger". This reinforces what I have already mentioned before that by the time children are about five or six years old, they are already seasoned YouTube users (Ofcom, 2017; Sense, 2017). Parents' accounts indicate that the use of YouTube as a family management tool happens mostly before children start school and when the family needs to take care of them at home:

Interviewer: So usually she watches YouTube how many times per day?

Tina (Sofia's mother): The whole day.

Interviewer: Usually, she watches YouTube the whole day?

Tina (Sofia's mother): Yes, but before she started primary.

Interviewer: Nowadays, she watches YouTube when she comes back from school?

Tina (Sofia's mother): Yeah, sometimes during the weekend.

Tina has a busy working life, and YouTube was used as a way of keeping Sofia entertained before she started going to school. During her pre-school years, Sofia used to watch YouTube for the whole day. A similar situation happened with Ana:

> **Ana (Elsa's mother):** No, now it is very less; she almost doesn't get to watch now. When she was at home, before starting school, that was a time (when she used to watch YouTube). Because she used to get bored at home before she started at school; she just turned five, it's just her first year (at school), there is no time for phones and everything. She just comes home; I feed her, and then she starts her homework and all stuff.

Ana argued that Elsa used to watch YouTube before starting school because being at home used to be tedious for Elsa. Ana's account reveals parents' struggles to deal with children's boredom at home and how YouTube fits perfectly in the contemporary context where parents often work full time and yet have to sustain their role as parents.

Ana and Tina are working mothers who need to balance their working lives with their housework. In this sense, YouTube is indirectly contributing to the feasibility of a workforce that seeks to be compliant with the increasing demands of extended work hours to sustain families. Although it was unplanned, giving time to parents to be "productive" is one of the facets of YouTube's political economy that emerged from my data. YouTube is a liberating tool for parents to dedicate their time and attention to work, and distracting children in a techno-cultural milieu where attention is "a scarce but quantifiable commodity" (Crogan & Kinsley, 2012, p. 1) (attention is an issue that I approach in Chapter 6).

The use of YouTube as a family management tool is slightly different within migrant families. For some of them, YouTube is a tool to minimise their lack of social relationships. YouTube tends to fulfil migrants' need for social and cultural connections that cannot occur due to being away from their relatives. A lonely spare time becomes a pleasurable entertainment:

> **Olga (Vanessa's mother):** They can watch it, but the thing is: what I feel is that they only have that kind of thing for entertainment, in our case [...] because we don't have any relatives here. So, they don't have, I mean, to engage with people and talk and play around and discuss stuff, you know, only me and their father.
>
> **Rita (Lucy's mother):** In India, we had a lot of friends. They used to go outside and run with friends, children. They could go to the apartment common area and play. Here, no outside, nothing. Where can they go?

For some migrant parents, children's excessive use of YouTube happens because the decrease of their social interactions. Immigration often results in a loss of social capital and changes in family dynamics, so families end up in isolation and with a change in lifestyle from a collective to an individual culture (Nahas, 1999; Wali, 2018). YouTube is the place to go when friends and relatives are not there to interact with.

Also, on YouTube, some participants find a chance to pass their culture on to their children and keep their mother language alive at home. For these parents, YouTube becomes their familiar venue where they can reconnect with their culture through well-known programmes and presenters:

> **Gracie:** YouTube is quite useful for our family. All my older two are learning Chinese from YouTube, and Brianna is learning English. The cartoons make it easy for them to pick up the language.

The fact that parents embraced YouTube as a parenting tool at different levels reveals important benefits from its uses that may help support children's understanding of the platform but also advances a specific argument about the sociability of feeling good (Ahmed, 2008). The relationship of parents with YouTube points to happiness as a form of sociability rather than the happiness of sociability in the sense of being happy together. YouTube is a social media platform that makes children happy and creates a social bond with everybody who feels the same way. Children's happiness on YouTube impacts caregivers as sociable happiness in the sense of thinking of happiness as something that happens to you instead of happiness as an effect of what you do, such as a reward for hard work (Ahmed, 2008). This argument is especially illustrated by the relationship of migrants with YouTube. This group of people validates YouTube as children's happy place when it increases their pleasure and diminishes their pain of being away from family. In a sense, YouTube does not make parents happy directly, but it involves intentionality, or the idea that to be happy is to be happy about something (Ahmed, 2010a), when parents feel YouTube will bring them happiness as a consequence of their children's happiness online.

Thus, YouTube seems to be central in households' dynamics, not only as a babysitter to support parents' work productivity and parenting decisions but as a happy object that carries "the promise of happiness" for parents. Parents offer YouTube to children when they need to keep them entertained while they do household chores or work from home, which places YouTube as a means of promoting parents' productivity at home. Also, YouTube as a happy place goes beyond babysitting their children and includes establishing a social bond that directs them to a "happiness that is presumed to follow" (Ahmed, 2008, p. 11). That is, for parents, YouTube is an object socially defined as "happy" where happiness is the intention rather than the object itself, which is the case for children. YouTube seems to be a useful application and resource for parenting when it unifies several benefits in a place that makes children instantly happy, and this resonates with teachers' uses of YouTube in the classroom.

YouTube in the classroom

The use of YouTube as a family management instrument leads to another important theme across the dataset: the value of YouTube as a teaching tool. Like migrant families, teachers see YouTube as an endless source of additional material for learning and teaching. Findings show that teachers use YouTube for phonetic lessons, drawing, songs, examples, and even for a school's channel where students are presenters. In general, teachers take advantage of children's happiness in using YouTube to present subjects that need their attention.

YouTube has been used in the classroom to enhance learning in innovative ways. It has been used for locating historical videos in African American studies classes (White, 2009), for sharing students' science experiments with other students (Park, 2009), and also for presenting challenging mathematical questions to students (Niess, 2009). Videos have also enabled teachers to adapt instructions to learners' needs. For instance, visual-spatial learners benefit greatly from the use of images in the classroom (Rapp, 2009).

Schools' embracing of digital technologies for teaching seems to be already established and widespread in New Zealand. New smartboards have replaced the old blackboards, and tablets have been shared among students for learning in all schools visited. The chalk and red pen have been replaced by Google Docs:

> **Carol (teacher):** All my planning is done on Google Docs. So, that's a big extension of my brain and what I use an awful lot for teaching, like a teaching tool. Prior to that, I used to write everything on a blue planner. Now everything is led up in Google Docs.

> We don't have listening posts; they are redundant now. There is a frame over there that's turned into my playing area. So, playing tape recorders and even CDs are kind of redundant now. So, everything is just from my projector connected to the Internet.

Carol's description of how she works reveals the drastic changes classrooms have made in a short time and how digital technologies are now supporting her "thinking" process. A lot of teaching tools are now obsolete, which opens new spaces in the classroom. For instance, the place she used to have listening posts was turned into a playing area. CDs and blue planners were absorbed by Google Docs, which also opened space in her mind since things like planning and organising are now easier to do on the Google platform.

YouTube and Google Classroom are subsidiaries of Google Alphabet, and, although I did not find children under six years old using Google Classroom in New Zealand schools, their teachers are all using the Google platform as an integral part of the teaching practices of the teacher participants.. This digital service has brought to the classrooms a blended learning platform that offers a digital mediation to face-to-face teaching. The Google Classroom Application Programming Interface (API) supports school staff with a package of applications that goes from spreadsheets to communication channels between students, teachers, and staff. As a Google subsidiary, YouTube accompanies Google Classroom as a support for teaching.

Teachers tend to celebrate Google for putting in place an easier way to teach, and YouTube is one of the reasons for this celebration. YouTube is a teaching tool that goes along with almost all classroom activities. When teachers want to tell a story, teach phonetic sounds, or occupy children's spare time on a rainy day, YouTube is their place to go:

> **Amelie (teacher):** I use YouTube a fair amount! So, every day we have a little snack break where they have their fruit to eat, and we sit, and we look at the alphabet songs and every [day] I have a new letter, and we find the alphabet song related to the letter that they are doing. We do stories on the computer as well, and also, depending on what inquiring topic we are doing, we can find that information from that as well. We're learning at the moment … I am trying to incorporate Māori songs, and so we've got these going on YouTube as well, so YouTube is amazing! (laughs).

Along with the practical facilities brought by those applications, children's happiness with using YouTube makes things easier for teachers to engage them in classroom activities:

> **Interviewer:** And how do they feel when you put on YouTube?
>
> **Amelie:** (in overlap) They love it, yeah! And it is interactive enough because the things we choose are things that they can sing along to. I use it on rainy days, and we can't get outside. We normally have a little break

that we get outside [to do a] a little bit of fitness. On rainy days, I find movement songs, and they [do it], so, they love it!

Interviewer: And do they ask for you, for example, to put more videos, they notice the recommendations that …?

Amelie: (in overlap) Yes, yes, very much so …

(general laughs)

Amelie: You know, cos they … I think it stands from home cause "can I get this one, can I get that one?"; you know, that is a lot of that as well.

Amelie's comments show children's happiness on YouTube and the power of the YTMA to modulate children's interests in the classroom context. She notices children are familiar with the YouTube recommendation tool, and she hypothesises that "it comes from home". Children are already experienced YouTube users when they arrive at school, which creates a sense of familiarity and intimacy with YouTube content that continues in the classroom.

I presented earlier how the values of intimacy and familiarity are part of what constitutes happiness for young children, and, in the classroom, these emotions are often present. Amelie is not the only teacher to suggest that children's familiarity with YouTube comes from home. Teachers notice that students already know how to manage the classroom's iPads and navigate on YouTube in the first year of school. When YouTube is on the big screen, children keep asking to change videos, "can we play that one?":

Interviewer: (in overlap) But when you put it on the screen, do you notice that they ask you to put another one, for example …?

Alex: (in overlap) Yes, yes. If they can see on the side different videos, they ask, 'Can we play that one, can we play that one?'

Interviewer: OK, they are already familiar with this?

Alex: Yes, yes. You can tell they use it a lot at home.

Alex's perception agrees with all teachers interviewed, and it reinforces children's accounts on YouTube: the platform is children's familiar comfort zone. Children start using YouTube at an early age and, when they start school, they already have the necessary abilities to navigate this platform. More research would be necessary to explore the impact of the video-sharing platform on children at earlier ages.

Children's happiness with innovative ways of teaching and learning offered by video-sharing platforms seems to be part of the premises that support the digitalisation of the educational system. Teachers celebrate the way social media facilitate their administrative tasks in class

and acknowledge that the happiness of children online facilitates teaching. As a result, digital companies are investing heavily in applications to support learning demands at all levels of education. There are numerous digital options to facilitate teaching in primary education, and the same seems to be true along the educational pathway (D'Agostino et al., 2016; Kumar, 2019; Rapp, 2009).

The migration from traditional to digitalised teaching is relatively recent, and research on the effect of these changes is still scarce (Clement, 2018; Knox, 2020; Antti Paakkari et al., 2019). Most of the digital methods participants are using in the classroom are not challenging traditional counter-productive teaching practices but offer an easier way to do the same old activities. For instance, apart from YouTube, most schools' participants use Seesaw as a communication tool with parents. Seesaw can replace face-to-face communication and is intended to facilitate the flow of information among parents, teachers, and students. Instead of students showing their assignments in-person to caregivers and having a conversation about them, teachers send them to parents on the Seesaw platform and parents can give a "like" or comment on the post. This means, the intimate moment of interaction between child and parent promoted by school's activities will probably not occur because there has already been a response online. Although the app is supposed to connect parents in real-time with what their children are doing at school, it seems that this communication app can create an unhealthy distancing between parents and children during critical years of education.

Education digitalisation has also meant learning management platforms have brought productive activities into the classroom. Students taking part in education while producing content on social media are labourers generating value to institutions that profit from the datafication and surveillance of young children; it makes sense to say that social media have brought digital labour to the educational context (Antti Paakkari et al., 2019). Schools have become sources of profit for digital companies. The diversity of needs found in the educational system offers many opportunities for these companies. It is no accident that commercial actors, such as Google, have such a presence in the educational scenario.

This presence of commercial institutions within the educational context brings business interests to a situation where a "battle of intelligence for maturity" (B. Stiegler, 2010, p. 5) is taking place, and leads to questions about the role of YouTube's commercial interests in what children understand as happiness. This means that schools should be a place where young people learn the necessary skills that will lead them to "maturity". Stiegler sees social

institutions as places to raise awareness of our participation in digital technologies oriented to capturing and profiting from people's minds, which did not seem to happen among participants. Most caregivers are not aware of the YouTube business model, and schools, in general, do not offer digital literacy for children under six years old, as I investigate in Chapter 8. However, the presence of YouTube in the classroom reinforces YouTube as a social bond established over the understanding that YouTube is a happy place for young children. Happiness is socially attributed to YouTube, and people being led toward YouTube as a good experience solidify the presence of YouTube in young children's lives in different circumstances, like at schools.

The digitalisation of education is also symptomatic of the shift from a disciplinary society to a society of control. In the shift towards a society of control (G. Deleuze, 1992), institutions lose the ability to control people's activities and, at the same time that education is not restricted to schools anymore, work does not belong only to the workplace and "spreads into the entire life" (Antti Paakkari et al., 2019, p. 163). Instead of being organised by an educational institution based on "moulding" or a form-imposing mode, education is digitally organised based on "modulation" or a "self-regulating" mode (Hui, 2015, p. 74) beyond the schools' boundaries.

Thus, teachers are supportive of learning platforms as a teaching tool where children are happily learning through a familiar application that is comfortable and safe. The main point here is not to criticise teachers but to raise questions about the immediate and longer-term impacts of emerging digital practices on children's education. The participation of commercial institutions in educational practices brings attention to issues around profiting from children's data that would need further investigation. Children's dataveillance at school needs to be considered as a practice that can impact these children's adult lives as these long-term effects can potentially go beyond the control of parents (Lupton & Williamson, 2017), as I investigate in Chapter 7.

4.6 Conclusion

In this chapter, I have explored children's emotions relating to the use of YouTube and the influence of children's happiness in parenting and teaching. I found that the navigation tools and customised content are catalysts of happiness in young children through values of familiarity, security, and intimacy. Children see the anticipation of their needs by YouTube's

algorithm as a sign of care and protection. Although some children have had unpleasant and harmful experiences on this platform, they defined YouTube as a comfort and safety zone. These feelings affect different aspects of children's lives and strengthen their uses of YouTube.

Content is important for children on YouTube and goes hand in hand with the navigation tools. Participants often watch videos that are clearly targeting the algorithm's logic, which reveals an intrinsic system that ends up feeding the YTMA. This brings the algorithmic ordering of preferences into question when YouTube uses children's preferences to feed their desire for happy moments in a profit-oriented platform. Exploring some cases, I showed the interface of gaming and the YTMA, and the risks children are being exposed to watching videos that stimulate their interactivity with game apps beyond YouTube. I argue that YouTube is a biopolitical apparatus of power and knowledge that takes into account children's lives and the possibilities of modulating and controlling their subjectivity (Foucault, 1984; Maurizio Lazzarato, 2006b).

My findings also reveal that young children's situation in the early stages of literacy makes them more vulnerable to digital technologies' visual interfaces and interactive images. YouTube is mostly a video entertainment platform. Most of its communication is based on images, which facilitates children's navigation through visual elements. Young children often report YouTube's ease of navigation, and the fact that participants are able to interact with YouTube from an early age strengthens their relationship with YouTube.

Children's use of YouTube aligns with the argument that considers happiness as a happening that involves affect in the sense of children being happy to be affected by something (Ahmed, 2010a). The effects of YouTube on children's emotional states reveals YouTube influencing different layers of a child's constitution, and children's happy state of feeling is the result of this biopolitical mechanism. I argue that YouTube is a biopolitical apparatus of power and knowledge that takes into account children's lives and the possibilities of modulating and controlling their subjectivity (Foucault, 1984; Maurizio Lazzarato, 2006b).

The use of YouTube in family management also emerged from my dataset. Although happiness is not the relevant emotion for parents on YouTube, they also often enjoy the platform as a collateral effect of YouTube is as a social good that carries the promise of happiness (Ahmed, 2010b) when they are happy about something – intentionality – and not

because they are affected by something. Parents use YouTube to manage children's time at home and as a source of information for educational practices.

I claim that YouTube is indirectly supporting the feasibility of a workforce that needs to attend to ever-increasing work hours. I found that the uses of YouTube tended to be intensified in the pre-school period when parents needed to work and take care of their children simultaneously. Giving time for parents to be "productive" is one of the ways YouTube supports parenting. In this sense, the convenience YouTube has brought to parents' lives ends up justifying their effort to prioritise its benefits over its risks.

Children's happiness on YouTube facilitates teaching and learning through visual resources that are well known by children. In this context, teachers sometimes celebrate YouTube and social media in the classroom as an innovative affordance. In contrast, I claim that these technologies have not updated the educational system but facilitated teaching within the traditional method of education. Also, I showed that the digitalisation of education has brought business interests and digital labour to the classroom. On learning platforms, students are producers, and their work is exploited and expropriated by profit-oriented platforms. Generally, caregivers' enthusiasm can point to the facility of parenting and teaching brought about by digital technologies.

The findings on happiness leads to some pertinent questions around what is at stake when children are happily experiencing the YouTube platform. Beyond children's conscious decisions in choosing the content they like and skipping what they dislike, there is another aspect of children online that was predominant throughout participant's accounts: the effects of the YTMA on children's attentional behaviour. There is a solid field of research investigating the political economic rationales modulating people's attention online and, in response to this issue, in the next chapter I explore participants' accounts to investigate the process of commodification and subjectivation through capacities for attention.

Chapter 5: Modulation and Commodification of Attention on YouTube

In the previous chapter, I investigated why young children are happy on YouTube and how this emotion influences caregivers' uses of the platform for parenting and teaching. In this chapter, I further examine one of the underlying causes of participants' reported happiness on YouTube: their attentional behaviour. The YouTube platform seems to promote different "attention styles" for users, which points to a complex and nonpolarised attentional behaviour modulated by the platform.

I investigate the modulation of young children's attention through the YTMA and how this process is related to political economic rationales. While caregivers' accounts of children's attention on YouTube reveal a focused mode of attention, observations point to shared attention when children respond to different functionalities on the platform. Whatever the case with attention functionality, the analysis of my dataset suggests that young children on YouTube are constantly exposed to hyper-stimulating apparatuses and sometimes reward tactics to retain children's attention online.

I present a contrast of perspectives between children and caregivers on young children's attentional behaviour on YouTube. While children are pleased by the constant offer of amusement, caregivers can bring a different perspective regarding the influences of YouTube on children's attention pattern. Caregivers notice young children's happiness on the platform, but they also have to deal with undesirable attentional behaviour changes in children during and after using YouTube.

Findings show children's difficulties in limiting their time on the platform, which exposes their vulnerability to YouTube. The same mechanism that builds this happiness relationship between users and YouTube is often mentioned by caregivers as responsible for children's tantrums and misbehaviour. Participants' non-device social interactions are sometimes disrupted by some uses of screens and this raises concerns about YouTube's addictive potential among young children.

Accordingly, participants' behaviour on YouTube points to the effect of YTMA on children's attention and the manipulation of human capacities of attention as part of the contemporary

political economic context. Through my research findings, I discuss the importance of understanding the processes of commodification of attention through the relationship between bodies, culture, and the economy (Beller, 2006; Crogan & Kinsley, 2012; Foucault, 2007; Hayles, 2007; Malabou, 2008; B. Stiegler, 2010).

5.1 He Is Deaf: The Mobilisation of Children's Capacities of Attention

Contemporary technologies are continually seeking to uncover detail about our brains' functionalities. The partnership between neuroscience and nonscientific professionals has opened up a range of possibilities never offered by the traditional communicative apparatuses. The "consciousness of the brain" (Malabou, 2008, p. 3) and digital technologies' adaptation to the revolutionary discoveries in neuroscience have allowed platforms to further analyse our emotions and behaviours. This means that, progressively, our personal technologies are more attuned to our demands and desires, and, sometimes, this proximity can create an emotional dependency, as I presented in Chapter 4 and further explore in this section.

The capture of children's attention online is often described by parents through words like "hypnosis" and "deaf". Parents note how children's focused attention on YouTube videos tends to lead them to a state of consciousness in which they lose the ability to establish communication with the exterior world while they are watching videos:

Interviewer: Can you notice any difference between his [Martin's] behaviour while using YouTube and when he is offline?

Bitsey (Martin's mother): Oh, yeah! You can really; like, if you say, "Martin, come to do this," then just nothing.

Constance (Martins' grandmother): He is deaf.

Bitsey (Martin's mother): He is deaf; he can't hear what we say or, if you ask him a question, just ask it four times before you actually get any sort of response. And the response is so much shorter than … I feel is having like …

Interviewer: This happens right after he …

Bitsey (Martin's mother): (in overlap) No, when he is using …

Nick (Martin's father): (in overlap) During …

Interviewer: (in overlap) When he is using it when you try to talk with him …

Bitsey (Martin's mother): (in overlap) Yeah, when he is totally glazed on, yeah.

Nick (Martin's father): Yeah, even afterwards, he is like …

Bitsey (Martin's mother): (in overlap) Yeah, it's been hard too.

Nick (Martin's father): He still got a bit of like "What's going on?" He is quite excited, but he comes off it … um … it definitely takes some time to come down back to himself.

The conversation with Nick (father), Bitsey (mother), and Constance (grandmother) point to Martin's reduced peripheral awareness and the reverberation of this condition for some time after screen time is over. Constance's phrase, "He is deaf", was emphatic, and it is a view that is shared by Martin's parents. It seems that the impact of YouTube on children's attention makes parents' communication with Martin very difficult. To Martin's family, it also seems that Martin has difficulties getting out of this state of consciousness that closes his senses to what is happening beyond the screen when his device is turned off.

Several caregivers shared the same feelings as Martin's parents. Among these participants, Suzy was the most worried parent about the effects of YouTube on her child. Suzy is a migrant mother who is learning to speak English. She brought her older daughter along to the interview to help her to express her thoughts and feelings. Suzy mentioned her concerns about changes in Peter's behaviour because of YouTube:

Interviewer: Do you think that there are any possible harms about using YouTube? You told me some of them already.

Suzy: Yes.

Interviewer: So, is there something else that you would like to add, some other harm that you are worried about?

Suzy: His behaviour.

Interviewer: What do you think? Do you think there is any connection?

Suzy: Yeah, there is a connection. Sometimes, he is not following, not listening to me.

Interviewer: He is not listening to you, and do you feel that this is related to YouTube?

Suzy: Yes.

Interviewer: And why do you feel this?

Suzy: I think because of all his time he is watching it again; all his time, he's watching YouTube.

[…]

Suzy: Sometimes, I say, "I need to stop him." But after, when I come out and go to the kitchen, he is still watching it. I saw him, and then I will go to him again, and I will stop the TV. And then I will go to make house sort of things, and then he will come back [to YouTube] again.

[…]

Suzy: (in overlap) He's not learning; his mind is different.

Interviewer: His mind is different.

Suzy: Yeah, maybe he gets it from YouTube, I can't express (laugh).

Suzy started her interview mentioning her concerns about Peter's use of YouTube and reiterated her considerations later when I asked about possible harms for children coming from YouTube use. She acknowledges that Peter spends too much time in front of the screen, and she notices that his attentional behaviour is modified when he is on YouTube. When Suzy said that Peter's mind is "different" when he uses YouTube, she appeared to be saying that YouTube impacts Peter's behaviour compared to when he is offline. For her, the fact that he is always focused on the screen and not able to pay attention to her when the device is off seems to indicate that Peter's mind is not only captured by YouTube but also modified by the platform, as Suzy's account reveals that the modulation of children's attention on YouTube can impact the way Peter behave outside the screens.

The way participants approach and pay attention to YouTube varies in my dataset. Caregivers' accounts reveal a high level of focused attention when children are experiencing the YouTube platform, which is interrupted when the device is off. Offscreen, children's attention seems to be varied. This variation of children's attention is not restricted to children's home contexts but is also noticed in the classroom:

Alicia (teacher): Um, if they are not on iPad, they look at me straight away, and, if they are, it takes a while to make them stop and look at me. Like, it takes some time because they are so into wherever they're doing that they just don't even know that I've asked to stop (laugh).

Interviewer: How do you think screen time at home influences children's attention in the classroom?

Alicia (teacher): I think it has a huge influence on them. After the holidays, when they come back, it takes a while to get back into the routine and just to sit and to look at the teacher and [look]at their friends – having to sit on a device and just being left alone. And you know, the expectation that the teacher is going to get you to do things now. And definitely, it has a huge influence even on the attention span […]

Interviewer: Yeah, and you feel that it impacts their attention especially?

Alicia (teacher): Definitely, just the attention; that's the main thing.

Alicia noticed changes in children's level of attention when online and offline. She believes that the use of digital technologies impacts their attentional behaviour in general, and it can take time for children to adjust to classroom routines where more auditory attention is demanded. Alicia also notices that children's attention spans are shorter when they have to sit down and focus on the teacher, which resonates with other teachers' experiences:

> **Alex (teacher):** Yeah, so, with children, I think you really need all the [visual] resources you can get in order to gain their attention and to hold their interest. You have to be quite fast paced and move quickly because if you hold on in an activity for too long, they get tired, bored. Their mood changes, so you need to have a lot of change and fluidity in the class.
>
> […]
>
> I definitely find that when you put on the screen, they are so much easier to calm down and to draw their attention more. They just get totally sucked in by the screen, and they're so entranced. If I put on a 20-minute video, they could sit there in silence for the whole 20 minutes whereas if I'm just trying to do a normal traditional lesson, it's near impossible to have every single child listening at the time.

Like Alicia, Alex has witnessed the influence of visual resources on children's attention in the classroom. Alex has noticed the difference in attention when children are watching a video and when she needs to hold their attention without screens. According to Alex, children's behaviour changes when devices are not in place, and she needs to work harder to have children pay attention to her. This is probably promoting the use of digital technologies in the classroom where teachers' work is optimised by YouTube's visual support. The uses of YouTube to illustrate educational subjects helps young children to understand different lessons easily such as how to write letters or the cycle of the rain.

However, even though YouTube supports learning, the effects of YouTube on children's attention are frequently reported by caregivers as a possible reason for their children's behaviour on and off the platform. Children tend to resist stopping the use of their devices, which leads them to emotions not even close to happiness. Parents often report anger and grumpiness as part of children's experiences on YouTube, and Sandy observes these feelings extending to their real lives:

> **Interviewer:** How does he [Justin] feel when screen time is over? It's fine, or do you feel that he hesitates a little bit?

Sandy: It depends on the situation, and I think there was a time when he was younger, and that probably around four years old, it was very hard for him to get off the iPad, and he would be extremely angry, so we had some issues. There was a lot of stuff about learning to control his own behaviour and living in the now but he really had anger issues, which I think extended outside the device being taken away.

Sandy's account clearly exemplifies the way the mobilisation of children's attention on YouTube can reverberate into children's behaviour at different levels. When Justin (Sandy's son) needs to turn his device off, it is not only his attentional behaviour that is at stake but the emotional changes that seem to come together with the realisation that he will need to stop navigating the YouTube platform. In Justin's case, he needed to learn to control his anger when he had to turn the device off, showing how difficult it is for young children to change attentional style when it is needed. Although Sandy acknowledged her struggles to manage Justin's behaviour after screen time, during Justin's (Sandy's son) interview, he said he feels good when he needs to turn off YouTube. Justin also mentioned he is comfortable and happy online, which notes the contradictions between caregivers' and children's perceptions about YouTube experiences.

Parents have a considerably different view from children about children's uses of YouTube and, although children claim they feel good and excited on YouTube, these are not the only words parents apply to describe their children's experiences on the platform. When Jean (child) answered the question, "How do you feel when screen time is over?", his parents found a way to let me know that his answer was not consistent with what they witness when Jean's screen time is over:

Interviewer: When screen time is over, how do you feel?

Jean: Happy.

Jean's dad: Ohhhh, sorry, I just can't hold myself.

(general laugh)

Simone: What did he say?

Jean's dad: That he is happy when screen time is over

(general laugh)

When I was interviewing Jean, his parents were surprised when he said he feels happy when screen time is over. They know Jean loves to be online, and his answer was in direct contrast

to his parents' experiences of his actions. During Jean's mother's interview, she talked about Jean's behaviour online:

> **Simone (Jean's mother):** He has like obsession with tablets sometimes. That's really hard to take it from him. That makes for us, parents, "OK, we'll just stop with the tablet". He doesn't even know where it is now. So, as long as he can't see it, he doesn't really remember: "Oh … there was a tablet around". But he can get really mad if I say something like "OK, I will stop the tablet"; his behaviour was a lot more, I won't say aggressive of course, it wasn't aggressive, but his mood changed. […] Usually, he acts upset; he used to get out of it really upset.

For Simone, it is "really hard" to take Jean's device away from him, which implies that Jean does not want to stop using the platform when it is demanded. When Simone says Jean is obsessed with his tablet, she acknowledges that Jean's desire to be online can surpass the normal willingness to do some other pleasurable activity. Even though Jean declared he feels happy when he needs to turn his device off, Simone argues that she had to intervene, taking the tablet out of Jean's sight to control his obsessive behaviour. It is important to say that Jean uses his devices exclusively to watch videos on YouTube, which means his behaviour is only and exclusively related to his relationship with this video-sharing platform.

Similarly, Connor's answer also contradicts his mother's comments about his feelings when he needs to turn his tablet off. According to Connor, when screen time is over, he feels good, but this is the opposite of his mother's accounts:

> **Leslie (Connor's mother):** There has been the occasion when he uses it, but, recently, this whole year actually, I don't let him use it because I would take it off him, and he would like, throw it, or he does get angry when you turn the TV off or take it off him.

Leslie's account of how Connor reacts when he has to turn off the devices or TV (Connor also watches YouTube on the TV) contradicts Connor's statement about his good feelings when screen time is over. Leslie notices her son's mood changes when he needs to go back to his activities beyond the screen, but Connor does not mention any negative emotion related to his experiences on YouTube in his interview. The fact that Connor used to throw his tablet away when he needed to turn it off points to episodes of rage caused by YouTube use.

Although virtually all parents confirmed children's struggles to turn their devices off, just one child, Vanessa, showed signs of emotional dependency related to their uses of YouTube. Vanessa is the youngest daughter of a migrant family. She is five years old and has just started school. Vanessa is a kind and curious girl. During her interview, she was more interested in knowing me better than talking about YouTube. She kept asking me personal

questions and checking my bag to see what was inside. I often had to pause the interview for Vanessa's comments on my hair or my earrings.

Vanessa is one of the youngest participants, and, as with other young participants, often, her ability to express herself was limited by her level of maturity. We were almost at the end of the interview when I noticed Vanessa struggling to explain her feelings about YouTube. When I asked her if there was anything that makes her uncomfortable on YouTube, she gave me a puzzling answer:

Interviewer: Are there any bad things about using YouTube, anything that you don't feel comfortable with?

(interruption /distraction)

Vanessa: Um, yeah.

Interviewer: Yes?

Vanessa: Cause my sister sometimes is mean to me, and yesterday I did kick my mum.

Olga: (laugh) Normally, at night, she normally cries. She cried last night and kicking.

Vanessa: And today I fell down.

Interviewer: At school? And did you get hurt?

Vanessa: No, I am brave.

When Vanessa cited her crying and Olga added she "normally cries" at night, I investigated this more with her mother during the interview. I could not clearly understand Vanessa's account about what makes her feel uncomfortable on YouTube without her mother's contributions. Interviewing Olga, she explained what Vanessa was trying to say:

Interviewer: Can you notice any difference between her behaviour while using YouTube and when she is offline?

Olga: I mean, whenever she is watching YouTube, she is really interested in watching that, and she is concentrated on that thing. She won't move and stuff like that. Sometimes, whenever we say "Enough, close the thing", sometimes she is grumpy; she is crying and shouting.

(…)

Interviewer: How she reacts when screen time is over? You already told me that, usually, she is a little bit grumpy and sometimes not too grumpy.

Olga: (in overlap) Yeah, sometimes she is crying after that; that's the main problem now we are having. She is crying after, you know, she is fighting with the "Why you don't give me that to watch" and stuff like

that. Then, late at night, around 12 and 1 o'clock, she's waking up in the middle of the sleep and screaming, and you know.

Interviewer: Because of that?

Olga: Because of that, yes, yes.

Interviewer: Really? Interesting. And what do you do when …

Olga: (in overlap) Now, what I am doing is, I am telling, "You can watch whatever you like on the laptop", and she can watch whatever she like[s] on the TV, but, before that, you have to come and pray with me before sleep"; that's what I am doing now.

Interviewer: OK.

Olga: That's what I am doing now; we are saying prayers together to calm down.

Interviewer: To calm down.

Olga: Now she is getting better.

Interviewer: She is not waking up all the time?

Olga: Yes, that's why she told you she was kicking, and, you know, I am sleeping with her. So, she is kicking and screaming at night because whenever after that, she is … I mean, watching YouTube and arguing and crying and then going to bed, and then midnight she used to cry and [be] grumpy and kicking me, likewise.

Interviewer: Because she wants to return to watch YouTube?

Olga: Yeah, yeah.

The dialogue with Vanessa's mother exposes a delicate situation where YouTube seems to be used in a compulsive way. Olga acknowledged that Vanessa's attention is always focused on the screen when she is watching YouTube: "she is concentrated on that thing" and "she won't move". She also noticed that Vanessa has difficulties when she needs to stop watching videos. Vanessa gets grumpy and angry when screen time is over, which are the adjectives often used by parents to describe children's behaviour when they must turn off digital technologies.

However, unlike other participants, Vanessa's frustration about turning off her device extends to her sleeping time. She sleeps with her mother and, during the night, she has outbursts of anger because she wants to go back to using YouTube. Vanessa wakes up shouting and physically acting out because she wants to watch videos on the platform. Vanessa watches YouTube until her bedtime, and her sleeping has been disturbed by her need to be amused.

Watching a lot of YouTube does not mean that a person suffers from screen addiction. What needs consideration is when children's practices online start to interfere with their daily life (C. Gregory, 2020; O'Keeffe, Clarke-Pearson, & Media, 2011; Wesner & Miller, 2008). That is, potential dependency behaviour is found when screens interfere with biological needs or social interaction, such as sleeping and being with family, which tie in with Vanessa's experiences on YouTube.

Internet or screen addiction has emerged since about 2010 as a new mental health problem, along with discussion around attention deficit disorder diagnoses. Although screen addiction is not yet a formal mental health diagnosis, professionals from health and science have been studying and alerting others to the important effects of digital devices on people's attentional behaviour (Alrobai et al., 2016; Bérail et al., 2019; Kuss, Griffiths, & Binder, 2013; Radesky, 2016). The effect of activities that predispose users to screen addiction has been investigated lately, especially by behavioural paediatricians and psychologists. For instance, the success of YouTube can be related to practices that develop addictive behaviour toward functions that capture attention and provide joy to users (Balakrishnan & Griffiths, 2017; Bérail et al., 2019; Klobas, 2018).

A considerable amount of research has been conducted to investigate problems associated with sleeping and digital technologies (Arora, Broglia, Thomas, & Taheri, 2014; N. Dube, Khan, Loehr, Chu, & Veugelers, 2017; Gradisar & all, 2013; Rosen, Carrier, Miller, Rokkum, & Ruiz, 2016). Most research on sleep patterns is concentrated on adolescents and adults, with very little done on the effect of technology on children's sleep. In general, research points to a shorter sleep duration for children with access to digital devices during the hour before sleep compared to no access and no use (N. Dube, & all, 2017), which is consistent with Vanessa's late screen time. Frequent early awakening is also associated with the frequent use of technologies (Arora et al., 2014).

Vanessa presents distinct behaviour from others in some respects. Such behaviour for her can be considered an area of concern regarding young children's wellbeing online, and more research would be necessary to understand if Vanessa could be considered to be addicted to YouTube at some level. However, what became clear in this participant's case is the power YouTube has over children's attentional behaviour and its impact on children's lives offscreen. In Vanessa's case, it is possible to associate the YouTube experience's impacts not only with her emotional behaviour but with her biological needs like sleeping.

As research has shown, digital media has a direct impact on users' brains. As universal media and an extension of our senses, cognition, and memory, digital technologies are powerful neural amplifiers (B. Stiegler, 2010) and attention modulators. Modern media technologies extend people's central nervous system capacities but also change them (Crogan & Kinsley, 2012; Doidge, 2008). In neuroscience, the pervasive presence of media in people's lives is what opened discussions about neuroplasticity (Malabou, 2008). The brain used to be conceived as an isolated organ until developmental psychology research started to prove that "outside influences might harm brain development" (Doidge, 2008, p. 202).

This means that there is a reason for Vanessa and Justin acting out when they need to turn their devices off. Research has found social media like YouTube act on users' attentional and emotional behaviours, and this influence over users' experiences online can be related to compulsive uses of the Internet (Khan, 2017; Kuss & Griffiths, 2011; Kuss et al., 2013). My findings show that the impact of YouTube on children's attentional behaviour seems to lead young children to problematic behaviour when screen time is over.

In general, participants' considerations about children's attentional behaviour on YouTube point to focused attention when children are using their digital technologies, which is frequently related by caregivers to the reasons why it is difficult to take young children out of their devices. However, during observations, it was noticed that children's attention on the platform is shared between watching videos and the mechanism's features, like the recommendation section and the pop-up banners showing on top of the videos. When they open YouTube, children instantly get immersed in a multisensorial environment where different elements are competing for their attention. Their eyes move fast, and their fingers scroll the page or press the directional buttons on the remote control, making it clear that they are making decisions. In this moment, children's attentional behaviour is about changing tasks, trying to scan the most attractive thumbnails, one after another. As soon as participants decided to click on a video, their attentional behaviour shifts to focused attention, and they tended to close their senses to exterior stimuli.

The shift in attention styles points to the contrast between hyper and deep attention. In hyper attention, people's focus changes rapidly among different tasks; there is a low tolerance for boredom, and the preference is for multiple information streams (Hayles, 2007). Biologically speaking, hyper attention was what we used to need to hunt and to avoid being hunted. Deep attention is characterised by the ability to concentrate on a single object for extended periods,

ignoring outside stimuli, and "preferring a single information steam" (Hayles, 2007, p. 187). Deeper attention was developed later when modern society started creating the necessary environment to promote deep attention (Hayles, 2007); this is the case for educational institutions that have specialised in offering tasks that demand deeper attention to complete. This scenario changed drastically when a generational shift from deep to hyper attention took place after the digitalisation of social lives and its impacts on the way people think (Hayles, 2007). The ubiquitous social presence of digital technologies is shifting cognitive styles back to hyper attention, which poses challenges to education at all levels.

In this sense, Hayles' (2007) attention polarisation between hyper and deep attention does not seem to fit my findings. Participants' behaviour points to different attention styles instead of polarised attentional behaviour. Participants seem to be fixated upon screens, completely unaware when caregivers are attempting to communicate with them, but they are sharing their attention with different stimuli inside the screen. Because they are so thoroughly immersed in the YouTube platform, it appears to be a sustained and focused mode of attention, but this attentional behaviour seems to be the result of stimulus competition within the platform. This means that young children's attention is captured by a range of different stimuli on YouTube, resulting in children's attentional behaviour mobilisation, which is different from Hayles' attention styles definitions. Children on YouTube are not focusing on a single stimulus or object for extended period of time. Children are constantly changing focus through different tasks and stimuli, which is closer to, but not exactly, what Hayles defined as hyper attention.

Different from a polarised attention style definition, I argue that young children's attentional behaviour on YouTube needs to be approached not as a type of spectatorship, but rather as a mode of participation that is modulated by specific rationalities. The way children's attention is captured by YouTube seems to fit with to what Bucher and Helmond (2018) define as a "technicity of attention" (p. 254). Following Foucault's definition of *governmentality* Following Foucault's (1995) as the "techniques and procedures for directing human behaviour" (p. 81), Bucher and Helmond define the technicity of attention as the technical rationalities Facebook uses to govern users' participation through attention. They provide an account of how Facebook implements an attention economy to "directed at governing modes of participation within the system" (Bucher & Helmond, 2018, p. 254).

Bucher's (2012) analysis of Facebook's infrastructural arrangements of participation through attention resonates with the way the YTMA organises children's attention on the platform

since same technical configurations are reproduced in both platforms. Bucher defines the "like" and the algorithm organisation of content on social media as ways to manage participation through attention. The fact that social media are able to track, tailor and target content to specific users brings another perspective to attention that is different from the cognitive psychological definitions. From a communication and media perspective, the technical rationalities that manage users' experiences on social media like YouTube "are not just about individual, but rather a relational construct that emerges out of the interactions between the technical support and the various nodes in the system" (Bucher, 2012, p. 6). Based on this, approaching young children's attentional behaviour on YouTube is not only about identifying attention styles promoted by the platform, but about understanding the different attentional strategies and tools that give form to YTMA.

Even though children's dependency on digital technologies is an important issue to address, the exploration of children's behaviour that keeps them productive on YouTube, besides potential harms, is what I want to highlight here. More than understanding that YouTube can be addictive, the important point in this chapter is to highlight the role of attention in the way children are disciplined and controlled to participate in the YouTube's political economy. This is the reason way I explore the constitution of the YTMA, and its strategies to modulate users' attentional behaviour online.

5.2 Attention Retention Within the YouTube's Modulatory Apparatus

Children are not only watching videos on YouTube, but they are also receiving a range of messages from the platform and responding to them. There are various stimuli influencing children's attention on YouTube that are part of the YTMA and are intended to incentivise children's permanence on the platform. When observing children on YouTube, it is notable that their attention is demanded almost all the time. Their eyes are scanning the sequence of images on the video while their fingers are swiping suggestions and checking recommendations.

This attentional behaviour can explain why Elsa (child) chose "life hack" videos to watch during the whole observation session. Elsa opened her mother's mobile phone and clicked on the first video showing on the screen, "25 Cleaning Hacks To Speed Up Your Routine". She skipped an advertisement at the beginning of the video and clicked on the "full screen" button. It was a 15-minute-long video teaching house hacks how to unclog toilets using

plastic film wrap, remove permanent marker from wood with nail polish remover, and clean old pans with baking soda. Elsa watched the whole video, ignoring the card messages popping up frequently over the video images. The video finished, and another one started automatically. The new video started with an advertisement, which Elsa skipped right after the compulsory fifth second. The next video was "22 Kitchen Tricks You Must Try". This time Elsa watched a 14-minute video on how to cut cheese using a pot lid, fold fabric napkins, and make strawberry jam using a whisk. When the video finished, Elsa clicked on the only thumbnail that popped up over the current video, "19 Hanger Hacks That Are Simple and Genius". She repeated this procedure with one more video before the end of the observation session. The recommendation list was showing on the screen when these videos finished, but Elsa opted to watch the video YouTube recommended to play in the sequence. During the observation session, Elsa's mother offered her thoughts about the reason Elsa decided to watch this genre of videos:

Ana:	I've seen this on the computer, all these life hacks, how cleaning stuff (…)
Interviewer:	So, you were watching this …?
Ana:	(in overlap) Yes, I watch this.
Interviewer:	(in overlap) And she likes this [video], or is it her first time …?
Ana:	(in overlap) I think she watched this before, but it is not her preferred thing to watch (laughter), but this came out first, so she picked it.

Ana suggested that Elsa's choice was made because the video was shown first in the recommendation section. She argued that "life hack" videos are not part of Elsa's preferences on YouTube and that Elsa was watching videos based on her (Ana's) watching history and not Elsa's preferences. This means that Elsa spent her screen time watching videos that were originally based on Ana's choices and not on Elsa's genuine preferences. This exposes the power of the YouTube platform over children's attention and how YouTube can act beyond children's interests when it impacts their attentional behaviour.

Although the dialogue above raises some concerns about the consequences of children following recommendations targeted at adults on YouTube, here I will focus on the implications of the susceptibility of children's attention to the recommendation section itself. As I point out throughout my thesis, it becomes clear that the YouTube functionalities are just as compelling in driving children's behaviour as the content, and this is probably the reason

why Elsa decided to watch what was recommended by YouTube and not what she genuinely likes.

As described earlier, the YouTube platform's interface with young children happens mostly through its design and functionalities, which is what draws children in and persuades them to keep watching through the "next" video. YouTube is a place where the viewer's gaze is dispersed across the competing elements of the screen and where the persuasive tools are used. Persuasive technology (PT) aims at "changing people's attitude or behaviours through persuasion and social influence" (Gram-Hansen et al., 2020) PTs and persuasive designs have their own research field, which brings together international researchers and practitioners from industry and academia, working together in the area also known as *behaviour design*.

Persuasion can be defined as a representational process in which communicators try to convince other people to change their attitudes or behaviours regarding an issue "through the transmission of a message in an atmosphere of free choice" (Perloff, 2003). YouTube can be characterised by its entertainment possibilities available in a digital environment that stimulates certain behaviours to the detriment of others. There is a consensus in the literature: to be persuasive, technology must be customised according to users' characteristics (Alslaity & Tran, 2020). This means that the power of convincing depends on how the persuasive features on YouTube are adapted to the receiver conditions. These features include tools such as the algorithm, metrics and the interface. During observations, it was possible to see different persuasive tools being used by young children.

While watching videos, children receive suggestions for other videos to watch that are similar to children's preferences as well as the current video. These suggestions are usually a link to another video from the same YouTube channel; YouTube calls this communication tool a *card*. A YouTube card is an interactive call to action that promotes a quick response from viewers. It offers content creators the possibility of adding links, images, and content to download after clicking. These clickable elements are usually more commonly present on influencers' videos on YouTube, such as toy reviews and gaming. Cards are not popular with young children – none of participants clicked on them – but even though young children do not click on cards, it is possible to see children's attention being directed towards YouTube cards when they pop up on the screen.

Advertisements are also competing for children's attention on YouTube. They are seen during videos or placed among recommendations, meaning that children are continuously

impacted by commercial videos and images on YouTube. Children are familiar with advertisements during videos, and they know exactly how to proceed if they want to skip them, which was the case for virtually all child participants. I investigate children and advertisements on YouTube in more detail in Chapter 7.

Among all the visual elements displayed on the YouTube screen, the recommendation section is the most prominent for young children. Through the recommendation section, children have on the screen a list of thumbnails with videos that they have already watched, or new suggestions related to their previous choices. For instance, while Leon's (child) recommendation section was full of thumbnails suggesting videos related to his favourite YouTube gaming genre, Katherine's (child) had a sequence of her favourite toy review channels' videos showing on the screen. During observations, I could notice the influence of the customisation of children's experiences on YouTube in retaining young children's attention as it keeps children motivated to keep navigating the platform. Although the way children start watching YouTube after opening its app can vary according to their level of literacy (searching by voice, writing, or asking for parental support), after the first video, all children used the recommendation area to choose what they were going to watch next.

Elsa's way of using the YouTube recommendation section was seen with most of participants. Virtually all participants found what they were willing to watch in the first two pages of the recommendation section. After opening the YouTube application, participants rapidly clicked on a video to watch. As I presented earlier, children tend to decide what they are going to watch next by looking through the first few thumbnails shown on the screen. This means that young children do not explore the recommendations on YouTube; their eyes are used to scanning one or two pages of suggestions before choosing the video they are going to watch. This scrolling time tends to be even shorter if children are watching YouTube on TV. On the big screen, with recommendations more immediately visible, children rapidly find the video they want to watch.

Briefly, it is important to highlight here that even though the way participants navigate YouTube revolves around the recommendation section, Elsa's decision to watch the house hacks videos was not solely based on the YouTube suggestion. The fact that Elsa knows how to skip unwanted content like advertisements means she could dismiss the house hacks videos but, for some reason, she decided to watch them. Elsa's decision to watch the house hacks videos is probably based on a partnership between content and the platform; the

recommendation system prioritised these videos in her watching list, and the content was attractive enough to keep her tuned for 30 minutes. It is not clear from my dataset what specifically captured Elsa's interest in this type of video content.

YouTube gathers all features of a PT, which leads to the complexity of this platform. When young children access the YouTube app installed on their devices, they enter a customised world where they are going to find practically only what they like. If, by chance, content they dislike pops up on the screen, they can dismiss it with a fast movement of their fingers. Elsa kept watching DIY videos because YTMA noticed she liked them and spent time on this type of video. If Elsa decided to choose a different category of video, YouTube would automatically transform its recommendation section accordingly. The YTMA transforms children's experience on the platform into something that makes them comfortable and happy through a mechanism that require children's attention along the way.

I have already made the case in Chapter 4 that, beyond the recommendation section, algorithms also end up guiding content production on YouTube when they feed creators' reports with the most searchable content on the platform. Likewise, these algorithms give form to the persuasive tools that impact children's attention on YouTube. The YTMA is built on the algorithmic instructions created considering the characteristics of the source, such as YouTube parameters for streaming, and the destination, such as receivers' preferences for watching.

The YTMA captures children's attention through functionalities and content that offer more of what children know and like. Every participant exclusively watched the content recommended by the YTMA after their first video. This reinforces the centrality of attention modulation in young children's decisions on YouTube, and how YouTube influences children's attentional behaviour mitigates their uses of the search engine, even for participants who declared they were able to read and write. The findings above bring this chapter to the discussion about the commodification and exploitation of children's capacity for attention on YouTube, as I present next.

5.3 Commodification of Human Capacities of Attention

As explored in the previous section, young children's accounts related to their experiences on YouTube can be associated with the YTMA operating on users' capacities of attention

designed to prolong their time online. In this chapter, I suggest that the same mechanism that pleases young children modulates their focus through visual elements and tools designed to support YouTube's commercial interests. My analysis of the intersection between attention and political economy leads this chapter to discussions about the attention economy and "the neurological turn" (Munster, 2011, p. 2) in the humanities.

The fact that the YTMA operates on children's attention supports the theoretical notion that the organisation of attention is central to the Internet's political economy. Attention has become a scarce resource in the contemporary economy, and the modulation of young children's attentional behaviour is based on the overlap of media and the political economy. The traditional role of media in coordinating consumption according to the needs of production has reached a new level of influence in the digital era. This means that children's attention is commodified, quantified, and valued by digital technology systems armed with new strategies to get more of what they previously got for nothing (Beller, 2006; Crogan & Kinsley, 2012).

These changes are felt by children, but they are very strong in caregivers' accounts:

> **Jeanne (Katherine and Phillipe's mother):** The only thing I would say about that is that they are time limited because the children who have too much time on the Internet, absolutely one hundred per cent, affects their behaviour. When you take the screen away, they have something like withdrawal and aggressive behaviour. And I've seen not only in my own children but in others. I think it is very clear, and that is why we limit their time. Because very small children, their tolerance for how much screen time they can have is much less, and even my eldest child, who is right now playing on his computer doing Scratch – which is a coding programme – I mean, he gets the same. If he gets too much screen time, I know … Because when he gets off his computer, his behaviour is immediately aggressive, so it's very clear to me that.
>
> […]
>
> I mean, you can go "No Internet", and that is not realistic … because the Internet is everywhere, so future. They have to learn how to use it. If they don't know how to use the Internet, how they are gonna be able to function as an adult in the future? But then, if I go, "Internet all the time!" So you try to give that balance.

Jeanne is concerned about the way YouTube modifies her children's behaviour, which resonates with Suzy's worries about Peter's behaviour modification when he is on YouTube (section 5.1). However, the way she argues about the widespread use of the Internet is evidence of caregivers' acceptance of YouTube's presence in children's lives because of its participation in the mainstream culture. Despite the effects of YouTube and other applications on children's attentional behaviour clearly noted by Jeanne, she adds that her

children need to be online to "function as an adult in the future". Although exactly what this means is not clear from Jeanne's account, functioning as adult can speak to a range of related social, cultural and economic matters that can be associated with using YouTube, and this assumption seems to override the risks coming from her children's attentional behaviour being modulated on YouTube. For her, it is clear that there is a direct relationship between digital technologies and children's behaviour. However, children's behaviour being impacted by YouTube seems to be overlooked when Jeanne stresses the importance of children's participation in a valued social platform like YouTube. That is, young children's attention is being commodified and exploited by YouTube, often with caregivers' consent.

There are different ways of thinking about the commodification of attention. Crogan and Kinsley (2012) identify four different ways of thinking about the attention economy. First, the attention economy is theorised as being opposed to the "information economy". The latter is characterised by its information abundance while the former is characterised by attention scarcity (Castells, 2009). Second, the identification of "cognitive capitalism" by post-Marxist critics raises awareness of human cognitive capacities as "immaterial labour" (Beller, 2006; Hardt & Negri, 2006; Tiziana Terranova, 2012). Third, several philosophers identify our brains as a space where politics takes place and the cerebral and neurologic system as an object of external influences (Malabou, 2008; B. Stiegler, 2010). According to Crogan and Kinsley (2012), the last way of thinking about the attention economy is identified by "popular commentators" who constantly posit the Internet as a threat to people's mental capacities and ability to contribute to society (Carr, 2010; Shirky, 2010). My approach to my findings considers young children as part of an immaterial labour force that produces what is expropriated and exploited by digital companies. This means young children's experiences on YouTube point to the deliberate capture of human attention and the capacity of YouTube to retain and exploit users' cognition through features and strategies that foster a relationship between its users and mechanism.

Children are performing a range of activities online that are the source of capital exploitation. This immaterial labour appropriated and transformed into capital happens mainly through the mobilisation of children's attentional behaviour on YouTube. Attention as a commodity is quantified and developed by the YTMA so as to be prolonged. Attention can be considered a property that favours forms of future attention transaction, like a currency itself (Goldhaber, 1997). The centrality of attention in contemporary society leads the economy to consume not only work time but also leisure time, such as blogs, profile feeds, and comments. The

knowledge children produce on YouTube in their nonproductive time generates data that is exploited by capital for accumulation (Beller, 2006; Hardt & Negri, 2006; Tiziana Terranova, 2012). The production of knowledge and the commodification of children's attention define their bodies as capital and possible future income. Children on YouTube are subjected to disciplinary and modulatory techniques to recode their eyes, order them, raise their productivity, and prevent their distraction (Crary, 1992).

5.4 Conclusion

The contributions from participants previously noted in this chapter expose some of the contradictions found between caregivers' and children's accounts about their experiences on YouTube along with the impact of YouTube experiences on children's attentional behaviour. This situation introduces to this chapter some drawbacks caregivers attribute to young children's uses of YouTube. What children state to be their happy place is contested by parents when they need to deal with misbehaviour and communication difficulties. Even though most child participants reported that they feel "good" when they have to stop watching videos and turn off their devices, caregivers' contributions clearly show the opposite is the case when children reconnect to the exterior world, and need time to re-establish their awareness when they turn off their screens.

My findings show that children's attention modulation on YouTube can impact their state of happiness when they turn off the screens. That is, children's happiness on YouTube can be volatile when happy moments online easily turn into negative occurrences offline. They feel happy and attentive online but grumpy and dazed offline. Children's divided attention, in watching videos and dealing with the YTMA, seems to persist when their devices are turned off. The adjustment of their attention to the world outside the screens can cause tantrums and frustration.

Considering caregivers' articulations and children's observations, I have argued that young children's attention can manifest in different ways. Different from a polarised attention style definition, I argue that young children's attentional behaviour on YouTube needs to be approached considering YouTube's technical and strategical rationalities that govern users' participation through different styles of attention. Based on this, approaching young children's attentional behaviour on YouTube is not only about identifying attention styles

promoted by the platform, but about understanding the different attentional strategies and tools that give form to the YTMA.

I also have pointed out that YouTube is a persuasive algorithmic experience. The way YouTube's persuasive design operates on children impacts their behaviour and sustains children's attention for a prolonged time. Children on YouTube not only watch happy content, but they feel happy with the possibility of endless enjoyment. The persuasive modulation of attention through experience design on YouTube often brings emotions (happiness) and behaviour (attention) together and leads to an important field of knowledge that seeks to understand possible drawbacks of the YTMA that can lead to compulsive uses of the platform.

Finally, investigating the relationship between the attention economy and YouTube's political economy, I found through children's experiences that YouTube is deeply involved in children's lives at a level where there are no boundaries between "real life" and "digital life". What they see and feel on the screen influences their feelings, behaviour, choices, and desires off the screen, and vice versa. It is possible to say that the current definition of real life for children entails the physical and the digital world. This interlinked situation gives form to a complex biopolitical network of relationships that points to YouTube not only modulating children's attention from young ages but also formatting their subjectivities "to fold, to render oneself docile, to adapt to everything, to be ready for all adjustments" (Malabou, 2008, p. 13), as I pursue further in the next chapter, investigating children's self-commodification in exchange for popularity.

Chapter 6: I Want To Be a YouTuber: How the Value of Popularity Guides Children's Uses of YouTube

In the process of investigating children's and caregivers' perspectives over young children's participation in the YouTube's political economy, some themes frequently emerged. Children are happy on YouTube, and it is not exclusively because of the videos themselves but also due to YouTube's platform. In Chapter 4, I suggested that the YouTube platform creates an intimate and safe environment even for children who have had contact with harmful content on the platform. I also showed in Chapter 5 that the same system that participants' accounts suggest promotes children's happiness online seems to be the cause of children's tantrums when they need to also move their attention away from screens. My interest in the present chapter, Chapter 6, lies in how the YouTube platform influences young children with a means for self-commodification in exchange for *popularity* (Beer, 2016; Bukowski, 2011; Goodwin et al., 2016; Hearn, 2008; van Dijck, 2013). Within a wider culture of online videos and visibility, YouTube has become the preeminent platform for user-generated content, and, in this chapter, I reveal children's common saying, "I want to be a YouTuber", and the possible implications of this established desire.

The connection established between young children and YouTube's platform has resulted in numerous would-be YouTubers. Along with being doctors and police officers, my dataset suggests that being a YouTuber has become a common children's answer when questioned about what they want to spend their adult life doing. Across the dataset, participants demonstrate familiarity with this form of digital labour, and the power of popularity over children can be noticed through children's struggles to act and live as a YouTuber.

Research on media has often stressed the role of communication technologies, not only in the process of building individual and collective identities but also in young people's adoption of values and stereotypes (Aguaded, 2009; Buckingham & Sefton, 1999; Buckingham & Willet, 2013). I investigate the way young children's parasocial, or one-sided, relationship (Giles, 2002), with YouTube influencers seems to be strengthened by the way YouTube content is presented by creators on the platform, and this nonreciprocal relationship ends up influencing children to want to be a popular YouTuber like their favourite presenters.

Beyond YouTube content, metrics like the number of views are also part of children's subjectivation on the platform. I explore how popularity metrics are transformed into a quality evaluation for caregivers and a self-value for a few children. Across participants' contributions, the number of views is often interpreted as a measurement of quality, and caregivers' perceptions of safe content for young children are also guided by this quantified metric. I investigate how this relationship between views and quality can establish a power relationship over the choices of YouTube users.

The popularity of content creators among young children also raises questions about popularity's relationship to consumerism. Along with children's wishes to be admired like YouTube presenters when they grow up, children want to have the products these creators use and endorse in their videos. In a sense, consumption is part of the experience of being on YouTube. Thus, as I present in the next sections, working on the self to act as a YouTuber and consuming what is promoted in the videos are important parts of the YTMA.

6.1 Children's Desire To Be a YouTuber

In the process of identifying the YTMA through how children experience the economic structure and power forces operating on the platform, popularity became evident throughout the dataset. The YTMA, along with its content, not only makes young users happy and mobilises children's attention but it shapes children's subjectivity through values of popularity. It was possible to witness the impact of YouTube on children's desires when a considerable number of participants aspired to become content creators.

The desire to be a content creator was a recurrent subject among young children, parents, and teachers. To be a content creator is synonymous with being popular for young children. In consumer-oriented cultures, "popularity" is applied to a range of activities and entities, such as products, services, and people. In the offline world, popularity can indicate how much someone or something is liked or disliked by peers, or the status or notoriety the person has in the group (Bukowski, 2011). Within the digital world, popularity is a quantifiable value that indicates the number of people that like one's posts or follow one's account, a group which can include intimate friends or total strangers (Beer, 2016).

As I have already presented in Chapter 4, creators' content is mostly shaped by YouTube's metrics using the best traffic-generating keywords. YouTube's metric on the most popular searches on the platform is exploited by creators to reach the greatest number of people and

increase their own popularity. On the other hand, through sharing this metric with creators, YouTube's content can give users more of what they like to watch on the platform and keep YouTube as the most popular video-sharing platform in the world (Bartl, 2018; McLachlan, 2022). It also exposes the role of YouTube in adapting its content based on its commercial interests.

Content plays an important role in children's understanding of popularity on YouTube. Several caregivers mentioned the influence of YouTube's content on children's behaviour. In wanting to be a popular YouTuber, children end up adjusting their way of speaking and body language to be like famous content creators. Parents' comments point to children's efforts to adjust their narratives and way of being to mimic what they watch on the screen:

> **Tessa (parent):** She kind of created a commercial for a business that she wants to have when she's older, and, just the way she spoke was very much how they speak on YouTube. Ghita talks like how they speak on YouTube because it's quite American […] I kind of wonder that it becomes part of her language, the way that she might present herself to other people.

The fact that some participants are modulating their behaviour to be like popular content creators exposes the power of YouTube's content over children's subjectivity. Ghita is mastering the American accent in a British family that has immigrated to New Zealand. She adjusts her accent and manners to speak like her favourite presenters, rather than choosing to modulate her language on English as it is spoken in New Zealand. Ghita is unpretentiously adjusting her behaviour to have commercial appeal as it is constructed by her favourite American creators on the platform, which indicates the influence of YouTube in children's subjectivity formation.

The influence of different types of technologies in the process of subject-formation or subjectivation, is an issue investigated by Foucault in the *History of Sexuality* (1998) While he had dedicated his earlier texts to the production of subjects through techniques of power, Foucault later dedicated his studies to what he called "technologies of self" (Foucault, 1987, p. 6). Technologies of the self are practices by which individuals subjectify themselves to normative codes that shape modes of being (Mills, 2017). Subjectivation can be seen as "the mechanism for the integration of life and politics in the biopolitical nexus" (Mills, 2017, p. 179). Foucault argued that individuals should not be seen as repressed by power, but rather individuals were to be seen as an artefact of the operation of power and knowledge (Foucault, 1995; Foucault, 1998).

YouTube is a subjectivation force for young children since it offers to young children content that impacts their desires and behaviours, while content creators create a connection with users through a nonreciprocal relationship that enhances this influence. In Chapter 4, I presented that participants continually report a sense of intimacy that is created by YouTube's system. However, my findings also demonstrate that some content creators present their content to children in a way that builds a close yet one-way, relationship that ends up impacting children's subjectivity. This relational aspect of the intimacy created between content creators and young children can be illustrated in the contribution below:

Interviewer:	What kind of videos do you like to watch on YouTube?
Chad:	My friends
Interviewer:	My friends? But is it the name of the channel or is it videos that your friends …
Chad:	(in overlap) Videos with my friends.
Interviewer:	Videos with your friends. So, there are some videos with your friends on YouTube?
Chad:	Yeah.
Chad's sister:	He likes watching reviews.
Interviewer:	Can you show me later?
Chad:	Yes.
[…]	
Interviewer:	When screen time is over, how do you feel?
Chad:	Sad.
Interviewer:	And why do you feel sad?
Chad:	Cause I want to watch my friends on YouTube.

During his interview, Chad contextualised himself as being friends with popular content creators. Although at the beginning it was not clear to me if Chad was referring to his offline friends, during observations, Chad showed me the presenters he follows on YouTube as his group of friends.

This asymmetrical relationship between users and content creators has been investigated through viewers' relationships with television characters and, more recently, through user relationships with YouTube's content creators (Bérail et al., 2019; Chen, 2016; Ferchaud, Grzeslo, Orme, & LaGroue, 2018; Giles, 2002; Hartmann, 2016; Horton & Wohl, 1956). The

concept of the parasocial relationship is useful for understanding what is taking place here. It was introduced by Horton and Wohl (1956) into the field of communication sciences to describe the illusionary experience of the viewer with television performers (Giles, 2002). The concept describes the nonreciprocal relationship of viewers with TV performers and the viewers' feeling of being in an interaction with them. The Internet transformed this traditional parasocial relationship through offering the tools necessary for establishing a stronger parasocial relationship between viewers and content creators. This can be seen when several of participants mimic their favourite content creators' practice of asking users to subscribe to their channel when they create their own content. More generally, although my young participants did not tend to subscribe to or comment on YouTube channels, the possibility of interaction with these narratives probably brings them into a closer parasocial relationship to the content creators.

My research shows that this nonreciprocal experience with performers seems to be central in young children's desire to be YouTubers, which resonates with the limited established research on children's parasocial relationships. Research investigating the development of parasocial relationships among children is scarce. In research conducted with children between 5 and 12 years old, it was found that the youngest participants in the sample developed the strongest parasocial relationships with media characters (Rosaen, 2008). The fact that young children play with toys related to the media characters indicates this, and repeated media exposure has been found to increase parasocial relationships among young children (Bond, 2014). These findings resonate with participants' contributions and indicate that this close relationship established between young children and their favourite content creators could be the reason why young children want to buy the products displayed in the videos and also to be content creators. I approach the impacts of popularity on children's consumerism later, in section 6.3. Here, I concentrate on the subjectivation processes established through the nonreciprocal relationship between young children and content creators.

The parasocial relationship established between young children and content creator influences children's subjectivity, and Caio's experience on YouTube illustrates this very well. One of Caio's major goals in life is to be a famous YouTuber. Caio has an established, intimate relationship with YouTube. According to his father, Caio used to watch videos "the whole day, every day". During his interview, Caio posited that he had always wanted to be a YouTuber: "I really want to be a YouTuber my whole life". Caio likes to watch gamers and

toy reviews, and he plans to be a YouTuber in the short term. Like the other participants who wanted to create content, Caio's motivation to be a YouTuber is based on being famous like his favourite content creator:

Interviewer: Would you like to be a YouTuber?

Caio: Yes, I will be.

Interviewer: You will be?

Caio: Yeah.

Interviewer: Do you know when?

Caio: I think when I grow up, ten years old.

Interviewer: When you are ten years old, you will be a YouTuber. And do you know what you need to do to be a YouTuber?

Caio: It's because I really wanted to be a YouTuber my whole life.

Interviewer: Oh, and why? What do you think is so nice about being a YouTuber?

Caio: Because I want to be famous.

Interviewer: You want to be famous. And why do you want to be famous?

Caio: So, people would like me.

Interviewer: People would like you. So, do you think that people like all content creators?

Caio: Yeah.

According to Caio, to be a famous YouTuber means that "people would like me". That is, for Caio, being famous is not restricted to a quantified meaning of "famous" as a simple metric (being known). Rather, being famous indicates a qualitative dimension – being liked. This is an example of the transformation from quantitative measurements of popularity to positive qualitative evaluations that I discussed earlier and I pursue this further in the following section. Beyond being like content creators, Caio's account indicates how young children's beliefs are to some extent modulated by this parasocial relationship when they want to achieve the commercial milestones these creators have accomplished.

As young children are constantly defining their identities through engagements with digital technologies (Buckingham, 2008; Buckingham & Willet, 2013), YouTube has a major role in young people's adoption of values and stereotypes. Caio aspires to be a YouTuber to be acknowledged and likeable. In his comment, Caio exposes his sense of self-value based on being a popular YouTuber in order to be liked. It is important to add here that Caio

personalised YouTube as a tall and confident man (see Chapter 4). To be confident is probably a characteristic that Caio admires in his favourite content creators and that he wants to embody.

While children want to become part of YouTube's work force in the future, parents seem to have mixed feelings about their children becoming creators on the platform. Some of them showed concerns about their privacy and emotional health, along with the excitement of having a celebrity at home and the increase in family earnings that it represents. Although Irene is determined to keep her son away from screens, she also recognises possible financial benefits coming from being a YouTuber:

> **Irene (Marcus's mother):** I knew that all content creators are getting more money from their videos, so they are making a business out of their blogs or something […]. I want to put them on YouTube as well. I'm thinking about that, but I don't know how to download it, yeah. Because he has fun making videos of himself.
>
> **Interviewer:** He likes to do it. So, you are thinking to make a YouTube channel for him?
>
> **Irene:** Yeah, something like that, just for fun. And the last time I've heard about this, Ryan and some other content creators, they are making millions of dollars. Why are they making money out of this? So how do they do this?
>
> **Interviewer:** And why you didn't do that?
>
> **Irene**: Because I don't know, I don't have any idea how to use the technology. If I do have, if I'm getting more money out of it, then yes.

Irene's account shows the naturalisation of labour on the self on the YouTube platform. Irene would consider exposing her son to the YouTube platform to earn money. She does not want Marcus watching YouTube, but she can see benefits from letting Marcus produce videos to upload on the platform. Child digital labour on YouTube is naturalised as entertainment among caregivers, and this results in parents' recklessness about their children's exposure on the platform.

This was what happened with Peter. Peter had a channel on YouTube with several videos he uploaded by himself. Suzy (Peter's mother) watched most of them for the first time during our interview. She was worried about the way some videos were portraying her house intimately and was surprised by the number of videos produced by Peter. As mentioned before, this is probably the reason why Peter deleted nearly all his videos from the YouTube platform the day after our interview.

Arya's (child) was another participant that mentioned wanting to be a YouTuber. Arya's identification with her favourite content creators aroused in her the desire of be a famous pop star on YouTube. Instead of a content creator, Arya mentioned that she wanted to be a "YouTube singer", and she also used the word "famous" to specify her goal. She had discovered music video clips recently on YouTube and watching this genre of videos was currently her preferred hobby:

Interviewer: Great … have you ever thought about what you want to be when you grow up?

Arya: Yes, a pop star.

Interviewer: A pop star! And what kind of pop star?

Arya: A famous pop star.

Interviewer: A famous singer or actress?

[…]

Arya: Yes, a YouTube singer.

When Arya opened the YouTube app on her TV screen, it was possible to see this transition from children's videos to music channels: her list of video recommendations combined Jonas Brothers and Maroon 5 together with Peppa Pig and LoL doll videos. Arya decided to choose one of the Jonas Brothers' video clips during her observation session. In the video, three singers are starring in romantic scenes with their real-life partners. While watching the video, Arya was happily mimicking the characters' dance moves.

Similar to Caio, Arya wants to be popular on YouTube. Arya admires her preferred singers and wanting to be like them seems to elide the desire to be admired too. The fact that Arya explicitly linked her favourite singers to YouTube when she says she wants to be a "YouTube singer" suggests that her main contact with these singers happens through YouTube. Arya's relationship with YouTube reveals the strong presence of the platform as a musical entertainment space.

My findings show that, influenced by a parasocial relationship with content creators, some children are encouraged to work on the self in a process that hampers the distinction between notions of the self and political economic processes of value production, such as the example of Ghita, earlier in this section, using a commercial narrative to communicate with family and friends. This means that discussions about children wanting to be YouTubers need to encompass YouTube's political economic structure. The analysis of popularity on YouTube

must not be restricted to likeability but include the impact of YouTube content on modulating children's narratives and commercial techniques of self-promotion.

This leads to questions around the way technological processes of modernisation have interfered in the construction of the self and transformed it into an explicit form of labour (Hearn, 2008). The rise of self-branding practice is a trend across different mediated forms, and it is a practice that children are exposed to from early ages, especially on YouTube. Self-branding, which is sometimes called personal branding, consists of the individual construction of a public image for profit and/or cultural capital (Khamis, Ang, & Welling, 2017). In other words, personal branding involves "the self-conscious promotion of a meta-narrative and meta-image of self through the use of cultural meanings and images drawn from the narrative and visual codes of the mainstream culture industries" (Hearn, 2008, p. 198)

This resonates with the YouTube motto, "Broadcast Yourself", as the platform orientation. Although YouTube does not display this tagline in most of its official channels anymore, Broadcast Yourself was prominently featured on the YouTube platform during the 2010s and still appeared on the YouTube blog and other official communications until recently. As a biopolitical summons, YouTube's motto is a subjectivation force modulating and guiding viewers to be economically active on the streaming platform via self-branding practices. YouTube's motto is an invitation for viewers to display their bodies in exchange for popularity and profit. This is a key example of the power shifted to the economically active subject. YouTube creators embody Foucault's definition of homo economicus in the sense that producers are entrepreneurs of themselves, being their own capital; they are the producers and the sources of their income (Foucault, 2008; Mills, 2017) and children seem to be learning this through their favourite creators on YouTube from early ages.

Even though young children's participation on YouTube in producing videos is not considered under the wage labour realm, they can ultimately generate value. Children's personal data is used to create targeted marketing campaigns and their videos are exploited to attract more users for longer. A growing literature on the exploitation of this so-called free labour has been driven by the fact that users' activities on interactive platforms have a value expropriated by digital companies, as I also investigate in Chapter 7.

Tiziana Terranova (2013) defines free labour as "the moment where this knowledgeable consumption of culture is translated into productive activities that are pleasurably embraced and at the same time often shamelessly exploited" (p. 37). Her definition of free labour

includes the users' relationship with pleasure and desire, and points to how working in the context of digital capitalism differs from working in the context of industrial capitalism. Digital production can be pleasurable when workers are using their creativity in social contexts, even when constrained by some success formulas or platform rules. My findings suggest that, because of these links between digital labour, pleasure and fun, digital labour has a special appeal for children. Digital capitalism's "anyone-can-play system" (Scholz, 2013, p. 1) ends up being driven by young children as active members of social platforms, and their interactions are exploited by digital companies.

Beyond being pleasurable, digital labour can be free labour when it is expropriated and exploited by advertising platforms. The challenge of mobilising the critiques of exploitation in digital contexts is that such an argument seems incompatible with the sense of enjoyment or pleasure that users experience: "coercion is embedded in the relations that structure so-called free choices" (Mark Andrejevic, 2013, p. 154). In this sense, platforms that foster creativity do so in a context that respects the logic of private ownership of the means of production. YouTube separates users from the infrastructure that supports their creative activities and reinforces a structure where a small group controls the productive activities of many. Simply put, when young children are uploading videos or working on the self to be YouTube content creators in the future, their interactions and desires are being exploited as part of a popular culture that is commercially oriented to produce profit for the platform.

That is, young children on YouTube are vulnerable viewers exposed to a powerful biopolitical mechanism that has as one of its features a focus on self-branding practices that involve "creating a detachable, saleable image or narrative, which effectively circulates cultural meaning" (Hearn, 2008, p. 198). As part of the YTMA, children are usually misled to associate working as playing. For young children, being a content creator is a pleasurable part of the YouTube experience. Within this personal branding process, we cannot omit the role of metrics. These numbers have a special place in the way participants navigate the YouTube platform.

6.2 The Popularity Quantification

As presented in the previous section, in the process of understanding popularity on YouTube, the influence of content over young children became apparent through the parasocial relationship established between them and their favourite content creators. While popular

search keywords seem to be one of the factors guiding most the content produced on YouTube, children's desire to be a popular YouTuber is partially a result of a nonreciprocal relationship established with YouTube presenters. In this section, I approach the numbers structuring the regime of visibility on the platform. Participants' comments indicate that YouTube metrics can influence the way they experience the platform as they inform decisions and preferences.

While popular searches for content on YouTube is a metric available only to content creators, the number of views and subscriptions are a visible metric of popularity for caregivers and young children. The YTMA creates a site where popularity is promoted via measurement and quantification. This is known as the "popularity principle" (van Dijck, 2013, p. 13): the more contacts or views you have on social media the more valuable you become. This popularity suggests that things, people, and ideas can be liked through an instant click on the "like" button or through the number of times people view a video or a profile. YouTube's metrics of popularity like "views" and "subscriptions" guide the user experience on the platform, but caregivers' and children's understandings of these metrics vary in my dataset, as I present in this section.

Among aspiring presenters, I encountered six-year-old content creator, Peter. He is an experienced YouTube user and creator. He has his own device, and he knows how to create and upload videos to his channel on YouTube. In the interview, Peter was excited about being a YouTuber and showed me all the videos he had produced. In the videos, Peter mimics other content creators, opening toys his mother gave him and replicating pranks he saw on the video-sharing platform. Peter starts his videos by saying, "Hey guys, thanks for watching my video and please subscribe". This opening statement is a very common introduction in well-established YouTuber's video introductions, and Peter repeats this in many of his videos. Peter also talks directly to the camera while he engages in a nonreciprocal conversation with viewers. In one of the videos, he showed me during the observation, he gets closer to the camera and whispers to viewers that he is going to perform a prank on his sister. Peter presents his video as if he were part of a community and watched by numerous viewers.

Even though the interactive buttons on YouTube are not always appealing for young children, YouTube presenters are always reminding their young audience to like the videos and subscribe to their channels. In Peter's case above we see content creators' public plea to enhance their numbers replicated by him. Virtually all toy review videos the participants

watched showed at some point the presenter asking them to be part of the channel to receive notifications when new videos are uploaded and press the like button if they enjoyed the video. While none of the participants liked or subscribed to a channel during observations, children imitated content creators' appealing narratives when playing or recording their own videos.

Peter uses the exact same tone and speech used by popular content creators, despite the fact that Peter is not a famous content creator. I engaged in a conversation with him to explore his relationship with YouTube and to understand what motivates him to be a YouTuber:

Interviewer: Do you like to be a YouTuber?

Peter: Because they can have subscribers in their YouTube channels.

Interviewer: And why do you think it's nice to have subscribers?

Peter: Because you can get that gold YouTube thing.

Interviewer: You can get that gold YouTube thing …

Peter: Yeah.

Interviewer: Is it like a certificate?

Peter: Yeah.

[…]

Interviewer: Um, what do you think it means to have the golden certificate from YouTube?

Peter: So you can be the best YouTube channel.

Interviewer: You can be the best YouTube channel, and being the best YouTube channel means that you have …?

Peter: Subscribers.

Interviewer: A lot of subscribers. But what do you think you would earn working on the YouTube platform? What do you think YouTube is giving to you to be on their platform?

Peter: Um, they are giving, they want us to earn, to be a best YouTube channel.

Interviewer: And how do they do this?

Peter: By making YouTube and making a YouTube channel.

While most of Peter's contribution echoes the nonreciprocal relationship seen through other participants' accounts mentioned earlier, the way Peter approaches YouTube metrics above is different from other participants. In my conversation with Peter, it became apparent that his

desire to be a YouTuber relates to the YouTube reward system and the number of the channel's subscriptions. He said he wants to be a YouTuber because he can have subscribers. When I asked him about why he wants to have subscribers, he answered that if he has a lot of subscribers, he can earn the gold certificate – the gold certificate Peter mentioned is a milestone award YouTube gives to channels according to their number of followers. It is common to watch content creators displaying their achievements as performers on YouTube, showing their awards to the audience, and young children like Peter want to achieve the same milestones. The gold certificate acknowledges content creators' popularity, and Peter's comments illustrate the participation of the YouTube reward and quantification features in the constitution of young children's desires to be popular content creators.

There is a sense of complicity between Peter and YouTube. For Peter, YouTube is supporting him to be a content creator when it builds the environment he needs to thrive as a presenter. This intimate relationship with YouTube ties in with Peter's account in Chapter 4 when he argued that YouTube "wants everyone to be happy". According to Peter, YouTube is encouraging him to be a YouTuber and earn the gold certificate: "they are giving, they want us to earn, to be a best YouTube channel".

Peter's articulation about being a YouTuber is, in one sense, inseparable from YouTube metrics. As a YouTuber, Peter argued that having subscribers is part of his aspiration on the platform. He complemented his argument, saying that increasing these numbers would give him his desired gold certificate. Peter is also aware of the number of views of his videos. When I asked him if he knew the meaning of the number of views, he said: "I just got five". Peter said "just" probably because he is able to compare his numbers of views with popular content creators' rates and conclude that five views is a low number. Peter's concerns about his number of subscriptions and views are based on the fact that his channel has 15 subscribers (as at December 2020), and his most popular video has 52 views accumulated in almost one year. Considering that the most popular content creators on YouTube have dozens of millions of subscribers and billions of views, Peter seems to have a long way to go to reach his goal of gaining a gold certificate.

While the number of subscribers is particularly important for Peter, this interpretation does not resonate with all participants' contributions. The number of subscriptions and the number of viewers on YouTube have different uses and meanings. Subscribers are people who want to receive alerts when new content is published from specific entities or a person's channels

on YouTube. That is, the quantification of subscriptions on a channel says a lot about the YouTuber's popularity and visibility as this concentrates the number of people interested in following that creator. For instance, as a content creator, Peter pays attention to metrics differently from participants who exclusively view videos. Peter is aware of YouTube's analysis of creators' performances through its quantitative tools. He knows that he will be acknowledged if people subscribe to his channel. There is a sense of approval behind this number that is part of Peter's experiences on YouTube. Peter is highly self-conscious about performing on a platform that values material gains and popularity status, and this explains the fact that the nonachievement of some values on YouTube seems to reflect on children's self-value.

This is the case for Ghita (five years old). Ghita had a single experience as a YouTuber. She produced a video, offering a tour of her bedroom with her mother's help, and she started our meeting by telling me that 10 people liked her video. Ghita mentioned the number of likes spontaneously as part of her experience as a YouTuber, followed by her concerns about her performance. Ghita seemed to be insecure about her skills as YouTuber: "I barely know how to do this. I think it might be different". Ghita's assumption about her skills as a presenter may come from her low popularity rate on YouTube although this is not clear from her comment.

Both Peter and Ghita showed their awareness of YouTube popularity quantification as part of the experience of being a YouTuber, but this consciousness about the YouTube metric system is more present among caregivers. Although the "views" on YouTube are of paramount importance for the platform business model (see Chapter 2), caregivers' understanding about this number is anything but a commercial strategy. The number of views is a conditional part of most caregivers' experiences on YouTube, and caregivers give different meanings to these figures. Although the videos with the highest number of views are frequently displayed at the top of the recommendation list, what also guides caregivers' watching time on YouTube is the number of views displayed below the video. For them, higher view numbers point to videos that are worth picking up. I asked them what they think when they see this number on the screen:

> **Leslie (Connors's mother):** I guess it makes me think lots of people have been interested in watching it whether it's good or not. Yes, I will be like, "Oh, what these people know that I don't"?'

Leslie's account points to the number of views as her guide for watching on YouTube "whether it is good or not". This means that, for Leslie, YouTube's metrics directly affect her choices of content on the platform. Leslie's contributions indicate the power relationship between YouTube popularity metrics and users' choices on the platform, irrespective of the content and presenters themselves, when it creates a hierarchy of recommendations based on those numbers.

Similarly, Annie (Una's mother) emphasised the number of views in regard to her interests on YouTube:

> **Interviewer:** What comes to your mind when you see that number (the number of views)?
>
> **Annie:** A lot, to be honest! Like this is something that I [am] meant to be interested in.

Like Annie and Leslie, other participants' perceptions of the number of views reflect the role of popularity as quantification in the way caregivers experience YouTube, and the reference to "what these people know that I don't" points to the common tag of "fear of missing out" or "FOMO". As a salient experience for people online, FOMO is a widespread social phenomenon among social media users (Buglass, Binder, Betts, & Underwood, 2017; Hunt, Marx, Lipson, & Young, 2018; Milyavskaya, Saffran, Hope, & Koestner, 2018). Amplified connectivity to social media has been associated with people's anxiety about the fact that others are having a more desirable life (Buglass et al., 2017). For some caregivers, the number of views arouses the feeling of missing something interesting or something that they should know. This means that the popularity metric of a video on YouTube is an instant indication of what caregivers must watch on the platform. Some caregivers use the viewing figures to navigate YouTube, and this establishes a link between the number of views and caregivers' content choices.

The influence of the number of views on caregivers can also be associated with their choices for their children and students on YouTube. For a few caregivers, a higher number of views can indicate a safer choice for children. Catelyn's account reveals her understanding of the number of views as indication of the safest option for her daughter:

> **Catelyn:** I kind of feel there is a few of "Elsa and Anna", and I never know which is the ones that she likes watching, and it's always the ones with the higher numbers, like a million views. Maybe I feel safer cause so many people have watched it; I feel that it's more known.

Catelyn's realisation that the most viewed videos were refined by the choices of millions of spectators confirms the fact that popularity on YouTube can be associated with social curation for caregivers and can end up setting the pathway for children's interests online. This view seems to support "a myth of intentionality and satisfaction" (van Es, 2020, p. 10) and can be translated into a good and reliable video by caregivers, as per the quote below:

> **Tessa (Ghita's mother):** Cause I feel like more views are like more credibility.

Values like "best" are also applied by caregivers to refer to the number of views – more popular, best quality:

> **Jeanne (Katherine's and Phillipe's mother):** I google how to sew a blind. Then, the results will come up. I watch the one with the most views cause that's probably the best.

Participants' accounts of popularity metrics on YouTube reinforce the social adaptation to the establishment of the practice of measurement within digital technologies and the uses of these figures to order and value the social world (Beer, 2016). In this sense, the number of views is a category that legitimises hierarchies on YouTube (van Es, 2020) based on its political economic interests. Some participant's accounts are very precise about the relation of the number of views to quality and reliability.

Participants' comments demonstrate that the number of views is a central force in YouTube's political economic structure. Social media produce a lot of metrics, but only some are integrated into decisions and practices (Beer, 2016). This means that some metrics are "reactive" as people adjust their actions according to their results (Espeland & Sauder, 2007), as often happens with caregivers' choices of video on the platform.

On the other hand, a few caregivers seemed to resist the FOMO and sought to make decisions on the platform by themselves. A small number of caregivers declared that YouTube figures do not influence them:

> **Olga (Vanessa's mother):** I don't think because some people think that whenever views are a large amount that it is good; I am not like that! I don't think that because people are watching that thing means that it is a good thing. I feel that it's much popular; do you know what I mean? People can say, "OK, this ice cream is good"; it depends, you know?

This account suggests that Olga is trying to differentiate herself from other parents. She knows people tend to follow YouTube metrics to make decisions on the platform, but she

claims she is not “like that”. That is, Olga acknowledges the power of YouTube quantification tools on its users, but she puts herself outside this tendency when she argues that her opinion prevails when choosing content online. Olga’s contribution is, in one sense, connected with the earlier participants’ articulations revealing the power these popularity quantification tools have over caregivers’ choices even when they are resisting. The quantification tools inform priorities and influences preferences.

Popularity measurements play an important role in some participants’ uses of YouTube, and the availability of these numbers to the public is a digital technological novelty. Studies on popularity are traditionally developed by academic research and private ratings companies. In commercial television, popularity measurement has been researched by the rating industry for a while. The audience measurement produced by these rating companies used to be the dominant means of producing information on audience preferences (van Es, 2020)

Different from TV ratings that illustrate popularity through audience preferred content, social media metrics also drive popularity by exposing these numbers to the public. That is, YouTube merges popularity and popular culture differently from the traditional media mainly through the way it works with its quantification tools. While traditional media ratings usually offer information on what content is popular, in general companies like YouTube ranks and presents its content according to popularity measures aligned with individuals’ preferences, which ends up guiding users’ experiences on the platform.

There is a lack of a common denominator among the different conceptual frameworks applied by scholars to the concept of popular culture (Ivana, 2018). While several authors offer a definition for the popular culture concept, such as Stuart Hall (2009) who defines popular culture as a political space where meaning is built to regulate and organise social conduct and practice (S. Hall, 2009), Tony Bennett (1980) writes that “The concept of popular culture is virtually useless, a melting pot of confused and contradictory meanings capable of misdirecting inquiry up any number of theoretical blind alleys” (p. 18). In this direction, John Storey (2018) also reinforces the view that “popular culture is in effect an empty conceptual category, one that can be filled in a wide variety of often conflicting ways, depending on the context of use” (p. 1). Even though there is not a consensual scholarly definition of popular culture, most studies point to the emergence of this concept as a consequence of industralisation and the capitalist economy (Ivana, 2018; Parker, 2011). One of the most prominent studies of popular culture in the industrial era is Horkheimer and

Adorno's investigation (Horkheimer & Adorno, 2002) on *mass culture* and the *culture industry*. For Horkheimer and Adorno, the reproductive techniques placed art as a mere reproduction of the economic base. For them, traditional art had failed to maintain its autonomy under the monopolisation of culture by mass cultural institutions. These mass cultural institutions Horkheimer and Adorno (2002) called the "culture industry" (p. 1).

The changes discussed by Horkheimer and Adorno persist in the digital context, along with new features and practices. Adorno interrogated the processes of cultural production, manipulation and commodification present in the contemporary technical innovations working together with commercial institutions. He was concerned with losing the humanness so often appreciated in the production of art in earlier times, and the possibilities of the manipulation of civic and political life that impact people's subjectivity according to the will of the industrial cultural machine. According to Adorno (1975), mass art is a commodity to be sold through techniques designed to manipulate its consumers through commercial strategies, and "The seriousness of high art is destroyed in speculation about its efficacy" (p. 12). For him:

> Thus, although the culture industry undeniably speculates on the conscious and unconscious state of the millions towards which it is directed, the masses are not primary, but secondary, they are an object of calculation; an appendage of the machinery. The customer is not king, as the culture industry would have us believe, not its subject but its object. (Adorno, 1975, p. 12)

Bringing Adorno's concerns to the context of digital media and its social algorithms and automated bots, it is clear that the culture industry has taken a detour that has not made us any freer. On the contrary, digital technologies make it even harder for us to recognise chains of manipulation or the commercial interests behind their practices. This leads to caregivers allowing children to participate from young ages in apparatuses where they can have harmful encounters.

Additionally, social media like YouTube have commodified users' experiences through the exploitation of their interactions online based mainly on popularity measures like "views" and "likes". While the regime of visibility associated with social media connects to "the notion of empowerment", it is also associated with disempowerment because of its surveillance techniques that often track and collect data from people for the "controlling of bodies in time and space" (Bucher, 2012, p. 1165). This contradiction between freedom and compliance with digital platform expectations in terms of metrics can be seen when the

participants of my research use YouTube numbers to evaluate themselves as producers. Functionalities such as the "like" and "subscription" buttons are visible to young children, and some of the participants internalise these numbers as the quantification of applause or acclamation, as Peter's account illustrated.

van Es (2020) makes a plea for a critical understanding of YouTube's culture. In her article, van Es makes a brief inventory of audience measurements and a theoretical analysis of the number of views, aiming to question YouTube as an empowering tool. For her, the celebratory discourse around YouTube was "positively misguided" (van Es, 2020, p. 5), when the platform legitimises hierarchies that impact participation, visibility and popularity. I share her opinion about the number of views as a "pervasive category enacted through the platform" (van Es, 2020, p. 1) but I argue that this number is not the only metric that needs to be considered on YouTube. While the number of views is central for viewers' navigation of the platform, the number of subscriptions has an influence over a few participants as well, especially when their repertoire on the platform includes experiences as content creators, as I presented above in this section.

YouTube metrics are an important part of the platform mechanism used to foster competition. The number of subscriptions and views on YouTube stimulates competition among its users and creators when it orders and hierarchises cultural relevance: "metrics afford differentiations to be created and inequalities to be cemented" (Beer, 2016, p. 3), which ultimately fosters competition among users. This resonates with Foucault's (2007) elaborations on neoliberalism and competition, which place this competition between private individuals in terms of what will allow the institutions to pocket the profits. My dataset shows that young children that want to be content creators are influenced by YouTube quantification tools to compare and determine their self-value. When Ghita argues that she has a low number of views because she probably did "something wrong", she acknowledges YouTube numbers as a reference to compare and evaluate herself using the quantity of views her video received, which is perceived as signifying a lack of quality given the number of views her favourite content creators routinely generate. The YTMA can play with what should be watched and what should not be watched through a mechanism that proves to be highly influential in the way participants navigate the platform. In other words, participants' experiences are being informed by a technology that tracks and stores users' personal data to mediate and construct a regime of visibility (Bucher, 2012).

The YouTube metrics operate as a system that shapes users' understandings of popularity and, more broadly, it shapes what has become valued on the platform for viewers and creators. The view on YouTube is competition-driven as it exposes inequalities to stimulate creators to enhance audiences and users to compare their lives with others (FOMO), as I exposed above. In this sense, the resurgence of "the social" in media is confronted with the individualisation promoted by a power dynamic on social media through their metric tools. Social media have a way to create individualisation through metrics that facilitate competition among individuals (Beer, 2015, 2016; Davies, 2015). These aspects of competition clearly emerge across participants' contextual accounts through the internalisation of YouTube metrics and hierarchies as a conditional part of their experiences on the platform. That is, YouTube quantification tools are not only an important strategy for the YTMA but also establish a visibility structure that ends up impacting children's "self-value" and caregivers' choices of content.

6.3 Popularity and Consumerism

Another aspect of popularity on YouTube among young children is consumerism. Within the YouTube culture of popularity, young children's minds are influenced so that they want the products these creators display in their videos. Beyond entertainment, content creators create product trends that end up giving form to popular culture inside and outside the screens. On creating partnerships with different brands, content creators sell products that allow their audience to have the same experiences creators show in their videos. While traditional display advertisements are present on YouTube, sponsored videos have an equally important role in the commercial processes of promoting consumerism to children on YouTube.

Participants' accounts reveal that popularity on YouTube ends up informing children's choices of consumption offscreen. Consumerism, in the sense of "excessive materialism", is related to the promotion of a continual increase in the consumption of goods and services that has been driving the economy since the industrial revolution (Swagler, 1994). Even though just a few children mentioned during their interviews that they ask parents to buy products they see on YouTube, virtually all parents mentioned having heard their children asking for products they see on content creators' videos.

> **Sandy (Justin's mother):** Yeah, he's definitely aware of things that come up for selling. If there is something that he's interested in watching, then I'll probably hear

about it; some conversation will come up, and he'll tell me about why this great item is to buy.

Sandy's account reveals that watching videos on YouTube results in demand for consumption. Justin is constantly asking to buy products that are promoted in YouTube videos. Sandy's contribution also shows that Justin has an argument for buying those products, which points to how children's narratives and subjectivity are also influenced by advertising claims to the point that children can defend their consumption decisions.

In fact, parents can notice these external influences, and they acknowledge YouTube videos as the source of children's demands for products and services:

> **Olga, Vanessa's mother:** Yes, they are promoting some sort of toys, I mean, these dolls and slime. They are always watching those stuff. Yes, sometimes she's asking me, "OK, I want that dog" or "I want slime" because of those advertisements.

Olga seemed uncomfortable with her daughter's requests to buy all sorts of products, and this resonates with other parents in my dataset, especially when what is requested is inaccessible for parents:

> **Irene (Marcus's mother):** Yeah, even the place where they went: "Oh mummy, let's go to the Disneyland" or "Let's go to a cruise"; oh my gosh! Fancy! He used to see [these videos] and, "Oh mummy, can we go there as well?"

The few examples above are examples of materiality in popular culture. Youth cultures tend to happen always through the materiality of what they consume (Storey, 2018). Children always have a toy of choice, a particular character that they want to look like, a specific type of music providing an exciting landscape. The combination of these forms of materiality makes children's culture visible socially.

The influence of products displayed on YouTube to children can also be seen through children's behaviour as a group:

> **Tessa (Ghita's mother):** They just came from nowhere, and, suddenly, all the kids wanted them, and I think it's from YouTube. For sure, my kids have never heard of them, and suddenly there are those LoL dolls, and I was like, "What are these LoL dolls?" And then it's something by YouTube. Even now, they are talking about some JoJo Girl, Ribbon in the hair. I think she's a YouTube star or something. Ghita mentioned to me other day something about wearing her JoJo ribbon, and I've noticed a lot of kids are wearing these big ribbons, and I think this is a YouTube star they are copying.

Tessa notices YouTube's trends through her children's demands and observing her daughter and her friends: "I've noticed a lot of kids are wearing these big ribbons, and I think there is this YouTube star they are copying." Tessa's account reveals the popularity power of YouTube's advertisements and sponsored videos when they create consumption trends among their young users.

On YouTube, consumption goes beyond the simple needs of the consumer; some goods have a symbolic value. Consumerism is often based on values, cultural elements and materiality, and on YouTube the uses or possession of certain objects can add a "powerful status-defining element" to their use value (Migone, 2006, p. 183). This socially defined status is usually defined through sponsored videos that offer children a possible lifestyle and can transform consumption in an expression of societal interaction.

This consumerism resonates with the dynamics between Peter (child) and his mother to get him the products promoted on YouTube. As a YouTuber, Peter aspires to have the same products his favourite influencers display in their videos. Some of Peter's videos on YouTube star Peter doing reviews of his own toys. Suzy (Peter's mother) is very concerned about Peter's vulnerability to the presenters' influences:

Interviewer: Why don't you like these videos? What makes you feel that is not good for him?

Suzy: Because if he is watching Ryan's Toys, they select toys, and after that, he will ask us to buy. (laugh)

Interviewer: Thus, he usually asks you to buy?

Suzy: Yes, when we go to the mall, he is looking for those toys.

Interviewer: The ones he watched on YouTube?

Suzy: Yeah. After that, if we don't buy, he will cry.

Interviewer: OK, so he cries.

Suzy: So, we have no choice. We have to buy for him, even if it is expensive.

Interviewer: Yeah, because he cries a lot if he doesn't have that toy.

Suzy: Yes. That's why sometimes we are not going to the mall, just going outside eating is much better than going to the mall, buying things.

Interviewer: Because if you go to the mall, he will see the toys that he wants.

Suzy: Yeah.

Suzy's comments confirms that part of Peter's experiences on YouTube means having the products influencers display in their videos. Suzy struggles to control Peter's cravings for products he sees on YouTube, and she is changing her family routine to avoid places where Peter will be in contact with the products he desires. The same undesirable situation happens when children ask for products that cannot be found in New Zealand:

> **Helena (Chad's mother):** New products; it's all American product that you can't get here. He will want those kinds of things, and I am like "Chad, you get that in America, we can't get those here."

Because children rely on caregivers to protect them online, my concern has been directed to parents' own limitations in recognising sponsored videos. Social media influencers are seen as authentic and trustworthy, and mature viewers also have difficulties in differentiating between commercial and noncommercial videos (Schwemmer & Ziewiecki, 2018). The practice and logic of personal branding are central to the YouTube business model, and the sponsored videos often make possible the construction of a branded persona. Briefly, sponsored videos integrate a product or service into a YouTuber's content. The collaboration between the YouTuber and sponsors can be openly introduced to the audience when presenters formally advise that it is a sponsored video, or may be signaled when content creators label their video with hashtags like #ad, #collab, or #gifted.

Sponsored videos raise concerns about commercial transparency for YouTube users. Child advocates have been questioning product promotion videos targeting children on YouTube and the way they disclose sponsorship for viewers (Federal Trade Commission [FTC], 2019). Although my dataset shows that young children can identify advertisements when they pop up on the screen and they skip them immediately (see Chapter 7), my young participants are not able to recognise any commercial interest in sponsored videos. This finding resonates with research showing that young children tend to perceive sponsored videos as an independent production reflecting the creator's opinion and, consequently, do not acknowledge it as advertising (Evans, Hoy, & Childers, 2018).

However, in my dataset, parents seem to be aware of the influences of sponsored videos on their children's choices of consumption. Like Suzy, some parents were very specific in their comments about this perception:

> **Jeanne (Katherine and Phillipe's mother):** I think Katherine has watched videos with LoL unboxings, and she's seen them in the shopping. She's really wanted them. So, it's the product placement in the actual video, not the

ad itself. I think it's actually what is in the video that is more powerful for them.

Interviewer: Like sponsorship videos?

Jeanne: (in overlap) Yeah, so kids are opening the toys and the toys they open are the ones that these two want rather than the ads.

Jeanne shares Suzy's perception of the influence of sponsorship videos over young children, and she considers this kind of production more "powerful" than a traditional advertisement. In fact, social media influencers' main audience is people who were born after 1980 (Palfrey & Gasser, 2010). A recent study shows that half of 14- to 19-year-old respondents, and one-third of 20- to 29-year-old participants, used a service or bought a product recommended by a YouTuber, blogger, or another popular person (Schwemmer & Ziewiecki, 2018). By comparison, only 10% of respondents between 40 and 49 years were influenced by recommendations online If we consider Schwemmer and Ziewiecki's research results around the influence of digital celebrities according to age ranges, young children are probably the generation most influenced by digital recommendations online.

Considering YouTube as a popular culture milieu, consumption is a conditional part of any experience on the platform. Popularity on YouTube often results in people wanting to consume what creators display in their videos. While *culture* can be defined as the production, circulation and consumption of meanings (Laclau, 2009), *popular culture* can be understood by what people make from their active consumption of what is produced by the culture industries (Gramsci, 2009). This happened with the traditional mass media and continues within the digital media context. Additionally, the collection of personal data online facilitates the customisation of products and attends to audience demand efficiently. While YouTube offers the space to produce and circulate goods, it has an important role in fostering consumption online and offline throughout users' navigation, to close the production cycle. It does this through different practices, such as organisational metrics, flow of content and different types of advertising.

Some material capacities of an object can transform what we do (Storey, 2018). YouTube is a clear example. This platform changed the popular culture of watching, offering interactive tools that allow people to communicate and watch at the same time. YouTube's users can use the platform's communicative tools to talk with creators and other users, explore the Internet through available links or just let people know how they feel about a particular item of content. In doing this, YouTube influences the materiality of what children consume. For

instance, while watching a video, children can click on a link that takes them to a page where they can download a game or order a toy. YouTube heavily influences not only mediated popular culture, but also consumption practices, shaping consumer behaviour and consumers' attitudes.

Thus, young children online have been impacted by the materiality of YouTube culture in different ways, and consumerism is often mentioned by parents as one of YouTube's side effects. Children asking to buy products they have been in contact with on the platform is cited throughout the dataset. Although parents seem to be aware of videos promoting products and their influences on their children, commercial interests in sponsored videos seem to not be clear to young children. In this scenario, parents have an important role in protecting children and guaranteeing children's welfare online on YouTube. This raises the concern about the centrality of caregivers' knowledge about YouTube's political economy in protecting young children from free labour exploitation online, which is explored in the next chapter, Chapter 7.

6.4 Conclusion

In this chapter, I expanded on the understanding of children's experiences within the YTMA through the value of "popularity". Popularity for young children on YouTube unfolds in their wanting to be content creators and wanting to have the products and experiences presenters display in their videos. The values of "likeability" and "popularity" are often interchangeable for young children, and part of children wanting to be YouTubers is because of their desire to be likeable.

Children's experiences on YouTube are influencing their subjectivity and shaping their desires and aspirations. In this biopolitical process, content plays an important role in the modulation of users' behaviour. My findings show that the parasocial relationship established between children and their favourite content creators informs children's subjectivity in different ways. The nonreciprocal relationship of young users with content creators amplifies their feeling of intimacy with the platform, especially when they see the possibility of having creators' products and/or experiences. In this sense, YouTube produces subjects when it influences the formation of children's subjectivities through techniques of power that place individuals as artefacts of the YTMA that shapes modes of being.

Also, YouTube's quantification tools have an important impact on what constitutes "popularity" on the platform. This metric does not go unnoticed by children who, in some cases, see the number of views as a qualitative indication of the value of their own performance when they create a video. Children wanting to be YouTube celebrities often mention having influencers' numbers displayed through functionalities like the number of views and the number of subscribers. The references to the number of likes and subscriptions were made by participants who have experience as content creators. As these young children's minds are already oriented to being producers on the platform, these numbers are part of their goal to achieve popularity on YouTube. This indicates that popularity measurements seem to have more visibility for children who are content creators or have already had some experience as creators on the platform. Thus, the YTMA is not only offering happiness through its content and by mobilising children's attention, but it is also influencing children's self-value and users' choices on the platform based on popularity metrics and parasocial relationships with its creators.

I showed that quantifiable popularity on YouTube influences how caregivers navigate the platform and impacts their choices of content for children. This influence happens based on caregivers' beliefs about popularity as a sign of "credibility" and "quality". These findings reinforce the internalisation of the practice of measurement to order and value the cultural and social world. It also reveals that caregivers adjust their actions to YouTube's metrics and they are integrated into their decisions and practices on the platform.

This relationship with metrics points to children's practices of consumerism being based on the one-sided relationship with YouTubers. Sponsored videos create trends that end up giving form to the cultural production, manipulation and commodification present in the way the YTMA interacts with young children. Caregivers acknowledge the role of this type of commercial video in children's decision-making process with regard to consumerism. Virtually all young participants have asked to buy some product they saw on YouTube.

As part of the YouTube business model, children are usually misled into associating working and consuming as playing. For young children, being a content creator and consuming the products they display in the videos are a pleasurable part of the YouTube experience. Additionally, the rewarding and motivational mechanism created by YouTube for users impacts young children at a very early age and raises issues about caregivers' roles in protecting young children online and children's participation in YouTube as digital labour if

they are not aware of some commercial strategies embedded within this platform, which I explore further in Chapter 7. Even though young children are mostly in front of the screens watching YouTube at an early age, I argue that he platform ends up normalising self-branding practices that can encourage children to be on the screens later in their lives

Chapter 7: YouTube's political economy and the Role of Control

Investigating the relationship between young children and caregivers with YouTube has revealed important dimensions of happiness, attention, and popularity online. In Chapters 4, 5 and 6, I have discussed the impact of the YTMA on young children's behaviour and experiences on the streaming platform. I presented children's intimacy and rapport with the YTMA and how it leads to the modulation of their attention and aspirations to popularity.

Control is the final thematic concern that my analysis highlights. I present a wide range of perceptions about control constantly emerging from participants' accounts as the interplay of human and nonhuman agency. Participants' contributions revealed a range of levels of control felt, and sometimes managed by them, in diverse ways. The way children feel the YTMA's control is different from how parents and teachers noticed it. While the control exercised by YouTube over young children's experiences on the platform elevates and consolidates their experiences with the platform as pleasant, caregivers tend to have mixed feelings about the benefits and drawbacks of being immersed in the YTMA. In a sense, the sense of control offered by YouTube to children and caregivers results from a relational agency distributed between users and technical systems, as I explore throughout this chapter.

Even though the possibility of controlling what to watch on YouTube pleases children, it provides them with an ease of searching and navigating content that worries caregivers. Although children are comfortable navigating the YouTube platform, teachers and parents worry about harmful content on the screens. As vulnerable people, young children rely on caregivers to protect them on the Internet, but throughout my dataset, caregivers' uncertainty about the way YouTube operates is revealed through their strategies to control children's experiences on the platform.

Caregivers' search for control exposes their lack of knowledge about the YTMA. The complexity of the YTMA often elides YouTube's commercial interests and raises issues about caregivers' readiness to protect children's online welfare. Processes such as data collection or how YouTube profits are often unclear to caregivers. Their efforts to control children's uses of the platform generally involve strategies that seek to keep children physically away from the screens, which sometimes result in questionable outcomes.

Thus, to fully understand participants' contributions related to control on YouTube, it was important to clarify participants' knowledge about YouTube's political economy. YouTube's modulation of children's experiences challenges caregivers and puts them in the spotlight. The pressure of trying to control children within an unpredictable platform results in parents' self-accountability and a narrative that exempts YouTube from any responsibility for children's experiences on the platform.

7.1 Control and Agency on YouTube

In this section, I approach different aspects of control through participants' experiences on YouTube. First, I consider how children experience the possibility of controlling their own experiences on YouTube. My findings show that the fact that young children can decide what to watch next impacts them positively. Second, it investigates caregivers' feelings of being within an uncontrolled space on YouTube when the YTMA brings undesirable advertisements or when they get stuck in the recommendation loop and lose track of time. Last, I explore caregivers' feelings about the inevitability of YouTube in their children's lives. Caregivers feel that external actors have already made choices about children's participation on digital platforms like YouTube, and they cannot interfere in the current scenario. In order to understand how the YTMA controls the actions of young children, this section takes into consideration the dynamic of agency between human and nonhuman actors.

My findings show that a modulation of control takes place on YouTube, giving form to a diverse agency space. Agency "refers not to the intentions people have in doing things but to their capability of doing those things in the first place" (Giddens, 1984, p. 9). Agency can be defined as not the property of individual subjects but as something that arises from the relations within a social structure. The concept of agency encompasses the "who and what can and does act", what are the impacts of those actions and how these forms of agency are distributed among humans and nonhumans, individually and collectively (Taffel, 2019, p. 23). YouTube functionalities offer users control over the content they watch, but this control is limited by the YTMA's decisions. On YouTube, children navigate content controlled by the platform, which brings the interplay of human and nonhuman forces into the discussion (J. Bennett, 2005).

YouTube is a place of constant modulation of users' behaviour through techniques of control. Different from disciplinary institutions, digital technologies offer a wide range of possibilities

of control that, “like a self-deforming cast will continuously change from one moment to the other, or like a sieve whose mesh will transmute from point to point” (G. Deleuze, 1992, p. 36). Through various tools designed to persuade users to navigate, the YTMA makes it possible to drive users’ experiences on the platform according to its commercial interests. These tools that modulate users’ experiences on YouTube can recommend content, display links to products outside the YouTube space and shows content in a particular order. This modulation of control affects individuals’ subjectivity through a regulative power, offering its users a diverse way of exercising their agency within a controlled environment that gives users a feeling of freedom while surreptitiously modulating them according to the platform’s interests.

Children will exercise agency in different ways on YouTube according to its structural properties. During observations of the children, it was noticed that the children feel they are in command of their digital technologies. Most participants started watching YouTube videos without their parent’s help. Usually, in the observation sessions, parents gave the digital device or the remote control to the children, who took the lead. While the YTMA offers young children different possibilities for controlling their experiences on the platform, such as choosing videos, liking content or skipping ads, users’ agency on YouTube informs the customisation of the content the YTMA will offer to them, creating a constant feedback loop. My findings show that the control offered to children by the YTMA pleases them and can enhance their time on the platform. This means YouTube offers control and exercises control at the same time.

Participants were familiar with the YouTube navigation system, and their fingers rapidly scrolled the screen and found what they were searching for. During observations, it was noticed that navigating on YouTube was intuitive for most participants. They usually positioned their fingers on the screen in the exact place the play button would appear before it showed up on the screen. On YouTube, children tend to feel in charge most of the time; they feel they have agency. This feeling of being in control, of choosing what they want to watch, tends to make children happy on YouTube. This hypothesis was raised by one of the parents:

> **Simone (Jean’s mother):** It definitely worries me that he just pays so much attention to it, and then it’s like everybody else, you know, “I can’t hear anybody else around me”. I don’t know why; I don’t know if it’s only because he can actually look for things by himself or because he has the control instead of me having control of what he is watching on TV.

Simone sees a link between Jean's attraction to YouTube and the control offered to him on the platform. For her, the fact that Jean is usually fixated on the screen while watching YouTube can be related to the fact that he has the control to decide what to watch instead of relying on external help to choose. This argument seems reasonable once an important part of children's experiences on YouTube is related to their interactivity with the platform's tools. Beyond YouTube content, Simone acknowledges the role of the control features in the way Jean feels about the platform.

YouTube offers tools that demand children frequently make decisions about what they want to watch next. Although YouTube can operate through an auto-play mode, this was not the case for virtually all participants. For instance, Martin (five years old) spent a few minutes scrolling through the recommendation section after his first video, and Elsa (five years old) clicked on the option that popped up on the screen when the video finished instead of waiting for the auto-play to choose the video for her. That is, children tend to practice their agency to control their recommendation section instead of leaving to the platform to decide.

This process of taking action to make decisions to control the content displayed on the screen is arguably increasing children's time online, as Simone also pointed out:

> **Simone (Jean's mother):** For him, I think it is more like he doesn't know when to stop, and he is still too little to realise that. He is just going on and going on.

Simone's thoughts expose how the sense of control is part of the YTMA and the way it influences particularly young children's agency on the platform. Simone's thoughts raise the issue that children from an early age tend to be more susceptible to the YTMA, which ends up affecting their experiences on the platform. According to Simone, having "control" on YouTube can lead her son to lose track of time: "he is just going on and going on".

It is important to look for the relationship between human and nonhuman agency on YouTube. Because choosing demands children's awareness, these control tools connect agency and time spent on YouTube. My findings show that the YouTube navigation tools give a feeling of agency while they are responsible for prolonging children's time on the platform. Unlike TV, changing channels on YouTube is an endless process. As well pinpointed by J. Bennett (2005), this intertwined connection between humans and nonhumans has always existed in human history, but "today this mingling has become harder to ignore" (p. 31).

Most of the nonhuman forms of agency happening on YouTube pass through algorithms. The algorithmic agency on YouTube organises and displays the videos showing on the screen, affecting children's agency on the platform, which raises questions about agency as "unstable, relational and multiple rather than as the expression of an individual's will" (Taffel, 2019, p. 23). Although agency is traditionally conceived as a human affair, it can be approached as distributed among human, organic and technical systems (Taffel, 2019).

In this process of mapping the key actors involved in the YTMA, ads affect young users in a particular way. In a place designed to give users a sense of control, advertisements on YouTube are disruptive and can disturb young children. Even though YouTube is a highly controlled environment where content is controlled by users, the most obvious uncontrollable feature on YouTube for participants is the advertisement videos. When I asked parents about their children's reaction when faced with advertisements, most mentioned their children being uncomfortable when these were shown on the screen:

> **Leslie (Connor's mother):** He probably jumps off his seat and does a big "Arghhh" or gets annoyed and tries to fast forward.

Children often exhibited behaviour to illustrate that, for them, advertisements popping up on the screen is tiresome. When I asked Arya (child) if there is anything that makes her uncomfortable on YouTube, she gave me one word as an answer: "Ads". During most of my observations, children's fingers would be positioned on top of the skip option before it was available to press. In a place designed to give users a sense of control, advertisements are disruptive for young children.

I also noticed children's frustration with ads while observing Una (five years old). Una's first video started with three consecutive advertisements, two of them targeting adults. The first one was a building supplies store showing discounts on building products; Una skipped it as soon as it is possible. The second one displayed a motorcycle competition with Levi Sherwood, a New Zealander motocross rider. The last one was about a toy creature that comes inside colourful eggs: the animal can sing, dance, and play games (Hatchimals). When Una looked at the third one, she clicked on the back arrow of the browser and immediately turned to her mother, looking tired of skipping advertisements. She turned back to the previous recommendation screen and clicked again on the same video she had chosen. This time, it finally started. Una was happy and gave a smile to her mother.

Ads popped up frequently during the observation sessions. Most of the advertisements coming up on YouTube while participants were watching videos were targeted at adults. The few advertisements targeted toward children during observations were concentrated in a few sectors: toys, games, and food. According to my observations (see Table 7.1), these are the categories of advertisements shown during observation sessions with young children. These ads popped up during 30 minutes of observation with each one of the 19 participants.

Adult-oriented advertisements	Quantity displayed	Child-oriented advertisements	Quantity displayed
Plastic wrap	1	Chocolate	2
Bank	1	Toys	5
House cleaner product	1	Game	6
Charity	1		
Nappies	1		
Cat food	1		
Uber	1		
Stationery store	1		
Pregnancy test	1		
Building products	1		
Motocross competition	1		
Sports drinks	1		
Chemical supplier	1		
Mattress	1		
Beauty product	2		
YouTube Red	3		
Cars	4		
Total	23		13

Table 7.1 - Children Observations: Categories of Ads Displayed

It is clear from Table 7.1 that the YouTube advertisements shown on its standard app for all participants were mostly focused on adults (e.g., chemical suppliers or pregnancy tests), even when streaming child-level content. There are advertisements focused on the child spectator, but they represent the minority. This is probably the reason why participants count the seconds to skip advertisements on YouTube; watching an ad displaying the benefits of a

double-layered nappy does not appeal to children. The reasons why a lot of adult ads pop up during child-related videos are not clear, but the fact that caregivers are usually close to children when they are watching videos is a possibility. Virtually all participants skipped ads during observations.

Similarly, advertisements interfere with teachers' agency on YouTube. Teachers are constantly alert to what YouTube is going to bring next to avoid inappropriate content, which includes advertisements. Advertisements are not under users' control, and they can present images in the classroom that are not appropriate for young children, like charity advertisements displaying suffering children or beauty products showing sexualised images.[2] As already presented in Chapter 4, all teachers interviewed use YouTube in the classroom, and they are happy with the way YouTube supports their teaching practices. However, teachers are also aware that YouTube content must be controlled by teachers while children are using the platform to avoid harmful content:

> **Alex (Martin's teacher):** Sometimes you have to be very careful what you'll find on YouTube because you really need to go through the content, make sure it's relevant to what you are doing, and be careful if that is all factual because you can watch one video on volcanos and then you can watch another one and the title is to totally different things (laughs). So, you just have to be careful about what you (choose) there looking for the children to learn.

Alex knows that she needs to be careful when she displays YouTube on the big screen, and she tries to control possible harm by checking the content before showing the video to her students.

Even though she had not recognised it, Alex's account is a by-product of engaging with a modulatory apparatus programmed to maximise engagement because it enhances profit. This tension between what it is possible and what it is not possible to control exemplifies caregivers' struggles within an algorithmic interface that is also acting in different ways according to the platform's interests. In this sense, YTMA can affect not only children's agency but also caregivers' agency when the platform is actively interfering with the way users navigate its content.

The YTMA often interferes with the way caregivers control their time. When I asked parents if they had lost track of time when online, most mentioned their struggles to keep themselves away from their devices.

[2] Although I have not found any participant using it, YouTube offers an advertisement-free service called YouTube Red.

> **Simon (Caio's father):** Yeah! It's already 5 o'clock and then, instead of planning – probably cleaning or doing some gardening – not anymore. Sometimes I just turn off the wi-fi phone, so then I can concentrate. Or just keep my phone away! Yeah, cause if you get in touch with YouTube or especially Facebook, yeah!

To control himself by not using his phone, Simon decided to turn off the wi-fi. He acknowledged his compulsive behaviour to be online, and that resonates with most participants. Like Simon, Leslie cannot pass close to her phone without checking it:

> **Leslie (Connor's mother):** Yes! For me, personally, daily. Every time I'll walk past it, I will like (looking at her phone), you know?

Parents acknowledge the YTMA's agency when they find themselves immersed in interesting things that lead them to losing control of their time online:

> **Tessa (Ghita's mother):** I've done it for sure like through Facebook, clicking on some story that probably opened up YouTube as an app […] and that I've started watching something then I've seen something else that pops up that is interesting (and I've done that). For sure, I've lost time track of time, consuming garbage, like I always (do) […] I kind of try trying to be mindful about it because I know it's such a (good) time wasted. […] I feel a bit frustrated; it depends on the time of the day I find myself. Yeah, probably a bit annoyed. I find myself, the times that I lose track of time with it is when I just want a bit of downtime. Like things are being busy, and I just want to pick up my phone to check a text message where I see a notification on Facebook, and then I click on that and then I down some rabbit-hole on the phone, and I might realise twenty minutes is gone by and I am like annoyed myself that I've got distracted. […] So, I get frustrated when I realise how much time has gone past particularly if it's … I don't tend to do the video content stuff but if it's like going to bed and I click on Instagram or something like that, and then suddenly I realise a half-hour has gone by, and I could be asleep but, yeah, I have to put the phone down.

Parents notice the power of YouTube and digital technologies in controlling how they navigate the Internet. Tessa understands that they are subject to the same power that acts over their children on YouTube, but this recognition comes with unpleasant feelings. Tessa acknowledges the network of agency that leads her to be lost online and consume content that has no value to her. She uses digital technologies when she needs to relax, but Tessa's consciousness of time and its scarcity during the family routine makes her feel frustrated when she loses track of time online. Caregivers' accounts of control expose forms of nonhuman agency on YouTube and on the broader Internet.

While caregivers recognise YouTube as a pleasant distraction, some of them tend to feel lost and confused about their children on YouTube. For instance, some parents understand

YouTube as an unconditional part of their children's lives and a "choice" that they cannot control:

> **Ana (Una's mother):** It is not ideal, I mean, it's never gonna be ideal, but you can't stop it. There is no way that you can; it will not ever happen. […] You are being trapped now, but you can't stop it. You can't completely remove her from devices, from YouTube, this kind of thing because it's part of life now. […] So, she needs to know how to use it, and she needs to be familiar with that.

Ana believes that watching YouTube "is not ideal" for her daughter. Her articulation shows dissatisfaction regarding children's experiences on YouTube. This discontent seems to come from Ana's acknowledgement that YouTube is part of the cultural mainstream now, and she cannot control her daughter's access to the platform anymore. Ana's feeling of being "trapped" in a situation where YouTube's presence is a certainty shows a clear sense of powerlessness in the face of the unpleasant situation of having to deal with something that is socially imposed on them. Participants understand the impossibility of controlling children's access to platforms like YouTube since, "if you want to access it, these are the things you agree to, whether you like it or not" (Sandy, Justin's mother). For them, YouTube "is part of life now", and there is nothing parents can do about this:

> **Jeanne (Katherine and Phillipe's mother):** I feel the same when they are on their scooters. Scootering up and down the cul-de-sac. I feel the same level of calm. I know they are out on the scooters. They are out in the fresh air, in the sunshine, having some exercise. But they are also scootering along the road and driveways and then all dangerous. They could fall; they could hurt themselves. When they are online, the same thing. They are learning, they are enjoying, and they are engaging and having a relaxing time. But they also could potentially be exposed to all kinds of bad stuff.

The inevitability of YouTube in children's lives, not only at home but as an institutionalised actor in the educational system, was compared with children being outside without supervision. Jeanne compares the risks of being on YouTube with the risks of letting her children play on the street. However, even though Jeanne worries about her children on YouTube, she tends to let them navigate the platform because it is currently part of children's mainstream culture – as is playing on scooters on the street. Jeanne's account reflects the acceptance of YouTube as part of children's reality and exposes parents' narratives that validate and normalise their children's uses of the platform based on the impossibility of controlling children's access to YouTube.

7.2 Participants' Knowledge of YouTube's Political Economy

In this section, I investigate the relationship between caregivers' acknowledgement of their lack of control over YouTube participation in children's lives and their lack of information about aspects of YouTube that are part of its political economy. The reference to "we don't know" is a common thematic finding when caregivers talk about the YouTube and are often mentioned when talking about data collection and profiling. It suggests a generalised uncertainty about the YouTube economy related to how it earns money or how it operates commercially, which caregivers see as a loss of personal agency.

As I touched on earlier in section 7.1, parents' narratives about YouTube's inevitability show in their attempts to normalise and accept their children's experiences on the platform. These constructed frameworks of normalisation narratives about YouTube's participation in children's lives happened throughout my dataset and often accompanied parents' lack of confidence and insecurity about YouTube's digital practices. When I asked Ana about the most effective way to support parents about children online, she gave me a glimpse of how she uses digital technologies:

> **Ana (Elisa's mother):** We don't know much about the Internet because we don't access it that much. We are only focused on certain kinds of areas like only news and recipes. And I don't know anything else about Google, just general googling stuff like related to work and all that stuff, terminologies and all those things, dictionary, and all that. […]

Ana's lack of knowledge resonates with Crary's concept of *24/7* and how we currently find ourselves in an ongoing state of transition. We will never be able to catch up with the technological changes because of the velocity with they change. This intensified rhythm makes it impossible to be familiar with any given arrangement:

> For the vast majority of people, our perceptual and cognitive relationship to communication and information technology will continue to be estranged and disempowered because of the velocity at which new products emerge and at which arbitrary reconfigurations of entire systems take place. (Crary, 2013, p. 37)

Digital technologies are an essential part of children's lives now, and caregivers have struggled to follow the pace of technological advancements. This means that they usually feel "behind" when the subject is the Internet:

> **Catelyn (Arya's mother):** We are already behind, my husband and I, we are really behind!

However, difficulties in following digital technology's rate of change are not the only reason parents feel unprepared to support their children online; they also want more information. Most participants claimed to need more information about social media. Parents have a social responsibility to protect their children from harms that they are not totally aware of, and this is a heavy task when "a lot of parents don't realise that there is a lot of stuff on the Internet that can influence the kids" (Ana, Elsa's mother).

When I asked if they have enough information to make the best choices for their children online, virtually all parents said they need to better understand how YouTube works to avoid possible problems online: "(I need) Probably more information on how I control it or how it works" (Leslie, Connor's mother). Similarly, in the quote below, Tessa (Ghita's mother) described her lack of knowledge about the way YouTube operates and her lack of control over some uses of her data:

> **Tessa (Ghita's mother):** I don't know much about YouTube in particular, but I know that everything we're interacting (with) nowadays is like catching what we're doing, where we are what we're clicking on, yeah.
>
> **Interviewer:** And how do you feel about that?
>
> **Tessa (Ghita's mother):** I don't like it. I do see benefits like some of the technological benefits and changes. I hate it when my phone starts telling me that I was 15 minutes away from the destination I was going to, and I didn't know. I hadn't told it that I was about to go, but they knew from my driving patterns that I was about to go there. So that really bothered me, but then on the flip side, I was like actually is quite useful so I'm … (laughs). When it's useful, then I kind of like, you know?! Like I find it useful now that it will alert you when you should be leaving cause it takes into account traffic and things like that. I can see how the data collection, like tailored customisation and stuff, has value or why it's becoming like a massive thing. But I don't like that it is doing that but not to the point that I've going to opt out of these things. […] I've never thought about YouTube collecting (data) yeah because it's probably under my login I presume.

However, even though Tessa feels that some digital practices are invasive, Tessa appreciates the benefits of data collection. Tessa "doesn't like" digital technologies telling her what to do, but she reveals that "when it's useful then I kind of like it". She appreciates her devices' support in her daily routine, and the benefits she sees coming from these devices counterbalance possible risks of having her data exposed. The personalisation of Tessa's digital devices' support can be beneficial. This means that Tessa's understanding about data collection does not raise any concern that could urge her to "opt out of these things". For

Tessa, the benefits coming from devices exceed their risks, even though she declared that there are aspects of YouTube that she had never thought about.

In a way, digital technologies have been creating necessities and dependency that tend to put people in a position where the facility offered by the digital application becomes a need to navigate contemporary society. These digital facilitators give users the illusion of having the possibility of opting out whenever they want, when in fact, currently, most people cannot drive to a new address without a map app or manage their bank account without the apps in their phones.

Tessa's account illustrates this tension between the invasiveness of apps that keep tracking her actions without her direct consent and the usefulness of these apparatuses in her daily life. These different forces operating within digital platforms seems to confuse Tessa as they expose her lack of control concomitantly with the benefits of being controlled. It is concentrated in the fact that digital platforms like YouTube tend to elide the data they expropriate from us and only show what they produce with this data. However, what they produce with individuals' data is often too intimate, and leads people to think digital platforms know more that users would like.

Tessa's thoughts about digital technologies also point to the fact that devices have been increasingly used as a technical exteriorisation of memory, which can make participants prioritise devices' benefits, especially caregivers. While dependence for remembering on artificial artefacts is part of human history, digital technologies have renewed the possibilities of self-expression and memory storage capacity. Because our memory is finite, we require aids to pass our stories and knowledge on to the next generations. My findings show that, on YouTube, teachers and caregivers find a range of answers to their parenting and teaching questions, from vaccine options to cake recipes. Also, I found that migrant families tend to pass their culture on to the next generation through videos on YouTube.

However, caregivers' contributions not only reveal that YouTube is a central part of young children's culture now but also reflect the centrality of digital technologies in mediating the everyday life of all ages. Through social media, abilities like talking with each other, reading or accessing our memories are increasingly being mediated by a "digital technoculture" (Taffel, 2019, p. 41) that affects ourselves in profound ways. The term *technoculture* "seeks to inscribe the nonhuman agencies of technology into the domain of culture" (Taffel, 2019, p. 3). This concept assumes that human culture has always been entangled with nonhuman

elements. Like the charcoal and animal fat used to produce the paint early humans used to decorate walls of caves was part of humanity's ancient culture, digital media are currently a conditional part of contemporary cultural production. This externalisation of our memories and communication abilities creates a dependence upon systems described as "psychotechnologies" by Stiegler (2010), and can explain caregivers' arguments about the essentiality of YouTube in their lives.

In his extensive study of the concept of memory, Bernard Stiegler focused on fundamental transformations of the "industrial mode of memory" (B. Stiegler, 2010). Our reliance on artificial memory apparatuses is a double-edged sword. On one hand, it can make us vulnerable to manipulation if these memory technologies are controlled by commercial institutions driven by profit interests. On the other hand, the technologies of memory can give us the necessary support to expand our capabilities through ways never imagined before. This points to the fact that the technologies of memory can empower us, but also threaten our agency. From a general perspective, "to the extent that participation in these new societies, in this new form of capitalism, takes place through machinic interface beyond the comprehension of participants, the gain in knowledge is exclusively on the side of producers" (B. Stiegler, 2010, p. 67).

This resonates with the investigation of caregivers' knowledge about constituent elements of the YouTube's political economy, especially the tools that give control to users and the features that cause the loss of personal agency. Deleuze (1992). Presented how these new "mechanisms of control" form variations of a system that represents "a mutation of capitalism" (p. 38). The point with YouTube is that its business mutates enough to make it harder for users to keep up with the impacts of its innovations. Most caregivers are still struggling to understand how the platform works. YouTube, as part of Google, has vested interests in informational asymmetries where users (and indeed regulators for that matter) do not know how much data is gathered and how algorithms work to structure life online. Even though users can download their data, like the watch and search histories, on its platform, the process for accessing and downloading data on YouTube is not evident or clear in the platform navigation system.

Throughout my thesis, I have sought to show how YouTube is impacting children's lives, and what became clear is that neither children nor caregivers are aware of all the ways they are participating in the YTMA:

> **Helena (Chad's mother):** Sometimes, there is not that much information. It would be good to get more so that you can know and be aware of (it).

Parents' lack of information on YouTube was the reason why one of the participants decided to be part my research. Tina (Sofia's mother) mentioned she was expecting to understand a little bit more about the YouTube platform and the relationship between YouTube and children from our time together:

> **Tina (Sofia's mother):** But for us parents, we want to explore and know more about YouTube and the Internet. And that's why I signed that paper for the school, for I sit down with you and this one, so I can see what she is getting.

Tina showed a genuine interest in knowing more about YouTube and a will to explore possibilities that, at that moment, she could not find through other sources of information, like schools and media.

In the process of investigating how control is experienced on YouTube, it is important to understand what caregivers understand as a lack of agency on the platform. It became clear that the lack of clarity about what caregivers cannot control on YouTube bother them. Parents' lack of information about YTMA tends to scare them. For instance, Jeanne's (Katherine and Phillipe's mother) account below reflected the fear produced by a situation which she cannot completely understand:

> **Jeanne:** It's scary. I don't really know very much about it, but I do know that the behaviour, you know, where you click and what you look at, is recorded, and they use that information.

For investigating caregivers' knowledge about YouTube's political economy, I asked them about elements of YouTube's economy that would show their understanding about the way YouTube operates. One of the questions was about who the owner of YouTube is. This question seeks to understand if caregivers could extrapolate and understand YouTube's political economic relationships with external actors. In general, YouTube's owner is not clear to participants. Even though some of the participants mentioned that Google could be the owner of YouTube, it was more about them guessing that some giant tech would be owner of YouTube than an accurate and assertive answer:

> **Irene (Marcus' mother):** No, do you know?
>
> **Cersei (Jaime's mother):** 'Um'…I don't know (laugh)
>
> **Ana (Elsa's mother):** Which company? Is that young guy, isn't it? Is it Google? I don't know.

Caregivers' understanding of YouTube's owner reveals their detachment from considering the commercial interests of social media like YouTube. Most participants seemed to be engaged in thinking about YouTube's economic scenario for the very first time during the interview because I specifically asked about it. That is, who owns YouTube is probably information that caregivers have never thought about or been interested in.

Ana's thoughts about YouTube's commercial practices illustrates parents' detachment from YouTube's political economy:

> **Ana (Elsa's mother):** Um, that's what I am wondering, how do they make their money? I mean YouTube doesn't make money, right? They get some money out of … I think it is the Internet providers. Do they own their money?

Ana's comments reveal that participants most often construct YouTube as a visual medium convenient for entertainment and informational searching, leaving any commercial interests behind.

However, among caregivers that acknowledge YouTube as a profitable business, advertisements are the most noticeable commercial practice on the YouTube platform. When I asked these participants how YouTube made a profit, their answer was that YouTube earns money through advertising practices:

> **Cersei (James's mother):** Number of people watching, and so they come up with more advertisements, and they get free advertisement. This is how they get the money.
>
> **Simone (Jean's mother):** I don't know. Maybe more ads.

The same lack of information happens with caregivers' knowledge about data collection. Some parents had never heard about data collection until the interview, and, although a couple of parents recognised data gathering as something that happens on YouTube, they do not relate this process to YouTube's profit. Although some parents and teachers were able to recognise advertisements as a commercial practice on YouTube, data gathering is shown to be an obscure area when I ask caregivers about the YouTube economy.

> **Nick (Martin's father):** I do not know a lot (about data collection), to be honest. I would guess, yes. I would assume that they've done that. I'm not sure. It is because he signs into my profile whether they think it's me watching it or how they break that down, but I assume that they are collecting some data. I don't really think about it.

> **Constance (Martins' grandmother):** I don't think. It's like you are a number. I don't know what they are collecting. It's not personal. Like Martin is watching something and they are not collecting information about him, or are they collecting information about you?

Both Nick and Constance are not completely aware of the data collection process or anything related to this business procedure.

Among the caregivers who showed some knowledge about data gathering practices on YouTube, some tended to disregard any impact of these mechanisms on their families:

> **Jeanne (Katherine and Phillipe's' mother):** It's just the future, you know, I'm not afraid of. I mean, the thing is: we have nothing to hide about what we are doing. So, in that way, I don't see any deal with getting sold. Or, it's, I mean, it's anonymous, really. I mean, we are not doing anything illegal, anything wrong that we need to hide our behaviour.
>
> **Rose (Leon's mother):** I'm not really bothered that they know who he is or what is the IP address of the tablet. I'm not really that bothered because I don't think we've got anything to hide. I don't know; I'm not really that bothered.

Jeanne and Rose illustrate the indifference to the data collection regarding young children. Even though Jeanne and Rose have considerable knowledge about the way YouTube operates compared to other participants, their views tend to minimise the impacts of data collection, and the possibilities of control digital platforms can have over users through these functions. Both participants mentioned that they have "nothing to hide". Jeanne is even more specific, and she says that she is not doing "anything illegal". Jeanne's argument shows that her concern about data collection is related to being implicated in something illegal or unlawful.

Jeanne also made a revealing affirmation when she said, "I don't see any deal with getting sold". Maybe, this is because Jeanne, and Rose as well, believe the only risks coming from data collection practices are legal issues. They are not "bothered" by being monitored and profiled by algorithms on digital platforms like YouTube. For some parents, the information gathered from YouTube or any other digital platform is used for tracking citizens' actions online. Most of the time, their worries revolve around the integrity of users' actions on the Internet.

It is not surprising that participants cannot grasp the full particulars of YouTube's commercial practices. On YouTube, specific regimes of knowledge give form to and strengthen processes that mediate social practices and modulate their agency on the platform (G. Deleuze, 1992; Foucault, 2008) through valuable benefits that often leave commercial

interests outside caregivers' view. These uncertainties and doubts about YouTube lead caregivers to feel powerless in regard to YouTube's participation in the lives of their children, raising concerns about their role in protecting children on a platform that works to monitor and track users for the purpose of targeted marketing. Both caregivers and children experience a sense of being in control and yet must navigate things they do not feel comfortable with. My findings suggest that caregivers often feel intimidated by YouTube's system, and control is a by-product of this context. As a result, parents come up with a range of strategies to control their children on YouTube, as I present in the next section.

7.3 Parental Strategies of Control

The way the YTMA works usually blurs the boundaries between agency and control for caregivers. Looking at the way in which control can be traced in my analysis of the relationship between children, caregivers, and YouTube, in this section, the focus is placed on the different strategies parents use to control children's time on YouTube. More specifically, I focus on how children's agency on YouTube is affected by caregivers' actions based on their perceptions of the platform. Parents continuously trying to protect their children online is a trend across the dataset, and my analysis shows that parents tend to assume they are solely responsible for their children's wellbeing on YouTube.

Children on YouTube are part of different agencies of assemblage happening through various relations that, most of the time, are mediated by caregivers. The concept of assemblage subverts the traditional boundaries between humans and nonhumans and can describe a collective entity that brings together a multiplicity of components. Assemblage establishes "liaisons, relations, between them (many heterogeneous terms), across ages, sexes and reigns – different natures" and, because of its multiplicity, "assemblage's only unity is that of a co-functioning: it is a symbiosis, a 'sympathy'" (G. C. Deleuze, P., 2006, p. 52). Thinking in terms of assemblages can take us "beyond isolated objects-in-themselves, instead studying the configurative relationships between entities" (Taffel, 2019, p. 36). In society, children's agency is generally mediated by adults, mostly parents and teachers. This means that children do not hold the same level of agency as adults in society and are often objects of arbitrary action by adults.

Among my participants, parents were more aware of their responsibilities over children's use of the Internet than teachers. While teachers were exclusively worried about what children

watch in the classroom, parents assumed full responsibility for all children's interactivities online. Because parents understand they need to protect their children online, they are the ones who come up with different strategies to accomplish this task.

In the process of controlling children's experiences on YouTube, most parents argue that closely supervising their children is the best practice to protect them online, as per the following passage:

> **Olga (Vanessa's mother):** They are watching YouTube, but we are sitting down there. Normally, my husband or I sit with them; we are just monitoring what they are watching and stuff. I don't like whenever they are watching, you know, some sort of stuff out there I don't like, I mean, you know, they are promoting toys and you know, stuff like that, I ask them "No … don't watch those kinds of things" […] So, I said, "You can't watch those kinds of stuff as well". So, basically, we are sitting down and watching what they are.

Monitoring children on YouTube was the most common strategy found throughout my dataset to control what children are going to watch on the platform. This strategy suggests that parents recognise that YouTube recommends videos that are not necessarily appropriate for children. As it is not always possible to control what YouTube is going to offer next to their children, a few participants take the responsibility of protecting their children by being physically close to their children when they are online and paying attention to what they are watching on the screen, as Olga demonstrated above.

Olga's descriptions of monitoring her children above also demonstrate that parents tend to control what their children are watching based on their own judgement. By monitoring children, parents can regulate not only explicitly harmful videos but content that make parents uncomfortable because of their commercial approach or moral positions. Videos promoting toys or showing Barbies and hero characters having adult conversations are some of the content that parents consider inappropriate for their children:

> **Jeanne (Katherine and Phillipe's mother):** Spiderman and Batman—they use familiar children's characters. Cause a lot of what's on YouTube is homemade, as you are probably aware, and it uses well-known characters in a homemade setting to make a story, but that story is not for kids. It's often an inappropriate character doing inappropriate things. But it seems on the outside like a child's video. They have favourite channels that they like watching, so I know that that channel is safe for them cos they don't use inappropriate material, but then if they want to go to another channel, I do not know. I mean, I have caught them watching inappropriate stuff with … like as I was just describing, and that's why you have to really closely monitor.

Parents' considerations about what is inappropriate for their children online can be subjective, making the task of controlling what children will watch on YouTube even harder. Jeanne, for instance, considers videos using characters familiar to children that approach adult subjects as a potential risk to children. Based on this individualisation of what represents harmful content on YouTube for caregivers, it is possible to argue that it is impractical to satisfactorily protect young children on the YouTube standard platform according to parents' parameters.

One of the ways to protect young children on YouTube is to use YouTube Kids (YTK). It is important to notice that although YouTube has an app designed specifically for children, almost all participants use the YouTube standard application. In general, parents show a certain vagueness about YTK app. Usually, parents who mentioned YTK in the interview talked about this app as something unexplored: "I've heard about that" (Ana, Elsa's mother). Some of them know about YTK's availability, but this is something that they have not dedicated time to considering or to downloading:

Interviewer: Um, do you know about any kind of measures that you can do to protect Connor online?

Leslie: Um, I think there are the YouTube Kids.

(interruption / distraction)

Leslie: […] the fact that we don't have any way of stopping certain things coming up and after that like that "face" that we heard came up (Momo) and telling kids things that gonna hurt family, or if they didn't do this and all that kind of stuff, I got a lot of it! So, I was freaking out! A friend said that you could get YouTube Kids and pay for it, and then the content would be different.

Interviewer: Actually, it's free as well.

Leslie: Oh, is it?

Like other participants, Leslie is not well informed about YTK. She talked about YTK as something that she has heard about, but she is not completely aware of the app's functionalities. Leslie (Connor's mother) worries about the risks imposed by YouTube's video stream, and she is looking for an application that could minimise risks online for her son. Like a few other parents, she considers YTK an alternative to control children online, but she has not enough information about this app.

Similarly, Tessa also sees YTK as an alternative to protect her children from inappropriate content:

> **Tessa (Ghita's mother):** We use the YouTube app. I have in my mind that I need to get the YouTube Kids app. I just haven't got around to it yet, but it's something I'm feeling very bad about because I know that we need to do, but we haven't got it yet.
>
> […]
>
> I think that YouTube is a few clicks away from finding something inappropriate, which is why I feel bad, and I need to get the YouTube Kids sorted out.

These findings reveal that a few parents considered looking for safer choices online for their children but have not looked into it further. The fact that YTK is not easily accessible for parents through its standard app seems to be the reason why most of participants are still using the adult version of YouTube. It seems that channelling young users to its YTK app was not part of the company's strategy when I interviewed my participants.

This lack of publicity about YTK on the YouTube platform probably changed after YTK receiving a fine of US$170 million dollars in 2019 for bypassing privacy settings through Apple's Safari browser (Singer, 2019) (see Chapter 2). To minimise losses, YouTube said it would work on shifting parents away from YouTube standard platform, which my dataset clearly show is not currently happening. Although YTK is still causing controversy of its own, it offers a safer space through features that give caregivers different possibilities of control.

With such a large scope of content to monitor on YouTube's standard platform, parents often find themselves in a constant state of worry while their children are online, which leads some of them to use unusual strategies to place boundaries on their children in front of the screens. Parents are constantly paying attention to what their children are watching on YouTube: "You're alert no matter what, I wouldn't go and have a sleep" (Annie, Una's mother). This tiring task was probably the reason why a few parents took unexpected actions to control their children on YouTube.

Exhausted by monitoring her son on YouTube, Irene opted for an extreme measure to keep Marcus away from screens. Marcus is a shy five-year-old boy who loves playing with his brother and watching videos. Like some other participants, Marcus likes toy review channels, and he wants to be a YouTuber someday. During his observation session, Marcus was very unsettled. He kept moving in the chair and touching the screen to check the time constantly. At a certain point in the observation, Irene called my attention to the fact that Marcus was looking to the back of the phone instead of watching the videos. She said he was too scared to watch it: "If what you say scares him with something bad, he won't do it". Irene continued to

explain to me that Marcus was afraid to watch videos because she told him he would turn into a zombie if he kept looking at the screen:

Irene (Marcus's mother): I scared him before with how do they call it? It's the "Momo" thing. He stopped using YouTube, I mean, watching the iPad three months ago when I scared him with a zombie, a digital zombie.

Interviewer: What is this about?

Irene (Marcus's mother): It's like when you are always watching a mobile device, then you get dizzy, and you will be like a zombie. Cause you're always on the screen, and your eyes will be affected.

Interviewer: And you told this to him?

Irene (Marcus's mother): Yes, and he is scared to do it again. So, he likes watching on TV.

Interviewer: Ok, so you use YouTube on the TV?

Irene (Marcus's mother): Yeah, not on the iPad anymore because it scares him. If it scares him, he won't do it; he will stop doing it.

Interviewer: Oh, he's too scared now to watch it.

[…]

Irene (Marcus's mother): Because not all learnings are from YouTube; sometimes you need to go around and see things.

Interviewer: Yeah. Do you think you talking with him about this zombie thing helps him to go to play with toys and outside?

Irene (Marcus's mother): Yeah, he has to interact with a real person.

Irene decided to balance Marcus's screen time with physical activities away from his device, but the strategy has unintentionally emotionally impacted Marcus. In the face of YouTube risks, Irene opted for a possibly more harmful strategy to keep her son away from detrimental content and behaviour online. Irene is using Marcus's body to place limits on his use of YouTube. The fear of becoming a zombie is, in a materialist manner, a problem of the body.

A similar strategy was found with another family. Elsa's mother, Ana, used to take care of her children until Elsa started at school. Now she is working and trying to share her time with work and home chores. Elsa's mother and father also work during the weekends, which indicates that family time is scarce. Elsa started the observation session with her mother's phone. Her mother gave her the phone showing the phone's home screen, and Elsa clicked and scrolled the screen until she found the YouTube app. She tried to put the phone in a horizontal position without success and decided to watch the video with the phone in a

vertical position. After 10 minutes of watching the same video, Elsa said to me, “I think I’ll be blind”. Her mother was close, and I decided not to interfere. I said that she could choose another video if she wanted. She decided to continue. During her interview, Elsa mentioned her concerns about her eyes being spoiled by watching movies:

Interviewer: When you are watching the video, and it’s over, what do you normally do?

Elsa: The movie can spoil my eyes.

Interviewer: The movie can spoil your eyes.

Elsa: Yeah, I can be blind if I watch too many movies.

Interviewer: Oh really? So, you have to stop sometimes to rest your eyes, right?

Elsa: But now my eyes are gonna get tired, and soon it is gonna be night.

Interviewer: Oh, I understand. So, sometimes you have to take breaks, right?

Elsa: Yes.

Elsa’s concern for her sight was very striking, and, at that point, it was not clear to me if she was talking about some real sight disability. Her words moved me, and I was concerned about her health using her device during our meeting. This unsettled situation was clarified during Elsa’s mother’s interview when my worries were reframed:

Interviewer: Does she have time rules about how long she can be on …?

Ana: (in overlap) Yes, 45 minutes to one hour, not more than that. That’s why she was telling “my eyes will get weak”; that’s what we put into her head all the time: “you need to take a break, or your eyes are weak” and all that stuff (laugh).

Ana’s strategy was unexpected and raised an important point of concern about how parents are controlling their children’s time online. Like Irene, Ana had opted to include fear as a parenting tool to control her daughter on the screens. Beyond giving Elsa a time limit, Ana also keeps alerting her that watching videos will spoil her eyes. This scary thought deeply affected Elsa, and her experiences on YouTube fluctuated between excitement and distress.

In a sense, parents’ anxieties are transferring into their children’s experiences online. Parents are controlling their children on YouTube because they fear for them but, in Elsa’s and Marcus’s cases, it means having unhealthy strategies in place. Fear as a way to control children online seems to be counterproductive and hurtful for these children. Both children were visibly unsettled and frightened about being physically affected by their experiences on YouTube.

Important to mention that these ideas about the impact of screens on children are generations old. Parents used to give the same advices when children were watching too much television in the 70s and 80s. This means, there is a possibility that parents are, in a more unconscious level, only replicating the narrative they grew up listening from their parents.

These parents' concerns also speak to the agency of the interface on YouTube and how it does not have the children's best interests in mind. YouTube's unpredictability is part of the platform designed for maximum engagement and profit, regardless of the nature of the content (see Chapter 4 on how children engage with YouTube content). That is, this "unpredictability" or "lack of control" is designed intentionally by YouTube, and it is a result of the core functioning of the recommendation algorithm.

In this sense, one of the participant's accounts is quite revealing:

> **Tessa (Ghita's mother):** I kind of think about when I went to this thing recently and the guy was like an investigator. And he was saying that people say to him that the Internet is bad or good and he is like "it just is" and that probably influenced me quite a lot, so I probably applied that to YouTube too, and I think there's some good about it, there's some bad about it; it's just a platform, and it's more about us and how we use it.

Tessa acknowledged a polarised discussion about digital technologies where caregivers are in the middle. Caregivers are surrounded by many incoherent discourses and, when facing the lack of direction, Tessa decided to opt for the "it just is" narrative, a metaphor of the platform as a neutral base to build on. "It just is" can be interpreted as a biopolitical statement that seems to put consumers in a quandary and institutions and companies as facilitators of social dynamics. Caregivers' narratives place social media as mere mediators, and users are in control of their uses: "it's just a platform, and it's more about us and how we use it".

Some parents are more specific and free companies from any duties related to children's uses of their applications:

> **Olga (Vanessa's mother):** The thing is, we can't blame those companies, even Facebook, Google, or Yahoo. We can't blame them because whenever we sign into their accounts, they give us terms and conditions.

Olga tried to absolve YouTube from any responsibility with the argument that the platform is "giving terms and conditions". However, most parts of platforms' terms and conditions do not present relevant information in a comprehensive format, which most of the time is inadequate for getting users' genuine acceptance. Also, the length of the terms and conditions is often discouraging, which can lead users to sign off without reading the document

(Benoliel, 2019; Sandle, 2020). Even Olga acknowledged the inadequacy of those available documents in terms of their transparency:

> **Olga (Vanessa's mother**): One reads those terms and conditions, I mean, sometimes four to five pages; who reads those? Whenever people see terms and conditions, go straight down and click "I accept". Whenever we say "OK, why are you gathering all this information from us?" Then they are saying, "This is the terms and conditions". People can't understand those terms and conditions; what are they talking about here? […] And the other thing is that almost all of the stuff is in English. In Sri Lanka, generally, they accept things in English. Some people in my country can't read English, so how can they understand this? It's really bad.

At the same time that Olga freed YouTube from its responsibility over children's experiences on the platform, she contradicted herself, arguing that these documents do not serve the purpose of giving users effective information about the platform. As she pointed out, some parents are not even able to read those terms in English.

Similar, Jeanne's contribution revealed her sense of responsibility for her children online:

> **Jeanne (Katherine and Phillipe's mother):** But it is my job to monitor that they are keeping to their limit. […] They talk a lot about safe and responsible behaviour online, and things like that. So, I mean, they can collect all the data they want about me, but then it's my choice how I respond to suggestions or how I accept that data and analyse it and use it … you know … so … in that way … I feel that power comes to you.

Jeanne feels she can control what YouTube is collecting and how YouTube interacts with her children. She considers that she can control how she responds to YouTube recommendations, but her analysis does not include her considerations about her children's ability to respond to YouTube's suggestions. Also, she has a misguided understanding that considers her participation in the process of data collection online, whereby she would have "power" over a procedure that is autonomous on YouTube. In this sense, Jeanne's lack of knowledge about YouTube's data collection processes exposes the predicament she is in.

Parents' systems of beliefs seem to be ruled mostly by values of self-responsibility and self-regulation on YouTube, a situation which is aligned with the biopolitical subjectivation of their struggles and the current economic system. In different ways, I follow Foucault's (2003, 2007) articulation of biopolitics as when individual subjectivation becomes a political way to drive people to be economically active. Parents' narratives demonstrate a system of belief oriented to the acceptance – with little or no criticism – of young children's participation in the YouTube's political economy.

7.4 Conclusion

My findings indicate that "control" on YouTube is a complex assemblage of agencies where a multiplicity of liaisons and relations compete, diverge, cooperate, and permit. Caregivers described a range of perspectives about being part of YouTube as "inevitable", placing themselves as powerless regarding the current role of the platform in children's lives. Although parents mentioned several advantages coming from the YouTube platform (see Chapter 4), such as learning a language or keeping children busy when parents need to work, in this chapter, my analysis reveals children's uses of YouTube to be accompanied by caregivers' feelings of being stuck in a valued social practice that offers unpredictable drawbacks.

Although participants mention the control tools offered by YouTube to young children as one of the reasons why children enjoy the YouTube platform, caregivers feel threatened by the unrevealed processes happening in the background of the digital technologies that permit the customisation of children's experiences online. Their acknowledgement that YouTube is tracking their web usage is based on the content recommendations. The recommendation system pleases caregivers with the right content at the right time but also exposes them to intimate information that is being gathered from them online. Within this nebulous scenario, my findings reveal caregivers' frustrations and anguish in trying to control an uncontrollable situation on YouTube where caregivers accept the platform as given and operate within the parameters set by it without questioning them.

In this digital technoculture, where the modulation of control has an important role, a gradient of forces operating on users on YouTube can be noticed. Sometimes YouTube's control over users' experiences can be clearly seen, such as when individuals have no option to skip an advertisement; sometimes, control is subtle, like when users receive a video recommendation though they cannot see the rationale behind that suggestion. This modulation of control scares some parents, and some of them decide to control their children on YouTube in questionable ways.

Parents' strategies to control their children on YouTube raise questions about how much caregivers' knowledge about the YTMA that is also modulating children's experiences on YouTube. The fact that a couple of parents managed to install fear in their children to limit their uses of YouTube can be seen as a desperate but effective form of keeping children away from the platform. Within YouTube, an assemblage of agencies exist, including the

relationship with external actors such as caregivers. In the case of young children online, YouTube and caregivers are modulators of children's experiences, acting together to shape children's experiences of and narratives about the YouTube platform.

Chapter 8: Conclusion

This thesis has offered a critical examination of young children's participation in YouTube's political economy. The aim of this final chapter is to pull together the key findings presented throughout the thesis and to reflect on the strengths of the research by considering specific facets of the theory and methodology. I step back from the detail of the participants' watching practices on YouTube and offer a discussion of the overarching experiences that children have when engaging with the YTMA. Here, I consider what these practices can reveal about young children's participation in YouTube's political economy. In this light, I offer an overview of the key findings in relation to the research questions, which is followed by a reflection on the benefits of adopting a methodological approach that emphasises the integration of the points of view of different actors (i.e., children, parents and teachers) about the research subject. Subsequently, I outline my research's contributions to the field of media studies. To conclude, I suggest areas for future research and complete the chapter with my final thoughts and reflections.

8.1 The Key Findings in Relation to the Three Research Questions

Research Question One: How do young children participate in YouTube's political economy as digital labour?

Young children's participation in YouTube's political economy by producing value for the platform happens mostly through viewing. Although a few children aged 5-6 are already producing videos, most young children are exclusively watching them. This means young children are mainly contributing to YouTube's metrics by increasing the number of views, which enhances the economic value of the videos and the profitability of the platform itself. Although there are several existing metrics, YouTube's quantification of views represents a core feature that is central to the whole of YouTube's political economy. Along with the commercial value of the number of views, my findings suggest that this metric creates a hierarchy of content that is organised to capture children's attention, so they stay longer on the platform; furthermore, it is used as a curation tool by caregivers and teachers. In other words, the metric also establishes a visibility structure that ends up impacting children's length of time on the platform and caregivers' choices of content appropriate for children. That is, the number of views influences children and caregivers' agency on YouTube and

normalises inequalities and hierarchies when it organises content and shapes media consumption based on an information regime that serves particular interests (van Es, 2020).

Along with increasing the number of views, young children's participation within YouTube's political economy produces value when it informs the personalised customisation of the platform so that it can be one of the most attractive platforms in the world for children. Through features like the interface, algorithms and the recommendation system, YouTube transforms the platform into a familiar and safe place for children. Because children know that YouTube will offer an experience aligned with their desires, while providing accessible tools that allow them to tweak content delivery if needed, an intimate bond is created between the platform and these young users. This customisation of children's experiences happens through a strategic formation composed through the interplay of YouTube's technical components (e.g., recommendations, metrics, algorithms) and the platform's commercial rationales (e.g., targeted advertising, customer categorisation and attentional strategies) or what I have termed the "YouTube's Modulatory Apparatus" (YTMA). My findings demonstrate that the YTMA affects children through different features and strategies, which gives YouTube a certain level of control over young children's preferences and experiences on the platform.

This means that the modulation of control exercised by the YTMA over children is based on the mutability of this algorithmic system that changes according to users' agency but also acts on them with YouTube's vested interests in mind. While young children are happy exercising agency through choosing and viewing videos, their actions inform data-led algorithmic processes that allow the platform to build a space where they feel happy and comfortable. That is, these algorithms, designed by the YTMA, are used to define the platform's consumer profiles, not only to personalise content according to users' expectations, but also so that young children's preferences and experiences on the platform can be sold to advertisement companies through metrics like the number of views and watch time. This means every action taken by children on YouTube triggers a reaction in the platform that will be guided at some level by commercial interests. My findings reveal that the YTMA reaction pleases children and keeps them happily viewing for longer on the platform. This system of action and reaction was defined as power by Foucault (Foucault, 1984; Negri, 2017), and brings to light the dynamic of forces modulating not only children's agency on YouTube, but also the platform's agency. The power of YouTube resides in its modulatory apparatus's capacity to

structure its strategies and functionalities, which work together through its capacities of fluidity and mutability.

Some children are also participating in YouTube's political economy as content creators. My analysis suggests some young children are already producing videos by themselves or with the help of their parents. These children adjust their own behaviour and narratives according to the way their favourite content creators present themselves on the screen, hoping to be likeable to other users and acknowledged by the platform. The young content creators in my study want to be popular, and they want to be compensated for their labour through *likes*, *subscriptions*, or a *gold certificate*. This means these children are already learning how to digitally labour as content creators and, as such, they have a certain understanding that the behaviour and narratives on their videos needs to fulfil specific requirements of this commercial system. In this sense, the YTMA is also modulating children to be part of YouTube's workforce of creators. Young children's participation in YouTube as content creators also ensures YouTube's potential for future income. One way YouTube ensures this source of income appears to be already built into the YTMA. In fact, I found that most children currently not producing videos indeed want to be YouTubers in the future, which reveals an important role played by children within YouTube's political economy. Capitalism needs indirect modes of exploitation to operate along with waged labour (Couldry & Mejias, 2019) and children producing views and videos online are part of this unpaid work. Unpaid and underpaid work represents the core of the capitalist system (Fuchs, 2014), and children's significant economic contribution to social media needs further consideration in this regard. Children are producing value for YouTube, which exploits their digital labour for profit, yet, in this research, it was never named directly as an issue of concern by caregivers.

These findings illustrate the old saying that "if you are not paying for it, you are the product being sold", but I argue that the digital labour dimension needs to be considered here. I would suggest that if the service is free, you are both the product and the labourer, which makes it possible for digital platforms like YouTube to profit not only from the data unknowingly produced by users, but also from the content intentionally produced by them on the platform, such as videos and photos. YouTube has a profitable business model in which the users' data from which it profits is also used to create the ideal space where children happily produce more data by repeated use. It is an endless production process that points towards an

immensurable commercial power. It is a very successful combination of paid and unpaid work with outstanding potential for exploitation of young children's unwitting digital labour.

Research Question Two: How does YouTube modulate feelings, behaviour and the subjectivities of young children?

Investigating aspects of children's experiences on YouTube led me to certain specificities of the YTMA that operate over children's behaviour, narratives, feelings and subjectivities. Initially, I defined the YTMA as an assemblage of features in which commercial strategies and tactics work together to modulate experiences and exploit value from children's uses of the platform, but the analysis of my dataset helped me to refine this definition. In relation to the YTMA and how it controls young children's experiences online, four major themes were drawn from the dataset.

The YTMA makes young children happy. *Happiness* is the most consistent theme in children's accounts about their feelings when using the YouTube platform. There is happiness in being on the platform; there is happiness in finding what is pleasurable. Participants' experiences on YouTube showed that the reciprocity based on the personalised feedback loop of information between children and YouTube makes children happy. While adults can feel troubled by some of the intimate suggestions from the YTMA, children experience enjoyment and feel happy when being cared for by an algorithmic system that knows what they want to experience intimately. Specifically, young children tend to feel they are being taken care of by YouTube's algorithmic functionalities like the recommendation section and the auto-play. Children's happy experiences within the YTMA encompass the comfort of being in a space where vulnerability is diminished by the predictability of what the platform is going to show to them next. Young children are pleased by YTMA when it offers an experience that affects them positively in alignment with their preferences. In this sense, YTMA also offers to young children not only the tools to easily find what makes them happy, but a quick way out of what make them unhappy. My findings show that children tend not to share harmful encounters with their caregiver because of the ease of use afforded by the YTMA's navigation tools. Most participants mentioned that when they see something scary or "weird" on the screen, it is easier to change to the next video than asking for caregivers' help. This lack of communication between young children and caregivers about harmful encounters became particularly clear when some parents only became aware of these

harmful encounters during the interviews, and it is a point of concern that needs to be investigated in future research. If children do not ask for the help of their caregivers when something inappropriate is shown on the screen, it means young children are dealing by themselves with situations that they are probably not mature enough to understand.

The modulation of children's happiness happens especially through features designed to capture children's attention through a constant invitation to interact, and this is probably the reason why *attention* was another key theme in the dataset. While caregivers' arguments about children on YouTube point to a focused mode of attention, my observations revealed a shared attention style, where children respond to different functionalities on the platform. Regardless, my findings suggest that young children on YouTube are constantly exposed to a hyper-stimulating modulatory apparatus that often works through tactics that seek to retain children's attention online. This means the YTMA mobilises and commodifies children's capacities of attention through strategies that impact and sustain children's attention for longer, like the recommendation of videos and the strategic exposure to thumbnail videos on the screen. Based on an approach that considers attention as a scarce but quantifiable commodity (Marazzi, 2008), the YTMA's metrics commercially exploit human attention as a form of "biocapital" that it profits from through the quantification of children's attentional behaviours (Lupton, 2016, p. 787). This exploration of children's attentional behaviour on YouTube is critical to understanding young children's experiences online. Interviews with parents and teachers revealed the negative impact of YouTube on young children's behaviour when they need to stop watching videos, and one participant showed signs of addiction to the platform. This means that some children are struggling to regulate their behaviour and feelings because of the way the YTMA is commodifying, quantifying and capturing their attention, prolonging it with the platforms' own interests in mind rather than the users' needs and welfare.

The commodification of attention brings the investigation to the way social media "have also undertaken a project of subject formation" (K. S. Gregory, J., 2021), which brings us to the value of popularity in young children's experiences of YouTube. My thematic analysis shows that one of the ways that the YTMA alters children's subjectivity on YouTube is through the value of *popularity*. It became clear from the dataset that children's subjectivities on YouTube are being modulated by the YTMA mostly through its video content, which is itself regulated by the platform's guides and rules. It is part of the YTMA to inform content

creators about children's preferences on the platform, and my dataset revealed that this customisation of content is central to young children's attachment to YouTube. For creators, this means that producing videos following the platform's content directions (e.g., based on children's most searchable words) is reassuring since it means having their videos showing as recommended for this age group. This circular production continuum works as a system that reinforces children's preferences and shapes their subjectivities.

The influence of the value of popularity on children's behaviour and consumption choices also emerged from my dataset through children's desire to be a YouTuber. Children want to be popular like their favourite creators, and my findings reveal that an important influencer of children's desire to be a YouTuber is the parasocial relationship established with their favourite creators. Mostly through a nonreciprocal relationship with the YouTube presenters, children acknowledge some aspects of popularity, such as likeability and social acceptance, as gains from being a content creator and absorb these possibilities as their personal aspirations. In the process of adjusting themselves to be a YouTuber, my dataset shows that children are influenced by creators to follow behavioural patterns in the way they speak and act. That is, young children within the YTMA are exposed to self-branding practices that involve "creating a detachable, saleable image or narrative" (Hearn, 2008, p. 198). This saleable character some children want to incarnate includes the ideal situation of having the products creators show in the videos, which exposes the relationship between popularity and consumerism on YouTube. Virtually all young participants asked parents to buy products they saw on YouTube, especially those featured in sponsored videos. According to parents, sponsored videos are responsible for most children's requests for products even though they are not clearly recognised as advertisements by children. This points to the vulnerability of young children to the commercial influences of the YTMA on their desires and consumption choices through practices that impact individuals' subjectivities in ways that encourage them to consume what is displayed on the platform. The YTMA relationship with young children through the value of popularity exemplifies how power and knowledge take into account children's "process of life" (Foucault, 1984, p. 264) to control and modify them. It encompasses power that amplifies the range of relations and possibilities for generating value and profit from these practices (Maurizio Lazzarato, 2006b).

The exploitation of children's experiences and interactions with YouTube brings perspectives of control into play. The way participants approach *control* on YouTube varies in the dataset,

and it is the fourth main theme of this thesis. Although the mechanisms and instruments that Foucault found to be critical to the existence of a disciplinary society have not ceased to exist (Savat, 2013), there has been a significant shift in the way power operates, to a more modulatory mode of power (G. Deleuze, 1992), which is allowed by digital platforms like YouTube. In this sense, the YTMA does not control children exclusively by a direct intervention – like not giving access to the platform to people under 16 years of age – but also by modulating processes that give them a space where they can freely work and create while following intangible commercial forces. The possibility given to children to control different features of media, like the video's content sequence, added to the possibility of literally being part of the streaming and uploading videos of themselves, puts children at the heart of YouTube's political battles and economic strategies. The control exercised by YTMA over children's experiences elevates and consolidates YouTube as their comfort zone – where they find what makes them happy.

Happiness, Attention, Popularity and Control together give form to the most evident power dynamics present throughout my dataset, and my conceptualisation of the YTMA is an attempt to consider how these heterogenous elements work together to modulate young children's behaviour, narratives, feelings and subjectivities through the YouTube platform. Foucault (1984) interrogated power through the investigation of freedom and its limits. For him, the techniques of power changed when power and knowledge began to consider the possibility of controlling and modifying life (Foucault, 1984). Deleuze's Society of Control brings to light the modulation of control as a new possibility offered by technologies. Through techniques of control, Deleuze sees the introduction of new technologies in the cultural and social scenario as a way to modulate people's subjectivities. Based on that conceptualisation, the YTMA is a fluid form of control that structures a biopolitical assemblage of power that is in constant mutation. Much like a chameleon, this system is always adjusting its parameters according to the context. The YTMA modulates young children's feelings, behaviour, narratives and subjectivities through an intimate and emotional rapport established between young children and YouTube and enacted by a series of persuasive practices that tailor life conditions and their possibilities through the customisation of children's experiences and preferences on the platform according to the power in control.

Research Question Three: How do caregivers' experiences and knowledge about the YouTube's political economy influence children's uses of the YouTube platform?

Caregivers' knowledge about and experiences on YouTube influence children's uses of the platform in different ways. As I have shown throughout this thesis, caregivers are aware of their limited knowledge of digital technologies, but such realisation does not deter them from allowing the use of devices in children's lives. Across participants, YouTube is a happy "object" that accumulates positive affective value for young children and, for this reason, is normalised as a social good by caregivers (Ahmed, 2010b, p. 21). Even though some parents have strategies in place to limit their children's uses of YouTube, the fact that children are feeling happy on YouTube influences caregivers to accept the platform as a conditional part of their children's lives. In other words, caregivers' social bond with YouTube is based on the platforms' promise of happiness (Ahmed, 2008).

Four major caregivers' concerns emerged from my dataset, and these concerns influenced their decisions over children's use of YouTube. First, caregivers are aware of the impossibility of fully preventing children from finding harmful content on YouTube. Caregivers know inappropriate content can pop up anytime on YouTube and this unpredictability is one cause of concern. Second, parents worry about the lack of information about how the YouTube platform actually works. YouTube's content customisation – often based on intimate information – usually shows parents that they are not aware of how YouTube operates. Again, this is a source of major concern. Third, caregivers are worried about the way children's attention is captured by YouTube. Virtually all caregivers mentioned noticing changes in children's behavioural attention when they are on YouTube, and these behavioural changes worried them. Lastly, parents recognise the power of sponsorship videos over their children's desires and consumer habits, and the fact that children sometimes ask for products that are inaccessible – geographically or financially – bothers and worries parents.

Even though caregivers have some points of concern about children's uses of YouTube, their narratives about YouTube show a common belief that prioritises the practical benefits of the platform and holds users accountable for managing any difficulties or problems. Caregivers tend to prioritise the uses of YouTube as a platform that mediates children's practices while diminishing the responsibility of YouTube's algorithmic agency on children's lives.

Although caregivers acknowledge that YouTube influences children's experiences, the parents' narrative that "It just is" places a spotlight on themselves as the only ones responsible for these experiences. Parents' talk about YouTube in ways that consistently construct narratives of "self-responsibility", absolving YouTube from having any obligation in protecting children's welfare online, while teachers tend to uncritically celebrate how YouTube facilitates teaching in the classroom. These considerations reveal the power the YTMA has over caregivers' subjectivities and narratives is such that the platform's responsibility for their users' wellbeing and rights is not immediately recognisable by its users. The YTMA's biopower is based on the organisation of "things in such a way that the exercise of power is not added on from the outside, like a rigid, heavy constraint" (Foucault, 1995, p. 206). This informs participants' narratives about closely monitoring children using YouTube as the only way to protect children's welfare on the platform – control to protect – which points to the issue of control as a symptom of parents' lack of knowledge about the YTMA.

Parent's strategies to control their children on YouTube raise questions about caregivers' lack of knowledge about how YouTube modulates children's experiences on the platform. The fact that two parents decided to establish boundaries for their children's uses of YouTube through instilling fear in them can be seen as a desperate act to keep children away from the platform influenced by the same old narrative present when children were in front of broadcast television decades ago. Telling your children that their eyesight is going to deteriorate, or that they will turn into zombies if they watch too much YouTube, seems a decision motivated by parent's anxiety and distress. Parents' emotional state is probably impacted by their struggles to function in an environment where advances in digital technologies outpace their capacity to keep up with those changes. Within the YTMA, an assemblage of agencies takes place, including children's relationship with their caregivers. In the case of young children, the YTMA' agency and caregivers' agency modulate children's experiences online, acting together to shape children's experiences, behaviour and subjectivities in relation to the YouTube platform.

8.2 Contributions of the Research, Strengths and Limitations of the Methodology

There are some methodological contributions this research has made to the study of young children online. First, multidisciplinarity is one of the main strengths of the research. The research integrated a range of fields of academic inquiry, including digital labour, biopolitics, attention economy and society of control, and scholarly inputs from these studies contributed to the research at theoretical, methodological and analytic levels. Combining this varied research offered valuable insights for investigating the practices of the participants and approaching my research questions in different ways. Through drawing together a number of fields. I was able to emphasise multiple aspects of children online and enrich the research landscape. Such multidisciplinarity facilitated my focus on the multiple aspects of children's participation in YouTube's commercial practices and, in particular, enabled me to consider multiple forms of power influencing their lives online.

The second methodological contribution the research made was my use of different actors to investigate the same subject. The design of the methodology included not only the subject (young children) but also their caregivers (parents and teachers), who were present in most cases. The decision to do this was made to capture different perspectives on children's watching practices. While combining children and parents' contributions in the analysis is a relatively common methodological practice (Brito, Dias, & Oliveira, 2018; Christensen & James, 2017; S. Livingstone, 2006, 2009), including teachers' perspectives among them are not. The multiple lenses of my research design ensured I focused on the complexity of children's experiences on YouTube, while simultaneously understanding how the insights obtained from using these lenses inform each other. This emphasis on multiple perspectives created space for considering the watching of YouTube as intimately, behaviourally, and political-economically located. This emphasis also promotes an understanding of children on YouTube as a normalised and celebrated social practice which is important for understanding children's participation in the platform's political economy. Although different types of methodologies, including visual methodologies, are gaining traction and are now used more frequently with children, I have yet to find any research on young children online that has incorporated three sets of actors to understand young children on digital technologies.

An outcome that I had not anticipated was that grouping, confronting and analysing different participants' perspectives over the same subject generated a reflexive space at multiple levels. While the benefits of researcher and participant reflexivity are promoted in qualitative methodology texts, I found the multi-lens approach to doing this research broadened the

reflexive space, in particular by opening the space for reflection between myself and parents. Because I interviewed and observed children in the presence of parents, the conversation with parents often included elements of my chat with children and went to 'places' that maybe we would not visit if I interviewed just one of the groups exclusively. For instance, a caregiver decided to change the way she negotiates her children's uses of YouTube after seeing for the first time the videos created and uploaded to YouTube by her son. This means that the reflective space created by the research methodological approach also fostered actions toward a personal and social transformation at a certain level.

In terms of limitations, there is one that is worth mentioning related to the way I organised the interview questionnaires. I planned the interviews according with what I wanted to investigate from each participant group. Consequently, I posed different questions to children, parents, and teachers. Overall, it was an assertive decision, as each group has particularities that I wanted to explore. However, the differentiation between parents and teachers' questionnaires imposed some limits in terms of comparison. Specifically, I would like to have talked more with teachers about their knowledge related to the ownership of YouTube and the ways it generates profits, so I could analyse my dataset in terms of the differences between parents and teachers in the way they understand YouTube's political economy. This means my investigation could have brought more findings related to teachers if I had included in the teachers' interviews the same questions about the YouTube's political economy I posed to parents. Because of this limitation, my findings ended up revealing more about how parents' knowledge about the platform influenced children's uses of YouTube, and less about how teachers' understandings about YouTube's political economy influence the way they use the platform in the classroom.

8.3 The Internet Political Economy: Extending Fields

Along with these methodological contributions, there are a number of key contributions the research has made to media studies. My research sheds light on young children's participation in the Internet political economy within social media. In my research, I explored children's experiences on one of the most powerful entertainment platforms in the world in order to map participants' contributions to the Internet political economy. Focusing on their watching practices without losing sight of the political economy context ensured I consider how the YTMA shapes the unfolding of children's lives. This shifted attention away from discussions

that considers the importance of balancing the risks and benefits of children on social media and illuminated the participation of young children online instead, producing value for digital products and services. Perhaps with the exception of Paakkari et al.'s (2019) investigation into the forms of digital labour present in a secondary school, I have not yet found any research that has been conducted considering the perspective of young children in the Internet political economy based on digital labour or biopolitics studies' perspectives. Regarding the findings of the research, there are also several contributions made which have furthered the understanding of children's experiences online.

First, I have extended scholarly understanding of biopower by considering happiness as a power force operating over children on YouTube. There is a range of challenges to scholarly understandings of the dynamic of forces that, together, express an ever-changing power relation (Maurizio Lazzarato, 2006b). In my research, I extended this body of literature, suggesting that the dynamic of forces affecting young children on entertainment platforms can be translated by them as the value of happiness. YouTube biopower, or the way children are affected by YouTube, resides in affecting children in a "good way" (Ahmed, 2008, p. 10). My research has demonstrated that the YTMA affects how children interpret the platform and creates a familiar, happy space for children.

Second, my research amplified the coverage of studies of control and agency by placing young children's experiences within a commercial platform at the centre of analysis – young children being a group that researchers often fail to consider in these studies (J. Bennett, 2005; Cheney-Lippold, 2016; Hui, 2015). By considering YouTube's range of possibilities of control along with children's capability of doing things within this digital structure, my findings indicated that they are immersed in a complex space where human and nonhuman agencies interplay, and where children are subjected to a different level of control compared with adult users. For instance, while children understand the recommendation tool as a source of happiness, caregivers can recognise the hierarchisation and manipulation of content when a content suggestion is based on the number of views or on an intimate and personal subject. I illuminated young children's wide-ranging use of YouTube features along with the wide-ranging possibilities YouTube and caregivers have for the control children's agency online.

Finally, the study extended the field of parasocial relationship studies by studying young children's relations within video-sharing platforms. By talking to and observing young

children watching videos, my research showed that they are constantly persuaded by practices online that emulate a relationship with YouTube presenters. While watching YouTuber videos, young children are impacted by a narrative that positions the audience as part of a dialogue with YouTube creators, which reverberates throughout children's experiences on the YouTube platform. While this asymmetrical relationship between presenters and audience has been investigated for a while, I have not found any studies with children under eight years old on digital technologies within these multisciplinary areas of academic inquiry.

8.4 Directions for future research

I believe my research points in several productive directions for future research, but I would like to highlight two of them. First, I believe it is paramount to further analyse caregivers' comparative lack of knowledge about YouTube's political economy. Although it is not expected that caregivers would have a profound knowledge about political economic practices and strategies, very basic considerations, like understanding that YouTube is a for-profit company that has commercial interests embedded in the way it operates, would be expected from parents and teachers who have YouTube constantly present in the way they parent or teach. My main concern here is how we are, or are not, protecting our children from a future that was not simply a consequence of children's choices, but a materialisation of their caregivers' uninformed decisions about how to best manage algorithmic platforms like YouTube. As society, we need to pay attention to how we are preparing caregivers to support young children online. When thinking about young children, our focus should not be on children's digital literacy, but caregivers' digital awareness about how young children's interactions with digital platforms impact their future. If caregivers know more about these practices, and my findings show that some of them are looking for more information, we can minimise the impact of digital modulatory apparatuses like YouTube on young children's rights such as privacy and wellbeing.

Secondly, my research has identified that the gaming business has a strong presence on YouTube for young children and the impact of this relationship needs further investigation. Gaming and watching videos of gamers is a sub-theme that emerged from some of the participants' accounts and observations. Most of the games mentioned by participants are not age-appropriate for young children and expose them to harmful content without adult

supervision. My dataset suggests that games have an important impact on young children's wellbeing on YouTube, and some implications that seem unforeseen by caregivers. Young children going outside of the bounded space of YouTube to play games expands their participation in the political economy of the Internet. Although I have concentrated my investigation exclusively on the YouTube's political economy, the link between young children's videos and the gaming industry points to another market of child digital labour exploration that needs urgent investigation. The gaming industry has shifted to free-to-play and in-game purchase, which reinforces the support of YouTube for the billion-dollar gaming business (Statista, 2021c; Thomas, 2022). Research has already found that one of the factors for the global success of some famous games among children is its intersection with YouTube and live game streaming (Carter, 2020), and I argue that children's participation in the political economy of the gaming industry cannot be neglected.

8.5 Final Thoughts

As I reach the end of this research journey, I want to reflect on an important question: why isn't child digital labour a greater issue of concern within media studies as an academic field? I found that a strategic formation composed of the interplay of heterogenous elements gives form to YouTube's power and impacts how its users experience the platform. Biopolitical assemblages like the YTMA are probably spread throughout the Internet. Although this group of components and rationales is not obvious to people, in the case of YouTube it normalises child digital labour practices mediated by children's teachers and caregivers.

However, while digital platforms have an impact on children's lives, media studies fails to address its influences on children through a political economic and biopolitical lens. My research exposed many structural and behavioural factors that significantly influence children on YouTube, such as the commodification of their attention and self-branding practices. Researchers have dedicated a considerable amount of time to investigating these issues for cohorts of adult users. Thus, it is not about the lack of studies about the political economy of the Internet and biopolitics online. It is about bringing child digital labour to light so it can be included in media studies as a matter of concern.

Young children on YouTube are part of an intersection of interests that need to be understood within a theoretical framework that considers the multiplicity of power relations operating on them. The investigation of young children's participation in YouTube's political economy

represents only a fraction of their experiences online, but it is nevertheless very important to the lives of young children to extrapolate these findings to other spaces and situations. My hope is that this thesis will stimulate a closer examination of children's roles within the political economy of the Internet as we continue to strive for a safer, fairer, and more equitable environment for young children online.

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Appendices

Appendix A – Oral statement of consent for the child
(Interviewer to read to child)

Hi. My name is Amanda, and I would like to talk to you about YouTube and how do you use it. It will not take long. You do not have to answer my questions if you don't want to and we can stop it whenever you want. If I say something you don't understand, please ask me to explain it. If you want to stop it, just let me know, and I'll stop our conversation immediately.

This green hand with thumbs up means that you want to talk with me for some minutes. The red hand with thumbs down means that you don't want to talk. Can you paint only the square next to the hand that represents what you want to do now?

☐

☐

Appendix B – Parent's Information Sheet

[Print on Massey University departmental letterhead]
[Logo, name and address of Department/School/Institute/Section]

Digital Labour and Children: an investigation into digital experiences of young children on the Internet

PARENT'S INFORMATION SHEET

Introduction

Kia Ora and Greetings,

My name is Amanda Aggio, and I am a doctoral student in the English and Media Studies department at Massey University. I am social communication graduate with a Master's degree in communication and semiotics. The purpose of this letter is to invite you to participate in the research I am undertaking on how children experience YouTube and what are caregivers and teachers knowledge about this interactivity.

Project Description and Invitation

Research shows that children are going online progressively earlier. In New Zealand, over three-quarters of children aged under 4 years old use digital technologies on an usual day. Although there is a large body of research into children's activities online, little attention has been paid to children between 0 and 6 years old within digital entertainment apps like YouTube. This video-sharing website profit from analysis of personal data sold to advertisers which include children information. Conventional policy concerned with children's wellbeing does not properly support rights of children online, and important issues concerning children's practices on the Internet are left to parents and teachers.

This project aims to understand the role of children, and their understanding of this role, within YouTube and what are parents and teachers perceptions about the way it operates. Using this information, the project aims to encourage dialogue among children's advocates, educators, policymakers and parents about children's welfare online. By participating in this research, I also hope that you will gain knowledge to support you to make decisions about children's choices on the Internet.

Participant Identification and Recruitment

Approximately twenty children and their respective parents/caregivers will be invited to participate in this research. Direct recruitment of potential participants will be used. This means that I will be approaching people directly within specific schools and libraries after having its leadership consent. A recruitment flyer will be displayed in those places as well. Participants will be children aged 5 to 6 years old that use YouTube frequently (at least 1h x 3 times a week) and their caregivers. I would like to talk to any of your children, but our primary interest is their 5/6-year-old child. I am seeking students from different school's deciles. Children will receive a book as compensation and acknowledgment for their participation.

A pilot research with two children, their caregivers and one teacher will be used to identify practical and theoretical challenges early to adjust the project to better achieve its aims.

Project Procedures

The family visit will be conducted from May to October 2018. I will interview parents and observe and interview their child at their home at a time that is convenient for you. The interview with parents will last for approximately one hour, and the interview and observation with child will take 50 minutes. I will have the opportunity to hear your experiences and stories about YouTube and to discuss some questions that I will pose to you. After the parent interview, I will interview child (20 minutes) and observe (30 minutes) them using YouTube. The observation will give me data about how the child experience the website (e.g., tools s/he clicks, her/his reaction watching videos, her/his knowledge of using

the app). With parent permission, the interview and observation will be photographed, digitally recorded and typed up. Parents will have the opportunity to review the interview and observation transcript and make changes to it.

Data Management

If you decide to take part in this research, I will call or email you to schedule the interview and the observation at a time convenient for you.

In order to ensure confidentiality:

- Real names will not be on the interview forms and observation protocols.
- Interviews will be transcribed by a third party whom will sign a confidentiality agreement.
- No names or any other identifying-information will be transcribed.
- Research data storage will be accessible by researcher and supervisor only.
- The original data will be kept in a secure storage room at Massey University for five years following the competition of my research.
- We will photograph devices and children's digital activities, but no faces will be revealed so that no-one will be identifiable.
- Participants will have the opportunity to review the interview and observation transcript and make changes to it.
- The research's results will be part of my Ph.D. thesis and could be part of conference presentation or publications (e.g., journal papers, reports, chapter in books). In any case, you and your children will not be identifiable.

Participant's Rights

You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- decline to answer any particular question;
- withdraw from the study from May to October 2018;
- ask any questions about the study at any time during participation;
- provide information on the understanding that your name will not be used unless you give permission to the researcher;
- be given access to a summary of the project findings when it is concluded;
- to ask for the recorder to be turned off at any time during the interview.

Please be aware though, that all efforts to keep your details confidential and to protect your identity cannot guarantee your anonymity.

Project Contacts

- Please, phone or email me if you would like to participate in this research (my details are listed below). If you have any questions with regard to this study or would like to have more information about the research, please feel free to contact me or my supervisors listed below

  Researcher: amanda.bastos.mareschi.aggio.1@uni.massey.ac.nz, telephone: [redacted]

  Supervisors:
  1. Prof. Alison Arrow, XXXX University, email: xxxxx telephone:
  2. Prof. Allen Meek, Massey University, email: xxxxx telephone:
  3. Prof. Ian Goodwin, Massey University, email: xxxxxxtelephone:
  4. Prof. Sy Taffel, Massey University, email: xxxxx telephone:

Compulsory Statements

1. MUHEC APPLICATIONS

The following statement is compulsory and MUST be included:

Committee Approval Statement

Select the appropriate statement:

This project has been reviewed and approved by the Massey University Human Ethics Committee: Northern, Application __/__ *(insert application number).* If you have any concerns about the conduct of this research, please contact A/Prof David Tappin, Chair, Massey University Human Ethics Committee: Northern, telephone 09 414 0800 x 43384, email humanethicsnorth@massey.ac.nz.

This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern A, Application __/__ *(insert application number).* If you have any concerns about the conduct of this research, please contact Dr Lesley Batten, Chair, Massey University Human Ethics Committee: Southern A, telephone 06 356 9099 x 85094, email humanethicsoutha@massey.ac.nz.

This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern B, Application __/__ *(insert application number).* If you have any concerns about the conduct of this research, please contact Dr Rochelle Stewart-Withers, Chair, Massey University Human Ethics Committee: Southern B, telephone 06 356 9099 x 83657, email humanethicsouthb@massey.ac.nz

Appendix C – Teacher's Information Sheet

[Print on Massey University departmental letterhead]
[Logo, name and address of Department/School/Institute/Section]

Digital Labour and Children: an investigation into digital experiences of young children on the Internet

TEACHER'S INFORMATION SHEET

Introduction

Kia Ora and Greetings,

My name is Amanda Aggio, and I am a doctoral student in the English and Media Studies department at Massey University. I am social communication graduate with a Master's degree in communication and semiotics. The purpose of this letter is to invite you to participate in the research I am undertaking on how children experience YouTube and what are caregivers and teachers knowledge about this interactivity.

Project Description and Invitation

Research shows that children are going online progressively earlier. In New Zealand, over three-quarters of children aged under 4 years old use digital technologies on an usual day. Although there is a large body of research into children's activities online, little attention has been paid to children between 0 and 6 years old within digital entertainment apps like YouTube. This video-sharing website profit from analysis of personal data sold to advertisers which include children information. Conventional policy concerned with children's wellbeing does not properly support rights of children online, and important issues concerning children's practices on the Internet are left to parents and teachers.

This project aims to understand the role of children, and their understanding of this role, within YouTube and what are parents and teachers perceptions about the way it operates. Using this information, the project aims to encourage dialogue among children's advocates, educators, policymakers and parents about children's welfare online. By participating in this research, I also hope that you will gain knowledge to support you to make decisions about children's choices on the Internet.

Participant Identification and Recruitment

Around four teachers will be invited to be part of the project as their point of view about children practices online will be an important contribution to research's conclusion. Teachers will not be recruited through schools to protect their professional privacy and to ensure their voluntary participation. A "snowball" method of recruitment was chosen to approach teachers outside school. This means that people from my social circle will be asked to suggest potential participants, and these potential participants, in turn, will be asked to recommend participants. Participants will be teachers of children aged 5 to 6 years old that have been teaching children for at least 4 years. The participant will receive a Moleskine as compensation and acknowledgment for their participation.

Project Procedures

The teacher interview will be held at a time and place convenient to the participant. The interview with teachers will last for approximately forty minutes. We will have a conversation about children's uses of digital technologies and how educators understand these practices. The interview will, with teacher's permission, be digitally recorded and typed up. Interview transcription will be available to teachers to review.

Data Management

If you decide to take part in this research, I will call or email you to schedule the interview and the observation at a time convenient for you.

In order to ensure confidentiality:

- Real names will not be on the interview forms and observation protocols.
- Interviews will be transcribed by a third party whom will sign a confidentiality agreement.
- No names or any other identifying-information will be transcribed.
- Research data storage will be accessible by researcher and supervisor only.
- The original data will be kept in a secure storage room at Massey University for five years following the competition of my research.
- We will photograph devices and children's digital activities, but no faces will be revealed so that no-one will be identifiable.
- Participants will have the opportunity to review the interview and observation transcript and make changes to it.
- The research's results will be part of my Ph.D. thesis and could be part of conference presentation or publications (e.g., journal papers, reports, chapter in books). In any case, you and your children will not be identifiable.

Participant's Rights

You are under no obligation to accept this invitation. If you decide to participate, you have the right to:

- decline to answer any particular question;
- withdraw from the study from May to October 2018;
- ask any questions about the study at any time during participation;
- provide information on the understanding that your name will not be used unless you give permission to the researcher;
- be given access to a summary of the project findings when it is concluded;
- to ask for the recorder to be turned off at any time during the interview.

Please be aware though, that all efforts to keep your details confidential and to protect your identity cannot guarantee your anonymity.

Project Contacts

- Please, phone or email me if you would like to participate in this research (my details are listed below). If you have any questions with regard to this study or would like to have more information about the research, please feel free to contact me or my supervisors listed below

  Researcher: amanda.bastos.mareschi.aggio.1@uni.massey.ac.nz, telephone: [redacted]

  Supervisors:
  5. Prof. Alison Arrow, XXXX University, email: xxxxx telephone:
  6. Prof. Allen Meek, Massey University, email: xxxxx telephone:
  7. Prof. Ian Goodwin, Massey University, email: xxxxxxtelephone:
  8. Prof. Sy Taffel, Massey University, email: xxxxx telephone:

  .

Compulsory Statements

2. MUHEC APPLICATIONS
The following statement is compulsory and MUST be included:

Committee Approval Statement

Select the appropriate statement:

This project has been reviewed and approved by the Massey University Human Ethics Committee: Northern, Application __/__ *(insert application number).* If you have any concerns about the conduct of this research, please contact A/Prof David Tappin, Chair, Massey University Human Ethics Committee: Northern, telephone 09 414 0800 x 43384, email humanethicsnorth@massey.ac.nz.

This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern A, Application __/__ *(insert application number).* If you have any concerns about the conduct of this research, please contact Dr Lesley Batten, Chair, Massey University Human Ethics Committee: Southern A, telephone 06 356 9099 x 85094, email humanethicsoutha@massey.ac.nz.

This project has been reviewed and approved by the Massey University Human Ethics Committee: Southern B, Application __/__ *(insert application number).* If you have any concerns about the conduct of this research, please contact Dr Rochelle Stewart-Withers, Chair, Massey University Human Ethics Committee: Southern B, telephone 06 356 9099 x 83657, email humanethicsouthb@massey.ac.nz

Appendix D – Participant Consent Form

[Print on Massey University departmental letterhead]
[Logo, name and address of Department/School/Institute/Section]

Digital Labour and Children: an investigation into digital experiences of young children on the Internet

PARTICIPANT CONSENT FORM - INDIVIDUAL

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree/do not agree to the interview being sound recorded.

I agree/do not agree to the interview being image recorded.

I wish/do not wish to have my recordings returned to me.

.

I agree to participate in this study under the conditions set out in the Information Sheet.

Signature: _____ Date:_____

Full Name – printed: _____

Appendix E – Parent Interview (1 hour)

- Remind participant that it is important for us to hear everyone's ideas and opinions. There are no right or wrong answers – just ideas, experiences and opinions, which are all valuable;
- It is important to hear all sides of an issue – the positive/nice and the negative;
- Confidentiality is assured; you will have the opportunity to review the interview and observation transcript and make changes to it.
- If there is any sibling, remember parents that we would like to talk to any of their children, but our primary interest is their 5/6-year-old child.
- Ask if they have any questions.
- Check position and functioning of the recording device.
- Check everyone's consent to participate and be recorded and have informed consent forms signed by the parent(s)

The research topic guides		
Topic	Description	Classification
Access	how children access and use Internet	
Practice / skills	what children do online and offline	
Biopolitic	how parents, teachers and children understand the capture of children's attention and data	
Digital labour	Are parents and teachers' concerns and perceptions of digital platform related to economic value (cross-subsidiation business, algorithms, data gathering)	
Parent and teacher mediation	how parents and teachers control, influence and guide children online	
Children's welfare online	what are children's feelings and perceptions about the Internet	

2. Warming up - Off-line and On-line practices

- Tell me about your child, Is there anything your child likes (doing) a lot?
- Is there anything that your child doesn`t like (doing)?
- What kinds of things do you do all together (the whole family), e.g., watch TV, etc.?

3. Relationship with digital technologies

- How does your child access and use the Internet?
- How does your child access YouTube (website, app or YouTube kid's app)?

4. Parental Mediation on YouTube

- Tell me about your child's routine within YouTube:

a) describe your experience generally.
b) do you have any specific experience on YouTube that you would like to share with me?
If yes, why does that specific experience stand out?
d) Tell me about your child's behaviour while using YouTube and when screen time is over.
e) did your child ever lose time in front of mobile device screen? What happens when it takes place?

f) Are there any rules or routines for using digital devices in your home?

5. About advertisement:

a) What have you noticed about advertisements that appear on YouTube?
b) What are the contents of those ads, could you give me one example?
c) How do you feel about your child watching them?
d) Has your child ever asked you to buy them something they saw in an ad on YouTube?
e) What your child does when an ad pop-up on the screen?
f) What do you think about the number of "views" displayed below videos, what thoughts come to your mind when you see this information?

6. About children's attention online

b) How do you think YouTube catches and holds your child's attention?
c) What impact the "recommended" section has on your child's use of YouTube?
d) What do you think your child enjoys most on YouTube?

. About children's data and privacy online

a) How do you feel about the data that is gathered about your child's Internet use?
b) How do you think YouTube can use your child's data? What impact does this use have on your child?
c) Has your child ever reported to you any inappropriate content on YouTube? If this is the case, do you know how and to who you should report what happened?
d) what kind of measures you usually take to protect the privacy and integrity of your child online.
e) What do you know about YouTube's owner company?

8. Parents` concerns and perceptions of the digital platform

- What kinds of things do you think your child learns from using YouTube?
- Do you think there are any possible harms from using YouTube?
- How important do you think digital technologies are in your children's life?
- Unusual/unexpected/surprising:_____
  _

9. Closing

We are now approaching the end of our visit. Is there anything else anyone would like to add about that we have not talked about?

- Summarise
- Thank participants

- Give a gift
- Provide contacts to participants

Ask if you can spend around 50 minutes interviewing and observing his/her child using YouTube. Use observation protocol and ORAL STATEMENT CONSENT FOR THE CHILD.

Appendix F – Children Interview (20 min.)

I will start saying the Oral Statement Consent for the child. During the interview, it is important to collect information in a child-friendly way.

- Explain aims of the discussion and expected duration;
- Ask if they have any questions
- Check position and functioning of the recording device
- Check everyone's consent to participate and be recorded and have informed consent forms signed by the parent(s)

The research topic guides		
Topic	**Description**	Classification
Access	how children access and use Internet	
Practice / skills	what children do online and offline	
Biopolitic	how parents, teachers and children understand the capture of children's attention and data	
Digital labour	Are parents and teachers' concerns and perceptions of digital platform related to economic value (cross-subsidiation business, algorithms, data gathering)	
Parent and teacher mediation	how parents and teachers control, influence and guide children online	
Children's welfare online	what are children's feelings and perceptions about the Internet	

1. Warming-up / off-line and on-line practices

a) What do you like to do every day to have fun?
b) Is there anything that you don`t like (doing)? Why?
c) What kind of things do you like to do with the whole family?

2. Relationship with technology

a) Tell me about the Internet, what do you like most about going online? Why?
b) What do you think about YouTube?

3. About advertisement

a) Have you ever watched some video about something to buy (e.g., a toy, an app, a candy)? If yes, do you remember one of these videos? Did you ask your parents to buy it?
b) How do you feel when this kind of videos pop-up on the screen?

4.About children's attention online

a) Is there any other thing that you like to do when you are watching videos?
b) What do you do when a video is over?
c) How do you feel when you chose a new video to watch?
d) What kind of video do you like to watch on YouTube?
e) Do you have a favourite YouTuber/YouTube channel?

3. Children's welfare online

a) Have you ever seen something "strange," something that you didn't understand on YouTube? Did you ask for help? Why?
b) Are there any good or bad things about using YouTube?
c) When screen time is over, how do you feel?

d) If YouTube was a person, what sort of person would it be? (e.g., it would be a woman or a man, serious or happy)
e) Any unusual/unexpected/surprising:_____

I will finish interview giving them the prize (Children's book) and asking if s/he could teach me how to use YouTube for some minutes. I will ask consent for parent to do it and use observation protocol as a guide.

Appendix G – Observation Protocol (30 min)

Observation Protocol (part 1) – 20-30 minutes

- The interviewer will ask permission for parents/caregivers to observe for around 30 minutes their child using YouTube. With parent's permission, I will:
- Explain aims of the observation and expected duration;
- Say the Oral Statement to Children (appendix C);
- Describe the setting (i.e., where the observation took place and what the physical setting looks like):
- Identify and describe family members (i.e., family constitution, the age of children & parents, ethnic background, parent's work, etc.)
- Document the interactions between observers and observed putting special attention on these categories:
    1. Digital-related activities;
    2. kind of videos watched;
    3. time child spends watching each video;
    4. the quantities of videos watched in full;
    5. the quantities of videos not watched in full;
    6. quantities of clicks on Recommended Area;
    7. quantities of advertisements;
    8. Application in use;
    9. hardware in use;

- Be alert to unanticipated events that might require refocusing one or more questions/areas of interest.

Family name (Pseudonym) :_____

Observer name:_____

Family constitution: (circle all that applies):

Father

Mother

Other adult (specify)_____

5/6-year old child

Younger sibling(s) (age)_____

Older sibling(s) (age) _____

other:_____

Audio file: |____|_____|_____|

Date |__|__/__|__/__|__|

Appendix H – Teachers Interview (40 minutes)

- Remind participant that it is important for us to hear everyone's ideas and opinions. There are no right or wrong answers – just ideas, experiences and opinions, which are all valuable;
- It is important to hear all sides of an issue – the positive/nice and the negative;
- Confidentiality is assured; you will have the opportunity to review the interview and observation transcript and make changes to it.
- Ask if they have any questions
- Check position and functioning of the recording device
- Check participant's consent to participate and be recorded and have informed consent forms signed.

The research topic guides		
Topic	**Description**	Classification
Access	how children access and use Internet	
Practice / skills	what children do online and offline	
Biopolitic	how parents, teachers and children understand the capture of children's attention and data	
Digital labour	Are parents and teachers' concerns and perceptions of digital platform related to economic value (cross-subsidiation business, algorithms, data gathering)	
Parent and teacher mediation	how parents and teachers control, influence and guide children online	
Children's welfare online	what are children's feelings and perceptions about the Internet	

1. **Warming-up – off-line and on-line practices**

- Can you give me a brief overview of your experience teaching children aged 5 to 6 years old?
- About children's preferences, how do they usually spend their spare time at school?
- Did you notice any change in their play choices in the last few years?

2. **Relationship with digital technologies**

- Can you describe what kind of digital technologies and services are used at school?
- How do students handle those technologies?

3. **Teacher Mediation online**

- How children learn Internet literacy at school (e.g., privacy issues, good manners online)?
- Can you tell me what is highlighted to children at school in terms of safety online?
- Have your students ever reported you their experiences on YouTube? If yes, could you tell me about a specific experience?

4. **Teacher`s concerns and perceptions of the digital platform**

- How do you think screen time at home impact children at classroom?
- Can you tell me what is the role digital devices have in your student's

lives?

- What is your point of view about child's data and privacy online?

- Can you tell me what possible risks and harms children can encounter online from your perspective?
- Can you tell me which benefits they gain with digital activities from your perspective?
- Unusual/unexpected/surprising:_____

5. Closing

We are now approaching the end of our visit. Is there anything else anyone would like to add about that we have not talked about?

- Summarise
- Thank participants
- Give gift
- Provide contacts to participants

Appendix I – Authority for the Release of Transcripts

[Print on Massey University departmental letterhead]
[Logo, name and address of Department/School/Institute/Section]

Digital Labour and Children: an investigation into digital experiences of young children on the Internet

AUTHORITY FOR THE RELEASE OF TRANSCRIPTS

I confirm that I have had the opportunity to read and amend the transcript of the interview(s) conducted with me.

I agree that the edited transcript and extracts from this may be used in reports and publications arising from the research.

Signature: _____ Date:_____

Full Name printed:_____

Appendix J – Format for Confidentiality Agreement

Researchers must obtain a signed confidentiality agreement from anyone, such as research assistants, who will process any data which contains personal information. This should cover agreement to not disclose, retain or copy information.

[Print on Massey University departmental letterhead]
[Logo, name and address of Department/School/Institute/Section]

Digital Labour and Children: an investigation into digital experiences of young children on the Internet

CONFIDENTIALITY AGREEMENT

(Full Name - printed)

agree to keep confidential all information concerning the project (Title of Project).

I will not retain or copy any information involving the project.

Signature: _____. Date:_____

Appendix K – Participant Recruitment Flyer

MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

School of English and Media Studies

CHILDREN NEEDED - RESEARCH WITH YOUNG CHILDREN ONLINE

Are you concern about your children online? Do you know how children are feeling within the virtual world and how is it impacting them?

If you have or care for a child between 5 and 6 years old that like to spend time surfing on the Internet, we would be pleased to have you and your child on board. Be part of this investigative research and help us to answer these questions.

It is easy to participate, just give us a call or send us a message to receive more information. Appointment times are catered to your availability and at your most convenient place.

We are excited to share our research findings with you!

Appendix L – Treaty of Waitangi course certificate

Certificate of Participation

This is to certify that

Amanda B. M. Aggio

Attended the full-day Treaty of Waitangi workshop

Tangata Tiriti - Treaty People

At Auckland Regional Migrant Services, 14 April 2018

TOPICS:

- History prior to the signing of Treaty of Waitangi
- Reasons for entering into a treaty
- The language of the Treaty of Waitangi
- A history of colonisation
- The relevance of Treaty of Waitangi today

FACILITATED BY:
Mercy Catacutan and Trish Cheng

Rochana Sheward
Chief Executive
Auckland Regional Migrant Services

te ranga tahi

Auckland Regional Migrant Services
Charitable Trust (ARMS)

Appendix M – Human Ethics Committee Approval

MASSEY UNIVERSITY
TE KUNENGA KI PŪREHUROA
UNIVERSITY OF NEW ZEALAND

3/07/2018
Dear: Amanda Bastos Mareschi Aggio

Re: Ethics Application - SOB 18/30 - Digital Labour and Children: Google, Biopower and Platform Capitalism.

Thank you for the above application that was considered by the Massey University Human Ethics Committee:

Human Ethics Southern B Committee at their meeting held on Thursday, 14 June 2018
On behalf of the Committee I am pleased to advise you that the ethics of your application are approved.

Approval is for three years. If this project has not been completed within three years from the date of this letter, reapproval must be requested.

If the nature, content, location, procedures or personnel of your approved application change, please advise the Secretary of the Committee.

Yours sincerely

Professor Craig Johnson
Chair, Human Ethics Chairs' Committee and Director (Research Ethics)

Research Ethics Office, Research and Enterprise
Massey University, Private Bag 11 222, Palmerston North, 4442, New Zealand T 06 951 6841; 06 95106840 E humanethics@massey.ac.nz; animalethics@massey.ac.nz; gtc@massey.ac.nz