



**BEYOND THE ORDER OF CURRICULAR DISCOURSE: CONTINGENCY,
TEACHING ETHICS AND THE PRACTICE OF THE CARE IN
MATHEMATICAL EDUCATION**

**PARA ALÉM DA ORDEM DO DISCURSO CURRICULAR: CONTINGÊNCIA,
ÉTICA DOCENTE E A PRÁTICA DO CUIDADO NA EDUCAÇÃO
MATEMÁTICA**

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Abstract: This paper offers a critical reflection on school mathematics curricula, examining them through the lens of Foucault's concept of governmentality. It questions the curricula's logic of producing neoliberal, gendered, and racialized subjects and its attempt to shield the educational process from contingency. Drawing inspiration from the works of Judith Butler and Eve Sedgwick, the essay suggests replacing the paranoid stance characterized by curricular control with a reparative stance grounded in Foucault's ethics of care for oneself and others. The essay argues that embracing the unpredictability that emerges in classroom interactions can foster ethical, aesthetic, and supportive teaching practices. From this perspective, mathematics education becomes a didactic of unpredictability that does not abandon accuracy but rather understands the curriculum as a political and existential field open to differences, singularities, and educational events.

Keywords: Mathematics Education, Philosophy, Mathematics Curricula, Ethics, Governmentality

Resumo: Este ensaio propõe uma reflexão crítica sobre os currículos escolares de matemática a partir do conceito foucaultiano de governamentalidade, questionando sua lógica de produção de sujeitos neoliberais, generificados e racializados, que busca blindar o processo educativo contra a contingência. Inspirado pelas leituras de Judith Butler e Eve Sedgwick, sugere substituir a posição paranoica, marcada pelo controle curricular, por uma posição reparadora, fundada na ética foucaultiana do cuidado de si e do outro. Argumenta-se que o acolhimento das imprevisibilidades que emergem nas interações em sala de aula pode fomentar práticas docentes éticas, estéticas e solidárias. Nessa perspectiva, a educação matemática deixa de ser apenas um espaço de cálculo utilitarista e converte-se numa didática da imprevisibilidade que não abandona a exatidão, mas compreende o currículo como campo político e existencial aberto às diferenças, às singularidades e ao acontecimento educativo.

Palavras-chave: Educação Matemática; Filosofia; Currículos de Matemática; Ética; Governamentalidade.

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² Marcio Antonio da Silva left this world on July 21, 2025. It's incredibly strange to know that a colleague and friend has passed away—no words can fully express this estrangement. I therefore decide to begin this spectral publication with a series of acknowledgments: Marcio Silva, thank you so much for all the respect you've always shown to my work; thank you also for introducing me to the complex universe of Mathematics Education; I'm incredibly grateful for your partnership and for the invitation to write this text. I hope your reflections will be immortalized as a critical inspiration for all those dedicated to educational theory and practice. Marcio Antonio da Silva was PhD in Mathematics Education from the Pontificia Universidade Católica de São Paulo (PUC/SP), and Professor at the Institute of Mathematics of the Universidade Federal do Mato Grosso do Sul (UFMS).



1 Introduction

“My pain is realizing
That despite having done everything, absolutely everything we did,
We are still the same and live
Like our parents”³

Belchior's melancholic observation from 1976 about the persistence of old structures despite efforts to change seems to haunt personal and institutional trajectories. Is this not a feeling that sometimes accompanies mathematics education research? Is it not a subtle pain when we realize that certain logics perpetuate themselves despite reforms, new methodologies, and supposedly renewed discourses, producing subjects in the image and likeness of a project that is hardly shaken?

Investigations by the first and second authors in the Curriculum and Mathematics Education Research Group (Grupo de Pesquisa Currículo e Educação Matemática - GPCEM) have consistently revealed the discursive machinery present in mathematics textbooks. These cultural artifacts extend far beyond the mere teaching of concepts and techniques (M. A. da Silva *et al.* 2018; M. A. Silva, 2019). These investigations expose a "discourse order" (Baldino, 1993; Foucault, 1987, 1996) that produces specific subjects under the guise of mathematical objectivity: neoliberal, gendered, and racialized subjects (Pacheco *et al.*, 2024; M. A. Silva, 2022, 2023; M. A. Silva *et al.* 2020; M. A. Silva; Souza, 2018; D. M. X. de B. Souza; Silva, 2017, 2018; Valero *et al.* 2019). However, this order may be not only an effect of political macrostructures but also a symptom of micro fascisms (Gallo, 2009) within us: a desire for control and security and a need for a demarcated territory and a "village" of sorts, where the unpredictable and the different are kept at a distance. This feeds a certain curricular fundamentalism that rejects uncertainty.

Our most recent research project (RP 2023) revealed a telling tension when we promoted meetings with elementary school professors. Teachers displayed a palpable anguish, an almost instinctive resistance when faced with the unexpected, and events that broke the script and threatened the safe boundaries of the "Village" (Gallo, 2009). The impertinent question, the productive mistake, or the social issue that erupts—anything that escapes the script—seems to trigger this latent micro-fascism and fundamentalist attachment to the planned, generating deep unease.

³ BELCHIOR, Antonio Carlos. **Alucinação**. Polygram/Philips, 1976.



This essay raises a fundamental question: What if the core of the problem is not a lack of techniques or knowledge but a deeper philosophical dimension linked to our ethical and aesthetic positioning in relation to truth, knowledge, and the micro-politics that constitute us? How can Philosophy of Mathematics Education (PME) help us address this issue beyond its traditional ontological and epistemological axes by incorporating ethical, aesthetic, and micro political reflection? PME is a field that aims to analyze, question, scrutinize, and criticize the narrative and claims of practice, politics, and research in mathematics education (Bicudo, 1999; Ernest, 1991).

2 Neoliberal governmentality in the mathematics curriculum: manufacturing subjects and shielding contingency

As we have argued elsewhere (Corazza, 1997; Costa, 2010; Planas; Valero, 2016; Silva, 2018, 2019; Valero et al., 2015), cultural policy is more than a prop or a crosscutting theme. Rather, it is the very substance through which mathematics curricula operate. Rather than being mere repositories of mathematical concepts, algorithms, or facts, curricula are force fields and arenas where meanings are contested, culture is produced, and conduct is governed. In this sense, Foucault's concept of governmentality (Foucault, 2008a, 2008b) is a powerful analytical tool. Governmentality, as the study of conduct (Gadelha, 2013; Veiga-Neto, 2013), helps us understand that modern power is exercised not only through repression or law but also in a subtle and effective way: by orienting desires, modulating freedoms, and inciting certain ways of being and self-governing.

In this context, mathematics textbooks (MTB) are not merely pedagogical instruments but sophisticated technologies of governance (Santos, 2019, 2021; Santos; Silva, 2019, 2021). These textbooks teach how to "behave" in the world in specific ways, subtly linking the study of functions, equations, and statistics to values, morals, and subjectivities. This guidance rarely takes the form of explicit imposition but rather seduction, naturalization, and presenting certain ways of life (e.g., the self-interested, calculating, self-managing individual) as the only desirable, rational, or possible ones within the prevailing logic. Thus, the curriculum becomes a guide for individuals to direct themselves, leading them to adjust to a certain economic and social rationality.

The discussion about creating a particular type of subject—the neoliberal *homo economicus* (Coradetti Manoel, 2023; M. A. Silva, 2022; M. A. Silva; Santos, 2024;



Valero, 2018)—takes center stage here. Mathematics curricula have been influenced by a rationality that aims to transform every aspect of life into an economic calculation domain (Traversini; López Bello, 2009). Progressive and socially relevant themes, when inserted into MTBs, are often reconfigured to serve this greater purpose. Financial education, for example, often transcends promoting a conscious relationship with money and becomes intensive training in the art of entrepreneurship (Coradetti Manoel, 2017; Coradetti Manoel *et al.* 2019; Coradetti Manoel; Silva, 2017, 2019; Pacheco *et al.* 2024; Sachs; Salles, 2024; Sturion *et al.* 2024). Students are encouraged to view their lives as capital to be managed, their studies as investments, and their choices as strategies to maximize future gains. They internalize the logic of individual responsibility for successes and failures, clearly echoing neoliberal precepts that exempt the state from its social responsibilities (M. A. Silva, 2019).

Even "citizenship education," a pillar of discourse in curriculum documents and MTB assessment guides, seems to have undergone a shift. The promoted citizenship is often stripped of its critical and contestatory potential and reduced to a set of "healthy," "sustainable," and "responsible" behaviors that ultimately aim to optimize individual productivity and minimize social risks to the system (R. R. Souza, 2020; R. R. Souza; Silva, 2025). According to this model, a good citizen takes care of their health so as not to burden the system, consumes consciously, and saves to consume more in the future. They also plan financially so as not to depend on state aid. Mathematics is presented as a tool for calculating calories, household budgets, and ecological footprints, further reinforcing the notion that social problems are solved through individual behavior rather than structural changes.

Another contemporary pedagogical mantra, interdisciplinarity, also does not escape this logic. In MTB, interdisciplinarity often manifests as the search for mathematical applications in contexts that validate and reinforce market rationality (Berto, 2017). Mathematics is considered "useful" because it helps solve every day practical problems related to consumption, work, and efficient resource management. However, it is rarely used to question the structures that produce these problems or to imagine other forms of social organization.

Even the history of mathematics, as presented in MTB, tends to be linear, Eurocentric, and focused on great "geniuses," who are usually European and white men. This approach to education aligns with the neoliberal ethos, presenting science as an individual, competitive, and triumphalist endeavor (Ocampos, 2016).



This discursive orchestration aims to produce flexible and productive subjects. It has an important correlate: the need to shield the educational process from contingency. Based on calculation, prediction, risk management, and the relentless pursuit of efficiency, neoliberal rationality is averse to the unpredictable and events that escape spreadsheets and algorithms. Instead of viewing the unexpected as an opportunity for learning or creation, neoliberal rationality sees it as a defect in the system, an anomaly to be quickly corrected or neutralized. Mathematics curricula imbued with this governmental logic become powerful mechanisms for controlling and excluding contingency.

In what ways does this shield against contingency manifest itself in the fabric of pedagogical practice and in curricular artifacts, such as MTBs? It is perhaps less due to the formal absence of open problems or the explicit condemnation of error—discourses that mathematics education research itself has already challenged and that have even been incorporated into official rhetoric—and more due to the subtle and persistent erasure of subjectivities in favor of fabricated objectivities. Even when seeking supposedly realistic contextualizations, MTBs tend to present an aseptic worldview where the social, cultural, and political contexts surrounding mathematics are naturalized and stripped of their tensions. These contexts are presented as unquestionable facts. Thus, mathematics emerges as a neutral language capable of objectively describing these realities, silencing the multiple interpretations and subjective experiences that could complicate or contradict the official version.

The armor is revealed with greater force when this supposed objectivity is shattered by the emergence of unexpected subjectivity. This can occur when a student asks a question that challenges the social norm implicit in the context of a problem, such as gender-based price differences, or suggests an alternative interpretation that challenges an established concept, such as the heteronormative definition of a couple in combinatorial analysis. Teachers' discomfort, attempts to quickly return to the comfort zone of calculation or the correct answer, and difficulty accepting and dialoguing with what deviates from mathematical or social norms reveal a resistance that goes beyond managing mathematical error (Oliveira, 2015; D. M. X. de B. Souza, 2015). It is an escape from confronting otherness and difference and the ethical and political dimensions that subjectivity introduces into the supposedly controlled setting of the math classroom. We seek to avoid not only algorithmic error but also social error: the destabilization of the discursive order and the unrest caused by that which does not fit into the fabricated



objectivity and standard subjectivity that the curriculum attempts to produce. In this sense, school mathematics becomes a closed system, epistemologically, subjectively, and politically, with little room for disruption caused by deviation from the norm.

Furthermore, broader curriculum policies, such as Brazil's National Common Core Curriculum (Base Nacional Comum Curricular - BNCC), despite their rhetoric on skills development and autonomy, reinforce this shield against contingency by seeking to standardize content, procedures, and skills. By attempting to predict and prescribe in detail what should be taught and learned at each stage, year after year, these policies drastically reduce the space for what emerges from the pedagogical encounter. They also reduce the space for the singularities of contexts and subjects, as well as for the curriculum as an event, desire, experience, and difference (Corazza, 2004; Paraíso, 2009, 2010). As curriculum designers Alice Lopes (2017) and Elizabeth Macedo (2012) have pointed out, this desire for control and predictability stifles the creative and political potential of the curriculum, transforming it into a script to be followed rather than a territory to be explored. The curriculum becomes a kind of vaccine against the unexpected, ensuring that nothing escapes control and that no disorder contaminates the purity of the planned teaching and learning process.

This obsession with order and predictability and this attempt to eliminate contingency from the school environment are not merely technical or methodological issues. They are deeply philosophical and political. Here, Philosophy of Mathematics Education (PME) must take a stand. Could some of the more traditional strands of PME, which are overly focused on the internal epistemology of mathematics or cognitive models of learning, have inadvertently corroborated the view of mathematics as a domain of certainties, immune to the vicissitudes of the social and political world? By failing to sufficiently problematize the formative power of school mathematics and its connection to relations of power and government, has the field sometimes contributed to this shield against the unpredictable?

Therefore, a critique of neoliberal governmentality in mathematics curricula is a task that falls to the Philosophy of Mathematics Education. This critique requires us to take the ethical, political, and aesthetic dimensions of educational practice seriously. Ethically, we must ask, "What kind of subjects are we helping to constitute through mathematics education?" Politically, we must ask, "In the service of what interests and rationalities does the mathematical knowledge circulating in schools stand?" As we will argue below, these dimensions are intertwined. This is not to deny the importance of



mathematical knowledge itself, but rather to reject its reduction to an instrument of conformity or a fetish that masks power relations (T. T. da Silva, 2005; T. T. da Silva, 2001).

Inspired by the critical philosophy of mathematics education proposed by Skovsmose (1994, 2023, 2024), which emphasizes mathematics' potential for social criticism and forming reflective citizens, we believe we must do more. We must not only unveil the government mechanisms operating through the mathematics curriculum but also question the way this curriculum seeks to protect us while impoverishing us of the disruptive and creative powers of contingency. As we will see in the next section, it is precisely the discomfort generated by this contingency that opens the door for us to consider another teaching ethic.

3 The Gordian knot of teaching practice: ethical and political discomfort with the event

If the analysis of textbooks, as detailed in the previous section, reveals sophisticated discursive engineering aimed at producing and shielding subjects from the unexpected, what happens when this engineering is tested in a live encounter with basic education professors? Recently, the GPCEM has undergone a significant methodological shift, shifting its focus from exclusively analyzing curricular artifacts to promoting meetings with mathematics teachers (RP 2020; RP 2023). The goal was (and continues to be) to explore the potential of curricula developed through dialogue between the group's critical research on the cultural politics of mathematics, neoliberalism, and intersectionality, and the experiences of professors, envisioning movements of resistance.

However, focusing on encounters revealed something that may have been submerged in our previous analyses: an explicit discomfort in teaching practice. This discomfort manifests precisely when the unexpected breaks the smooth surface of planning or hegemonic curricular discourse. We realized that this is not merely a technical difficulty or a lack of mastery of specific content. Rather, what emerged was an eminently ethical and political discomfort, a malaise in the face of the need to deal with difference and subjectivity that escapes the norm. A disquietude displaces mathematics from its pedestal of neutrality and inserts it into the murky terrain of social and cultural disputes.

This finding became particularly visible during the workshops held as part of the project “Curricula produced by mathematics professors who encountered research on the

cultural politics of mathematics and intersectional themes” (RP 2023). When we proposed a discussion of narratives that highlighted precisely these points of encounter between mathematics, social norms, and subjectivities, we observed reactions that made this difficulty explicit. Two of these narratives, adapted from previous research (Bruna Viana⁴; Oliveira, 2015), proved particularly revealing⁵.

The first narrative, adapted from Bruna Viana's research report, involved teacher Elaine. She was surprised by a student who questioned not the mathematical procedures but the social logic of the context when she proposed a seemingly straightforward linear system problem about ticket prices for men and women at a party (R\$15.00 and R\$10.00, respectively). "Why is the ticket price for women lower than the price for men?" Elaine, who had anticipated questions about setting up or solving the equations, was caught off guard. She had not planned for an answer to that question, which shifted the discussion from the technical-mathematical field to the minefield of gender relations, economics, and social justice. The discomfort did not lie in the math but in the sudden politicization of a statement she had chosen herself, perhaps without realizing the norms embedded in it. Most revealing was what followed the student's question: a conversation erupted among the students who went beyond the professor's planned mathematical objectives. The students began to describe the sexist rationale behind price differentiation, a common strategy in nightclubs to attract women and, consequently, the men who would supposedly consume more. The official curriculum shattered at that unexpected moment, giving way to lessons about market strategies, structural sexism serving capital, and the greed that can lurk behind a simple linear system problem. A powerful curriculum emerged from the contingency, beyond (and perhaps despite) the initial planning and the professor's discomfort.

The second narrative, adapted from Oliveira's (2015) research, presented teacher Cristina, who viewed didactic materials critically. When addressing combinatorial analysis with the problem "With eight men and twelve women, how many couples can be formed?" she followed the standard procedure. She applied heteronormative logic and arrived at the mathematically correct answer: ninety-six couples (eight times twelve). The

⁴ Bruna Letícia Nunes Viana holds a master's degree in Mathematics Education (UFMS) and is a doctoral candidate in the Department of Science and Mathematics Education at Stockholm University (Sweden). She participated in the development of the gender workshop and contributed, among other things, with an account of her experience in one of the classes she attended during her undergraduate studies.

⁵ The names of the professors involved in the two narratives presented here are fictitious, although the events in both cases are true.



unexpected arose when a student intervened, arguing that the possibilities were greater in her view. This comment challenged the implicit and normative definition of a couple, opening a crack in the apparent objectivity of the problem. The student's challenge was not limited to including same-sex couples. It also broadened the possibilities for thinking about other relationship configurations, such as threesomes, polyamory, and various arrangements that challenge binary and monogamous logic. This makes combinatorial calculation and social discussion infinitely more complex.

This situation harkens back to pedagogical practices from not so long ago when teaching even and odd numbers in the early years of elementary school relied on the criterion of "forming couples" (always heterosexual, of course), inscribing the norm in children's bodies from their first contact with school mathematics. This heteronormative approach to mathematics reinforces norms and silences the diversity of human experiences. Fortunately, due to complaints from mathematics education researchers, the most recent early-years textbooks have abandoned these flagrant examples. However, Cristina's narrative shows that the issue persists at other levels and in other contexts.

Once again, the crux of the matter was not a calculation error but rather the difficulty of accepting a subjectivity that questioned the social norm embedded in mathematics and invited us to consider other relational logics and, consequently, other (and more complex) mathematical solutions. The professor's avoidance of this topic, whether due to discomfort, a limited repertoire, or a fear of controversial subjects, represents a missed opportunity to discuss not only combinatorics but also the diversity of human relations and how mathematics can imprison or liberate our thinking about the world.

In both situations and in many other discussions during the workshops, we observed less of a technical inability and more of an escape or paralysis in the face of the ethical-political event. There was a tendency to quickly return to the safe territory of "pure" and "neutral" mathematics to avoid controversial issues, reaffirm the correct answer, or simply confess unpreparedness to deal with manifestations of difference and subjectivity that do not fit and questions that expose the arbitrariness of the norms underpinning the apparent objectivity of the curriculum.

Teachers' resistance to the unexpected can be considered a symptom of a school culture and training that overvalues prescribed content and technical objectivity. This leaves professors unprepared and uncomfortable when dealing with anything outside this framework. When considered mainly to be a script to be followed, the curriculum does



not offer tools for navigating the uncertainty, dissent, and complexity of human relationships that constitute daily life in the classroom. Thus, the order of discourse that is sought to be maintained at all costs proves to be extremely fragile. The attempt to protect the "Village" (Gallo, 2009) from the threats of difference generates more anxiety than security.

What does this Gordian knot of teaching practice reveal philosophically? Perhaps it reveals a deep ontological and epistemological insecurity and an attachment to the idea that mathematics (and teaching) is a domain of immutable certainties where professors are guardians of one truth. It also reveals an ethical fragility, which is crucial to advancing our argument. If the solution to this discomfort is not found in more content, planning, or control, where can we find resources to help professors not only endure, but also embrace and work productively with contingency and difference? This question drives us to explore the potential of Foucault's later thinking on the ethics and aesthetics of existence in the next section.

4 The practice of care in the face of the unpredictable

As an event, the classroom cannot be fully predicted or described by curriculum plans, whether macro-political (e.g., the BNCC or PPP) or micro-political (e.g., teaching or lesson plans). Therefore, it seems possible to affirm that the classroom emerges from the intersection of didactic-curricular expectations and relational unpredictability due to the unexpected events that commonly affect the field of interactions. The classroom is constituted by, and constitutes, the interaction between sentient beings (whether human or nonhuman), environments, and infrastructures. These comprise the didactic-curricular apparatus and the technical-architectural objects that configure the space of teaching and learning. The practice of teaching and learning establishes a sense of time represented by the clock's 50-minute mark. The field of relationalities traversing and composing the classroom is vast, broad, and indeterminate; any attempt to grasp it through concepts such as "sentience," "environments," and "infrastructures" seems ineffective. Nevertheless, following Judith Butler, we can focus on these three concepts to glimpse the relational materiality of the classroom.

According to Butler, "What depends on what, and what depends on whom, varies greatly because it is not only about other human lives, but also about other sentient creatures, environments, and infrastructures. We depend on them, and they depend on us"



(Butler, 2020, p. 16). Butler explains the social ontology that underpins the subversive character of Foucauldian ethics of care through interdependence (Foucault, 2010; 2012; 2011). This ethics of care escapes the neoliberal rationality that describes and prescribes the triumphalist logic of the sovereignty of the self. However, interdependence is constantly undermined by neoliberalism, both in and beyond the classroom. Butler does not discuss schools specifically, but she develops a philosophically informed social theory that allows us to think about this space. Schools, and more specifically classrooms, are not immune to the broader field of socialization. In this sense, it seems possible to affirm that different socialization niches and bundles are concentrated in schools. Furthermore, Butler's social theory allows us to glimpse the extent to which Foucault's ethical-aesthetic practice of care can constitute an alternative to neoliberalism's hegemony and calculative mechanics based on competition and the ideology of economic success. This ideology is commonly linked to the ability to concentrate income amid contemporary self-entrepreneurship practices (Dardot; Laval, 2016).

When we think about teaching and learning through the lens of Butler's social theory, we can perceive that one of the great didactic challenges seems to be dealing with the materially wide-open reality of chaos linked to unpredictability, which manifests itself and, at the same time, is manifested by the classroom experience as an event whose disposition can change, just like that, by the interpellation of the other who breaks the bubble of control pertaining to planning. This other is varied: it can be the student who, when asking or commenting, diverts the class from the path previously scripted by the professor; it can also be the technical or technological apparatus that suddenly malfunctions, or even the insect that, uninvited, invades the classroom (just think of the chaos that ensues when a cockroach enters the room, for example). Based on this, we might say that the classroom is not pure utopia (Foucault, 2013).

More precisely, based on Foucault and his counter-utopian perspective on the materiality of bodies, it seems possible to affirm that the classroom expresses itself in the heterotopic form of the event, promoting incessant displacements and transformations in relation to the indeterminate field of interactions. As Sandra Mara Corazza and Karen Nodari explain, the classroom is Heraclitean in that the reality of its event is constantly changing (Corazza; Nodari, 2020, p. 362-376). This means that the relational game experienced in the becoming of school is heterotopic, as it generates and is generated by incessant shifts in relation to the multiplicity of bodies that traverse and are traversed by



the knowledge that is compiled and is being compiled in the realm of teaching and learning. But what exactly is the ethical and aesthetic relationship of care with all this?

According to Eve Sedgwick, self-care is the art of critically and creatively constituting oneself in interaction with others. It is conceived in Foucauldian terms and rests on a reparative dynamic that opposes the paranoid dynamic of moral, pedagogical, and political control. It also opposes criticism practiced as destructive denunciation (Sedgwick, 2020, p. 403–404). Repair involves the capacity to cope with unpredictability, or the surprises that define the dynamic nature of relationships. In other words, care involves affirmatively dealing with the unpredictable or, rather, what happens despite planning. Thus, not even mathematics, with all its claims to universality, objectivity, and abstraction—in short, accuracy—can avoid the surprises that cause teachers and students to deviate from curriculum content and immerse themselves in the social, political, and ethical problems raised by the interpellation that breaks with the hegemonic imaginary of order, progress, and ontic-curricular uniformity⁶.

According to Sedgwick, who views Foucault's concept of care as restorative, a math curriculum based on accuracy is rooted in a paranoid position that strives to prevent unpredictability. This paradigm of control is linked to the dynamics of curriculum planning and the epistemic condensation of MTBs. It is based on the paranoia of Cartesian deterministic rationality, which prescribes a content-based path starting with the simplest subjects and moving toward the most complex. However, this aseptic procedure is inconsistent with the non-utopian space of the classroom, as we can see from the narratives involving teachers Elaine and Cristina. Sedgwick argues that Foucault's proposal of care would escape the paranoid position because caring for oneself and others means welcoming the unpredictability of becoming without fear, anger, or anxiety. Surprise reminds us that school is not pure utopia and that it rests on social multiversity. The magnanimity of social multiversity is due to indeterminacy because otherness cannot be exhaustively mapped or absolutely apprehended.

The hypotheses we are trying to put forward are as follows: (1) Caring for oneself and others in the classroom is an ethical commitment to teaching and learning. (2) In Foucauldian terms, this type of commitment is aesthetic because it allows us to shape our interactions by embracing the differences that make us unique and irreplaceable. (3) According to Butler, uniqueness does not justify triumphalism of the distinct self. Rather,

⁶ On the theory of interpellation, see BUTLER, 2005, pp. 9–22.



it grounds the interdependence between the self and the other. In other words, we depend on each other precisely because we are unique. (4) Dependence manifests itself as the principle of equality that interconnects us in the unpredictability of actions and reactions in the sphere of interaction between the self and the other (Butler, 2005, p. 30–31). Finally, (5) we propose that practicing the ethics of care in the classroom involves acting and reacting based on the didactic principle of unpredictability, which is consistent with the principle of equality that describes the interactive interdependence between individuals.

According to Foucault's feminist interpretation, the aestheticization of existence revolves around the ethical principle of equality in interdependence. Aestheticizing one's life means modulating and remodeling it through the practice of caring for oneself and others in coexistence. However, when we adopt a paranoid stance, we often justify violence against others as self-defense. This position prevents us from understanding that every act of destroying the other is an act of self-destruction given the interdependence that connects us despite our desires (Butler, 2020, p. 67–102). This position sustains neoliberal rationality, which impoverishes school interactions in terms of the ethics and aesthetics of existence. Neoliberal rationality imposes competition between individuals through control related to content mechanics and establishes a defensive posture based on teacher accountability for success, which is understood as school effectiveness in relation to productivity. This productivity is linked to the empty ideology of good citizenship, as we have seen in previous sections of our essay.

The Foucauldian perspective on care is an alternative to the neoliberal logic of interest, competition, and productivism. According to Butler, this logic is based on triumphalism and the sovereignty of the self. The psychic and social foreclosure of interdependence allows the specter of personal, individual, and selfish triumph to shape our character (Stephan, 2025). As Sedgwick and Butler demonstrate, neoliberalism is rooted in paranoia because it feeds on the phantom of sovereignty, which establishes the phantom of the enemy and inhibits the formation of bonds of solidarity (Sedgwick, 2020; Butler, 2020).

As mentioned earlier, Foucault's perspective on care is an alternative envisioned through his criticism of the prevalence of the neoliberal ethos in contemporary society (Foucault, 2015). According to Sedgwick, all critical practice is somewhat paranoid because it seeks to reveal the violence underlying social interactions. Therefore, the paranoid position can become what we share with those we criticize if we are unable to



open ourselves up to reparative alternatives⁷. More precisely, Sedgwick shows us that we distinguish ourselves from those we criticize when we conceive of an alternative to them. In this sense, Sedgwick shows us that Foucault not only criticizes neoliberal rationality governing the population by governing each individual's conduct. Sedgwick argues that Foucault also offers an alternative capable of repairing the seemingly destructive dimension of criticism. Therefore, it is insufficient to merely identify neoliberalism as the latest enemy; we must consider how to combat it while envisioning the world we aspire to create through this struggle (Stephan, 2023). If we do not offer ethical, aesthetic, and political alternatives to the status quo we criticize, we risk occupying the same position as those we criticize. The logic of reparation seems to be based on the logic of addition rather than defensive destruction, unlike the paranoia that operates in neoliberalism⁸.

Foucault, in interpreting the care of the self in Hellenistic-Roman antiquity, shows us that we have not always been governed by neoliberal rationality, or rather; he denaturalizes neoliberal rationality and, through this historical-philosophical procedure, opens us up to the possibility of imagining that things can be different from what they are, given that they have not always been this way. By turning his gaze to the ancients, Foucault allows us to understand that the bonds of teaching and learning were guided above all by care and not by the hypostatization of interest, competition, and economic-meritocratic success. The care that guided the bond between masters and disciples was aimed at self-improvement considering good interaction with the city, in the case of the Socratic-Platonic period, and good interaction with the cosmos, in the case of the Hellenistic-Roman period (Foucault, 2010, p. 75-96).

We will not discuss the differences between the various forms of care in antiquity as interpreted by Foucault (Stephan, 2021). For now, we would like to emphasize that the ethics of care is primarily a community-oriented practice, whether relative to the city or the cosmos, rather than the triumphalism of the individual in late capitalism. According to Sedgwick, Foucault's analyses of care rest on a reparative position, which compensates, to a certain extent, for the paranoid dimension of criticism. However, compensating for the paranoid dimension of criticism also depends on our complicity with the structure we criticize. Thus, criticism of neoliberal rationality requires self-criticism; as such,

⁷ In Butlerian terms, if our criticism becomes paralyzed in a paranoid position, we run the risk of falling back into a kind of moral nihilism, which consists of empty and fatalistic denunciation (Butler, 2005, p.21).

⁸ On the logic of addition in the construction of memory assemblages committed to the future, see Bensusan, 2024.



governmentality constitutes us as educators, professors, researchers, and students (Foucault, 2015). Thus, self-criticism is one component of the reparative position, alongside the historical and fabulatory glimpse of alternatives to the present, implicating us in the attempt to build a better future—a future not for tomorrow, but for the present that is delayed (Foucault, 2001, no. 339). We move away from the paranoid position when we glimpse an alternative to the criticized structure—that is, when we imagine other ways of acting and living—and when we criticize ourselves as we criticize the structure. In other words, we understand that modifying the structure also requires modifying ourselves. Those who embrace neoliberalism do not experience this type of reparative shift; they remain in the paranoid position, acting competitively and defensively because neoliberal paranoia is sustained by the specter of the enemy, which is sustained by moral panic (César; Duarte, 2017; Butler, 2024).

According to Sedgwick, the ethical possibility of reparation does not interfere with paranoia associated with criticism; rather, it compensates for it. Sedgwick (2020, p. 404) states that this possibility "is founded on—and coextensive with—the subjective movement that Foucault calls 'care of the self.'" By occupying the reparative position, we acknowledge our connection to what we criticize. Thus, unlike pure paranoia, reparation requires love and care for the unpredictability of social relations, which extend beyond humans to our interaction with the cosmos and its indeterminacy. Paranoia forecloses the empathic dimension of care by feeding a defensive posture that understands self-care as a movement of self-defense justifying the destruction of the other. In other words, when tied to the paranoid position, we are incapable of exercising care in the form of solidarity between the self and other. In this case, we practice individualistic selfishness without an ethical crisis because we normalize and naturalize the association between self-care and selfishness (Stephan, 2024).

In any case, it is important to emphasize that Foucault does not intend to transpose the ancients to the present day in returning to them. His ethical and aesthetic inventiveness is not nostalgic because nostalgia does not contribute anything new to the present; in other words, nostalgia does not align with critical creativity. Rather, nostalgia consists of a kind of reflux from the past that aims to solve the present's problems definitively by encapsulating them in anachronistic norms that stifle relationality's liveliness (Bensusan, 2024, pp. 33–40; Butler, 2005, pp. 4–9). By studying the past and unnaturalizing the present, Foucault imagines an alternative to our time, one that belongs to no one. Inspired by ancient ethics of care, he proposes the aesthetics of existence (Foucault, 2001, no. 357,



p. 1549–1565). Therefore, it seems to us that the aesthetics of existence consists of reactivating the ethics of care to affirm the materiality of social relationships through the creative constitution of bonds of solidarity. These bonds are formed through the development of empathy, not the triumphalist sovereignty of the self that practices care as individualistic selfishness. We assume that the aesthetics of existence embraces the unpredictability inherent in relationality and that constituting solidarity—by foregrounding the interdependence that neoliberalism forecloses—can be operationalized in classrooms (Butler, 2020, p. 87).

Neoliberal rationality is based on the idea of disrupting connections between the self and others through a paranoid logic of control. This logic transforms others into enemies or, in the context of a classroom, into "problems" that must be quickly resolved. The persistence of these "problems" can interfere with the proper functioning of school plans and schedules. Conversely, Foucault's concept of the aesthetics of existence as a contemporary practice of care offers an alternative to the paranoid position. This position prevents us from practicing solidarity between the self and others and decodes all surprise or unpredictability as evil, which would render education ineffective.

Thus, it seems that social bonds in the classroom, which permeate and constitute teaching and learning, are dominated by the imaginary of interest and productivist competition. Teachers and students alike are affected by this imaginary, though differently: some more subtly, while others more abruptly. According to Butler, the practice of care allows us to aestheticize ourselves in solidarity rather than modulate ourselves selfishly and individually in view of the sovereignty of the self, whether as teachers or students. Welcoming unpredictability in teaching and learning experiences at school calls for the practice of care and love. Welcoming does not simply mean accepting unexpected challenges. Above all, welcoming means facing surprises, which are neither good nor bad in themselves.

According to Sedgwick, adopting a reparative stance when reading the world activates the practice of Foucauldian care. As we have seen, based on Butler's reception of Foucault, the contemporary activation of the practice of care can be thought of as the co-aestheticization of our existences through the affirmation of bonds of interdependence in the exercise of solidarity. Exercising solidarity seems to welcome the unpredictability inherent in the liveliness of cosmic relationality. Surprise is consistent with exposing the self to otherness. This exposure depends on affirming our vulnerability. Under



triumphalism, vulnerability is interpreted as a psychic, social, or economic anomaly to be overcome because neoliberalism expects the self to be self-sufficient.

Transposing Sedgwick's analysis to mathematics education, reading the classroom from a restorative position means welcoming its surprises. As Sedgwick states, "There may be terrible surprises, there may be good surprises," and occupying the restorative position means welcoming all surprises, not just the pleasant ones. This is especially important when considering teachers' attitudes towards students (Sedgwick, 2020, p. 415). The reparative position of care prioritizes openness to surprise. Experiencing the classroom from this position means letting go of "the paranoid and anxious determination, certain that no horror, however unthinkable, will come" (Sedgwick, 2020, p. 415). For a reader in this position, experiencing surprise seems realistic and necessary. Although this task can easily be described, it is difficult to practice given that co-aestheticization is uncomfortable (Foucault, 2001, no. 266, p. 783–787). Aesthetic care of existence involves exposing oneself to others and others to oneself; such processes of exposure are vulnerable. From a reparative perspective, affirming vulnerability is key to affirming the interdependence that allows us to establish bonds of solidarity. However, in times of paranoia and violence, this type of ethical alternative may seem impractical.

In fact, this difficulty is not only faced by mathematics teachers. Perhaps we can acknowledge that this is a common teaching challenge in our time. By foreclosing interdependence, it transforms others into enemies, or foreign bodies, to be expelled from the bubble protected by the calculative, meritocratic, and productivist rationality of neoliberalism. The following questions remain unanswered: How can we take on the role of care and act under the guidance of the didactic principle of unpredictability in times fueled by violence related to the prevalence of paranoia? What does mathematics have to do with this?

5 Resonances in the philosophy of mathematics education: challenges and possibilities

Incorporating a remedial approach into everyday teaching practice remains a significant challenge in education, particularly in mathematics. There appears to be a discrepancy between what could be done and what we actually do when faced with the fact that teaching is primarily a job expected to produce specific pedagogical results. Secondly, teaching is a form of socialization mediated by knowledge corresponding to

two groups: technical knowledge relating to the content of each subject and non-technical knowledge relating to the epistemic baggage of the individuals who make up the school and classroom spaces. Interestingly, what presents itself as a challenge to mathematics education also presents itself as a possibility. Inhabiting the reparative position and welcoming the unpredictable through solidarity-based care is simultaneously a challenge and a possibility for mathematics education. This possibility seems to disarticulate mathematics education, albeit microphysically, from neoliberalism's mandates.

Embracing unpredictability and contingencies related to the intersection of technical and non-technical knowledge leads us to address problems beyond exclusively mathematical ones. This is believed to be especially challenging for the exact sciences, which are generally considered less open to the flexibility associated with the poetics of everyday life, typically addressed by the humanities. According to this view, math class would not be the place to address issues of gender, race, class, and species. Instead, math class would serve to explain abstract, universal, and absolute formulas and exact rules that leave no room for critical and creative reflection—skills developed in other disciplines, such as philosophy, sociology, and the arts. This idea suggests that mathematical competence is the ability to reason calculatively.

In this essay, we aimed to examine the concept of accuracy in mathematics education through an ethical-political analysis. We sought to understand the relationship between accuracy and paranoia concerning unpredictability in the classroom, particularly in mathematics, from a philosophically informed perspective.

We questioned the extent to which the concept of accuracy establishes a utilitarian correspondence between mathematics education and neoliberalism, which seemingly depends on overvaluing calculative rationality and undervaluing critical and creative reflexivity. Mathematics appears to be a valued subject in schools because it aligns with the calculative dynamics of neoliberalism. In other words, mathematics education is valued because it does not pose as a threat to neoliberalism, unlike philosophy, sociology, and the arts. These subjects are often associated with phantasmagorical labels such as "cultural Marxism" and "gender ideology" (Butler, 2024). The concept of accuracy safeguards the value of mathematics in neoliberalism because calculation is essential in late capitalism, which is populated by investors of different age groups. To profit, we need to learn to calculate; in this case, mathematical education would make us financially literate.



When we pause to reflect on what is happening to us, we realize that rational calculation, although it can guarantee profit for the financially literate, cannot safeguard life in or of the world. In fact, when encapsulated in paranoia and lacking reparative articulation with reflection, market calculation threatens to destroy us. Therefore, we cannot accept calculative literacy as the only purpose of mathematical education. In searching for alternatives, we encounter the aesthetics of existence and the poetics of care, practiced as solidarity. This allows us to conceive of the didactics of unpredictability. We still need to develop the didactics of unpredictability, which, in mathematics education, would include a commitment to accuracy. We believe that the unpredictability curriculum would counteract the control-oriented mindset associated with accuracy. However, what does this mean? Is it true that the calculative rationality associated with mathematics education is inherently incompatible with critical and creative reflection?

We are far from answering these questions since doing so requires expanding our bibliographic map and the scope of our observations regarding teaching practices. Therefore, future research will compare the mathematics and philosophy teaching fields to problematize the possible interaction between rationality and reflection in the context of the exact sciences (represented by mathematics) and the human sciences (represented by philosophy).

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