

Arithmomaniac Education and the Metric Society: The Role of the School in the Quantification Cult

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Abstract: In this paper, I discuss the critical role of formal schooling in intensifying a metric society, i.e., a society seduced by numbers and obsessed with quantifying all facets of the social sphere. Scholars who study the phenomenon of the metric society discuss abundantly the factors that lead to this cult of quantification: confidence in the objectivity of numbers to measure everything, the need for accountability, the charm of simplicity, trust in the capacity of incentives, accessibility of data in the era of technological revolution, the yearning for more accountable and transparent societal institutions, and the influential impact of business processes and procedures in various societal domains, among other things. What is overlooked is a sustained analysis of the critical role of the pedagogical setting in the emergence of what resembles arithmomania. I argue that one of the main drivers of the rise of the arithmomaniac personality is an authoritarian banking education and the modern educational disciplinary tactics, specifically the grading system. Thus, the school is not just a passive victim but an active perpetrator of the fetishism with numbers and measurement. Education is not just a casualty but is also complicit in the rise of a metric society.

Keywords: metric society, arithmomania, schooling, grading

“Number is the within of all things.”
—Pythagoras

“You can’t quantify it. There’s no analytic to it. Just the feeling of stability in the locker room.
... There’s just a settling effect that is impossible to quantify.”
—Erik Spoelstra, Miami Heat Coach

What if you are just imagining that when you graduate from the school, you would graduate from grading as well? What if the school is just a lonely and lively rehearsal for more grading outside the school?

In this paper, I will discuss the critical role of formal schooling in the emergence of a metric society, i.e., a society seduced by numbers and obsessed with quantifying all facets of the social sphere. Specifically, I will argue that one of the main drivers of this quantification cult is the authoritarian banking education and the modern educational disciplinary tactics, specifically the grading system. Thus, the school is not just a passive victim but an active perpetrator of the fetishism with numbers and measurement. Education is not just a casualty; it is also complicit in the rise of a metric society.

The Metric Society

In his 2017 book, *The Metric Society: On the Quantification of the Social*, German sociologist Steffen Mau explains that the metric society that we live in now is “a trend whereby social phenomena are increasingly measured, described and influenced by numbers.”¹ The viral phenomenon goes by different but closely related terms: fetishism of numbers,² seductions of quantification,³ tyranny of metrics and metrics fixation,⁴ numerocracy,⁵

¹ Steffen Mau, *The Metric Society: On the Quantification of the Social*, trans. by Sharon Howe (Cambridge, UK: Polity Press, 2019), 10.

² Stephen Gudeman, “The New Captains of Information,” in *Anthropology Today*, 14:1 (1998), 2.

³ Sally Engle Merry, *The Seductions of Quantification* (Chicago: University of Chicago Press, 2016).

⁴ Jerry Z. Muller, *The Tyranny of Metrics* (New Jersey: Princeton University Press, 2018).

⁵ Johannes Angermüller and Thed van Leeuwen, “On the Social Uses of Scientometrics: The Quantification of Academic Evaluation and the Rise of Numerocracy in Higher Education,” in *Quantifying Approaches to Discourse for Social Scientists. Postdisciplinary Studies in Discourse*, ed. by Ronny Scholz (Cham: Palgrave Macmillan, 2018), <https://doi.org/10.1007/978-3-319-97370-8_4>.

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omnimetrics,⁶ and cult of the quantifiable.⁷ In simple terms, these scholars describe a social life fixated and obsessed with grids and graphs, likes and leverages, rankings and ratings, stars and scores. It manifests in the hysterical ratings and hyper rankings of everything from universities to medical diagnostics, from countries' creditworthiness to customer satisfaction, and from social media reputations to self-tracking one's health, moods, habits, sexual activities, and lifestyles.

For Steffen Mau, the rise of the metric society is caused by several factors: confidence in the objectivity of numbers, need for accountability, the charm of simplicity, trust in the capacity of incentives, and belief in the measurability of everything. Mau explains the role of the state and market forces in the birth of the quantification of social values. For political governance, numbers are necessary to deploy authority and to rationalize governmental functions. On the other hand, the essence of capitalist markets "derives from the use of numerical data, calculation, and standardization."⁸ But Mau also argues that in the contemporary society, we can further identify two main drivers of the quantification cult: digitalization and economization of society. The digitalization of everything brought about by technological advancements makes it easier to collect, analyze, and store large amounts of data, even from the most private spheres, including homes, habits, hobbies, and heart rates. The economization of everything brought about by neoliberal ideologies and policies demands outputs based on measurable goals and performance indicators, relegating non-economic values in the name of profitability.

The description of Jerry Muller's book *The Tyranny of Metrics* points out the problem: "Today, organizations of all kinds are ruled by the belief that the path to success is quantifying human performance, publicizing the results, and dividing up the rewards based on the numbers. But in our zeal to instill the evaluation process with scientific rigor, we've gone from measuring performance to fixating on measuring itself. The result is a tyranny of metrics that threatens the quality of our lives and most important institutions." Muller opines that the origin of the tyranny of metrics can be traced back to Victorian Britain of the late 19th century when policymakers applied market-oriented principles to organizations outside the free market such as the school with the idea that budget allocation and payment must be based on standardized measurement of student performance in terms of the

⁶ Bruno S. Frey, "Awards in the Digital World," in *International Review of Economics*, 66 (March 2019), <<http://www.doi.org/10.1007/s12232-018-0291-1>>.

⁷ Felicity Wood, "The Cult of the Quantifiable: The Fetishism of Numbers in Higher Education," in *Prometheus*, 37:1 (2021), <<https://doi.org/10.13169/prometheus.37.1.0008>>.

⁸ Mau, *The Metric Society*, 21.

basic skills of reading, writing, and arithmetic. The intensification of measurement and quantification continued during the era of Taylorist scientific management of industry starting from the early 20th century to increase efficiency and productivity by employing scientific methods in the organization of the workplace and labor procedures.⁹

In the subsequent years until the turn of the 21st century, the cult of quantification and measurement became more prevalent due to several factors.¹⁰ First is the distrust of judgment. Skepticism abounds on the subjective judgment of professionals, resulting in confidence in what is perceived as scientific, objective, and unbiased processes of quantification tools to inform decisions and policies. Second is the critique of the professions. Non-profit institutions and professions such as the government, hospitals, and schools are criticized because they lack objective standards to quantify their bottom line: competence, performance, and profitability. Third is the apotheosis of choice. Modern society puts a premium on individual choice, seeks information via numbers to inform their choices, and expects quality performance and accountability from the usual market transactions and gradually from non-profit sectors such as education and healthcare. Fourth is the cost of disease. Technological advancements have brought down the cost and price of most consumer goods, yet education and healthcare have remained relatively high. Quantifying these services is perceived to lead to greater efficiency, productivity, and cost-effectiveness. Fifth is the challenge of leadership and management amid organizational complexity. Organizational leaders confront the task of decision-making, policy-creation, and motivating people inside complex organizations with time-bound (quarterly) objectives and a hodge-podge of stakeholders with conflicting interests. Metrics is a relatively simple technique to calibrate outcomes according to objectives, gauge people's performance based on predetermined indicators, and decide on new goals and targets. Sixth is the lure of information technology. The ease and declining cost of gathering, analyzing, and distributing high volumes of data has added to the fascination with quantification and metrics as the sure path to improvement and precision.

Mau and Muller have contributed enduring concepts such as "metric society" and "tyranny of metrics" while providing brilliant analyses of the factors contributing to their rise and intensification. The following section explains the concept of "arithmomania" which is fundamentally a psychological phenomenon but can also be easily appropriated to describe the social phenomenon explored by Mau and Muller. Unsurprisingly, the

⁹ Muller, *The Tyranny of Metrics*, 29ff.

¹⁰ *Ibid.*, 39ff.

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term is also hinted in other fields of social sciences to describe the trend of over-quantification and the dictatorship of data.

Arithmomania

Merriam-Webster defines arithmomania as “an abnormal compulsion to count objects or actions and make mathematical calculations.” It is a psychological condition that commonly manifests in people with obsessive-compulsive disorder (OCD). In 1895, Sigmund Freud, the father of psychoanalysis, described a patient with the uncontrollable urge to count the floorboards and the steps in the staircase. Freud labeled it “obsessional arithmomania,” interpreting the counting rituals as a diversion from obsessional ideas of temptation.¹¹ In 1896, the American functional psychologist William James talked about a young man who developed a case of arithmomania and started counting droplets, spoonfuls, and seeds, among others, and keeping track of them all on a blackboard. James referred to the anxiety developed and the premonition of ensuing harm when the ritual is not followed.¹² In 1903, the French psychologist Pierre Janet observed in some individuals with OCD the perception of incompleteness as a motivation to look for symmetry and organization. Arithmetic mania, as he calls it, develops because numbers are perceived to be precise.¹³ In other words, the person with arithmomania has “a tormenting sense of dissatisfaction with their current state,” and there is that uncontrollable urge “to correct profound feelings of imperfection.”¹⁴

From the initial observations of Freud, James, and Janet at the turn of the 20th century and up to the present, arithmomania is generally understood within the bounds of psychology, particularly in cases of OCD and Tourette Syndrome. However, arithmomania also resembles the societal obsession with numbers that Mau and Muller speak about. In other words, the individual psychological condition of arithmomania is analogous with the social phenomenon of metric fixation. The most obvious similarity is the extreme emphasis on numbers, that is, the individual patient’s uncontrollable

¹¹ Sigmund Freud, “Obsessions and Phobias: Their Psychological Mechanism and Their Aetiology,” in *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, vol. 3 (1893–1899), trans. by James Strachey (London: Hogarth Press, 1962), 77–78.

¹² Eugene Taylor, *William James on Exceptional Mental States: The 1896 Lowell Lectures* (Amherst: University of Massachusetts, 1984), 138–139.

¹³ Roger K. Pitman, “Janet’s Obsessions and Psychastenia: A Synopsis,” in *Psychiatric Quarterly*, 56:4 (1984), 295, <<https://doi.org/10.1007/bf01064475>>.

¹⁴ Laura J. Summerfeldt, “Understanding and Treating Incompleteness in Obsessive-Compulsive Disorder,” in *Journal of Clinical Psychology*, 60:11 (November 2004), 1156, <<https://doi.org/10.1002/jclp.20080>>.

urge to count is comparable to the society's impassioned preoccupation with quantifiable data such as university rankings, social media reputations, or economic profitability, among others. Second, the patient's indifference to the nonquantitative facets of a thing or an event is akin to the metric society's potential to disregard some non-quantified and non-quantifiable qualities of human existence such as friendship, love, values, aesthetics, well-being, recognition, and meaning making.¹⁵ Third, just as the patient oversimplifies an event by searching for symmetry and organization, the metric society reduces problematic issues into numerical indicators that may possibly lead to a limited and less nuanced interpretation of human experiences.¹⁶ Finally, the mentioned psychologists above describe the behavior of the clinical case of arithmomania as abnormal because it is not grounded on rational explanation. In a similar manner, the current obsession with measurement and supremacy of quantified data can explain irrational behaviors such as favoring measurable goals without regard for specific circumstances and consent to ethically questionable decisions such as "gaming the system."¹⁷

Unsurprisingly, the usage of the term has not been confined to psychiatry and psychoanalysis but found its way in describing psychosocial qualities in other social science disciplines. Such is the case with the rigorous and inquisitive analysis of the Russian-American sociologist and activist Pitirim Sorokin regarding the burgeoning quantitative research tools applied in psychosocial phenomena in the mid-20th century. In his 1956 book *Fads and Foibles in Modern Sociology and Related Sciences*, Sorokin recognizes the value of mathematical reasoning and quantitative methods in advancing knowledge. Since time immemorial and in ancient civilizations as diverse as Egypt, Babylon, China, Greece, and Rome, quantifying and measuring certain social phenomena has been acceptable and worthwhile. Sorokin says that during those times, mathematics has rightly been called "the queen of sciences." He is disturbed, however, with what he characterizes as the present "age of *quantophrenia* and numerology" in psychosocial fields such as sociology, psychology, psychiatry, and anthropology. Sorokin declares that "[a]ccording to the metrophrenics, only the papers containing measurements and numbers are regarded as scientific papers. Each quantitative study is considered a sign of the progress of the psychosocial sciences toward an 'objective,' 'exact,' and 'mathematical' phase in their existence, toward a

¹⁵ See Frey, "Awards in the Digital World."

¹⁶ See Alexandre Asselineau, Gilles Grolleau, and Naoufel Mzoughi, "A Good Servant but a Poor Master: The Side Effects of Numbers and Metrics," in *Administration & Society*, 54:5 (2022), 971-991, <<https://doi.org/10.1177/00953997211043830>>.

¹⁷ See Margit Osterloh and Bruno S. Frey, "Ranking Games," in *Evaluation Review*, 39:1 (2014), 1-28, <<https://doi.org/10.1177/0193841X14524957>>.

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maturity approaching that of the physical sciences.”¹⁸ Sorokin alerts the scholarship world about the misuse and abuse of metrics betraying genuine mathematics, claiming that “under these conditions, use of mathematical method becomes a mere *quantophrenic* preoccupation having nothing in common with mathematics and giving no cognition of the psychosocial world.”¹⁹

Another early attempt to release from the boundary of psychology the descriptive usage of psychological terms closely related to arithmomania is in a 1971 economics book titled *The Entropy Law and the Economic Process* by the Romanian mathematician and economist Nicholas Georgescu-Roegen. Here, he differentiates between arithmomorphic and dialectic concepts. Concepts such as “some,” “all,” “square,” “circle,” “proton,” and “electron” are arithmomorphic because, just like numbers, they do not overlap. Following the law of contradiction, they are logically distinct from each other. Because of this discretely restrictive property, arithmomorphic concepts are valuable in computing, syllogizing, and formulating theoretical science.

Meanwhile, there are also dialectic concepts such as “democracy,” “goodness,” “justice,” “wants,” and even “life.” They do not have discrete boundaries; thus, they overlap with their opposites. A society can be both democratic and nondemocratic. A virus lies somewhere in between life and non-life. A person can be both young and old. Justice is claimed by both the perpetrator and the victim. In other words, violating the law of contradiction, A can be both A and not-A.²⁰

For Georgescu-Roegen, both arithmomorphic and dialectic concepts are valuable to science. He disagrees with many social scientists who reject dialectic concepts and perceive these as a nuisance in scientific thinking.²¹ Arithmomania, then, is an attitude of extreme confidence in the power of arithmomorphic concepts among many social scientists in general and economists in particular. Sebastian Berger calls this the “over-mathematization of economics,” blinding the economists to qualitative changes.²² From this insight, Georgescu-Roegen, as early as 1971, was already

¹⁸ Pitirim Sorokin, *Fads and Foibles in Modern Sociology and Related Sciences* (Chicago: Henry Regnery Company, 1956/1965), 104.

¹⁹ *Ibid.*, 103.

²⁰ Nicholas Georgescu-Roegen, *The Entropy Law and the Economic Process* (USA: Harvard University Press, 1971), 45–46.

²¹ *Ibid.*, 52.

²² Sebastian Berger, “Poetic Economics and Experiential Knowledge, or How the Economist K. William Kapp Was Inspired by the Poet Ernst Wiechert,” in *Journal of Economic Issues*, 49:3 (2015), 733, <<https://doi.org/10.1080/00213624.2015.1071979>>.

critical of reducing into numbers (i.e., income *per capita*) the dialectic concept of economic development.²³

From sociologist Sorokin's and economist Georgescu-Roegen's anti-positivist posture, deploying the notion of arithmomania in education is no longer far-fetched. If there is a social unit where this concept can be equally appropriate and valuable, then it is the educational institution. As far as I know, the first usage of the term "arithmomania" in educational issues is Robert Giacalone's 2009 article that laments the proliferation of academic ranking. He calls the school's version of arithmomania the fetishism for journal and school ranking. He blames this fetishism on a distorted mindset "where numbers become the sole proxy for good institutions and good work" and "driven by the desire for things like power and influence, self-importance, materialistic acquisitiveness, and servitude to financial interests."²⁴ In 2010, Henderikus Stam's editorial for the journal *Theory & Psychology* considered arithmomania as one of the pressing issues confronted by academic journals, including their own. He mentions specifically the premium given to citations and impact factors, the resistance that their journal had done, and the dream of a future "when counting is replaced by a more reflective analysis."²⁵ Closely related to Giacalone and Stam's usage is the term's appearance in a 2021 webinar presentation sponsored by Elsevier, a giant multinational publishing company. Situating it in the context of predatory publishing caused by the rise of a culture of performance management, incentive systems, and the digitalization of almost everything, Mouton and Nieker describe arithmomania this way:

Academic performance or success is now regularly equated with some score or a metric. And perhaps more specifically – metrics that privilege counts, outputs, and numbers. Qualitative aspects of academic work – which by definition cannot be reduced to simple measures such as publication counts, h-indices of journal impact factors – are conveniently ignored. We are typically not asked – in our universities – to report on our contribution to scholarship, practice, or policy, the relevance of our work for society, or whether our

²³ Georgescu-Roegen, *The Entropy Law and the Economic Process*, 52.

²⁴ Robert Giacalone, "Academic Rankings in Research Institutions: A Case of Skewed Mind-Sets and Professional Amnesia," in *Academy of Management Learning and Education*, 8:1 (2009), 123, <<https://doi.org/10.5465/amle.2009.37012186>>.

²⁵ Henderikus J. Stam, "Theoretical Communities and *Theory & Psychology*: A Decade Review," in *Theory & Psychology*, 20:6 (2010), 727, <<https://doi.org/10.1177/0959354310391871>>.

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research is interesting and attractive to emerging scholars. Only: how many articles we have published in the past year and how many subsidy-bearing outputs we have produced.²⁶

In connection to my discussion of the metric society earlier, educational scholars such as Giacalone, Stam, Mouton, and Nieker understand the academic version of arithmomania as an offshoot of the quantification of the social world. Education is just one among the many victims of the tyranny of metrics. I will not disagree with this insight. However, I will further argue that arithmomania has already been in the educational space even before the rise of the metric society. Arithmomania is a necessary outgrowth of a banking education described by the Brazilian philosopher Paulo Freire and the modern educational disciplinary tactics described by the French philosopher Michel Foucault. It is the arithmomanic personality produced by the school that is one of the main engines of the metric society.

The Rise of the Arithmomanic Educatee

When children walk into the premises of the school for the first time, they are free and spontaneous human beings. They anticipate new experiences and adventures. They are enthusiastic about meeting people. They want to talk, to shout, to laugh, to jump, to dance, to run, to climb, to play. Children are full of curiosity and wonder.²⁷ They are armed with questions and are excited about diverse answers.²⁸ The prominent scholar on human learning, Peter Jarvis, says, “[l]earning is the driving force that combines with our bodily drives to make us what we are—we are learned beings.”²⁹ Indeed, learning is a fundamental impulse of a child.

Children do not think first about an impending competition for ranking with their seatmates. Their minds are not preoccupied with grades,

²⁶ Johann Mouton and Marthie van Niekerk, “Predatory Publishing: Concepts, Causes and Consequences” (7 April 2021), available from <https://www.sun.ac.za/english/research-innovation/Research-Development/Documents/Lecture%20Articles/Mouton_Van%20Niekerk_Predatory%20publishing_Concept,%20issues%20and%20consequences_April%202021.pdf>.

²⁷ “Children come to school *curious*; within a few years most of that curiosity is dead, or at least silent.” John Holt, *How Children Fail* (USA: Penguin Education, 1964/1982), 160.

²⁸ “...even infants are active meaning-makers. By the time a child toddles into a classroom, he is already buzzing with beliefs and ideas and questions.” Alfie Kohn, *The Schools Our Children Deserve: Moving Beyond Traditional Classrooms and “Tougher Standards”* (Boston: Houghton Mifflin Company, 1999), 152.

²⁹ Peter Jarvis, *Towards a Comprehensive Theory of Human Learning: Lifelong Learning and the Learning Society*, vol. 1 (London: Routledge, 2006), xi.

medals, or honors and stars. Competition can never be their initial default. The drive to compete is not innate but learned by the child. Reflecting on the culture of winning in America, Thomas Tutko and William Bruns affirm that “[c]ompetition is a learned phenomenon...people are not born with a motivation to win or to be competitive...the will to win comes through training and the influences of one’s family and environment.”³⁰ Alfie Kohn, a prolific author and critic of traditional education and parenting practices, complements this view by stressing the role of education in the competitive mindset. He asserts that “[t]he message that competition is appropriate, desirable, required, and even unavoidable is drummed into us from nursery school to graduate school; it is the subtext of every lesson.”³¹

But soon enough—or even as early as the first moment the child sets foot on the premises of the school or the classroom—the child senses a stark contrast between her fundamental impulse and the formal pulse exuded by the new environment. It would do us well to recall how Paulo Freire describes the traditional classroom as suffering from narration sickness while operating in a pedagogical atmosphere analogous to bank operations.³² This educational setting is justifiably comparable to a bank transaction because the teacher narrates and deposits lifeless knowledge to a supposed empty and passive mind of the educatee and withdraws this deposited knowledge (via assessment in the form of tests and examinations) from a robotized mind that has become analogous to an automated teller machine. In this set-up, knowledge is unquestioned and school-based without any relation to the educatee’s concrete life experiences.³³ Learning is routinary, ritualistic, and rule-based. It is a dehumanizing pedagogical ploy where the educatees become mere objects of a teacher who is the Subject of knowledge. Rather than a space for freedom and a practice for democracy, traditional education becomes a locus of authoritarianism and a rehearsal for domestication.³⁴

Still relevant is the account of Michel Foucault regarding the educational space operating as “a machine for supervising, hierarchizing,

³⁰ Thomas Tutko and William Bruns, *Winning Is Everything and Other American Myths* (New York: Macmillan, 1976), quoted in Alfie Kohn, *No Contest: The Case Against Competition* (Boston: Houghton Mifflin Company, 1986/1992), 25.

³¹ Kohn, *No Contest*, 25.

³² Paulo Freire, *Pedagogy of the Oppressed, 30th Anniversary Edition*, trans. by Myra Bergman Ramos (New York: Continuum, 1970/2005), 71.

³³ “The things children talk about in class, when they are allowed to talk at all, are seldom close to their hearts.” Holt, *How Children Fail*, 142.

³⁴ Paulo Freire, *Teachers as Cultural Workers: Letters to Those Who Dare Teach* (Boulder, Colorado: Westview Press, 1998), 113–114.

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rewarding.”³⁵ In his groundbreaking investigation, Foucault enlightens us on the deployment of power in modern societies, the formation of subjectivity as an effect of various power relations, and the normalization of these power relations. He shows that these power dynamics are evident in modern institutions such as prisons, hospitals, asylum, judicial courts, military, factories, and of course, schools. He argues that power is united with knowledge, thus coining the hyphenated term “power-knowledge,” allowing the wielders of power to classify and regulate not by coercion but by persuasion, not by force, but by voluntary submission.³⁶ With its disciplinary tactics, the school, indeed, is a site for ready subjugation and subtle coercion.

Initially, the child is culture-shocked in the banking classroom, which is essentially a disciplinary machine, antithetical to their fundamental curiosity and playfulness. Expectation does not coincide with reality—narration clashes with inquisitiveness. Disciplinary gaze conflicts with spontaneity. The child thought she could question, but she was taught just to answer questions. She thought she could run and play, but she was taught to sit and stay. She thought she could speak her mind but was taught to repeat or copy her teacher’s mind. Initially, the child will react with annoyance and resistance.³⁷ Such a child is not used to being regulated and managed. Resistance is the fundamental impulse of a bored mind—a desire to escape from the classroom, a tendency to daydream, a recourse to disruption and misbehavior, and a disposition to passivity and avoidance.³⁸ There is, thus, an initial and unavoidable tension between a spirit that is playful, curious, and free AND an institution that demands control of the body and discipline of the soul.³⁹

³⁵ Michel Foucault, *Discipline and Punish: The Birth of the Prison*, trans. by Alan Sheridan (New York: Vintage Books, 1977/1995), 147.

³⁶ *Ibid.*, 27.

³⁷ “Resistance is likely to appear in classrooms where academic subject-matter knowledge is emphasized by the teacher and a recitation style is typical of classroom language interaction.” Bracha Alpert, “Students’ Resistance in the Classroom,” in *Anthropology & Education Quarterly*, 22:4 (1991), 351, <<https://www.jstor.org/stable/3195659>>.

³⁸ “Boredom instigates a desire to escape from the situation. In school settings, this could be manifested as daydreaming or disruption. The function of boredom, then, is to pull one’s attention from the activity perceived as unrewarding and lacking value. This reduces cognitive focus by directing attention to something more rewarding through distraction, or daydreaming, or misbehavior. The students’ motivation is avoidance or passivity.” Gayle L. Macklem, *Boredom in the Classroom: Addressing Student Motivation, Self-Regulation, and Engagement in Learning* (Heidelberg: Springer, 2015), 29.

³⁹ “In becoming the target for new mechanisms of power, the body is offered up to new forms of knowledge. It is...a body manipulated by authority, rather than imbued with animal spirits” Foucault, *Discipline and Punish*, 155.

At this initial moment of boredom manifesting as resistance, defiance, and abnormality, the teacher asserts and flexes their authority in the name of order and discipline, classroom management and control, socialization, and normalization.⁴⁰ Immature minds must be schooled and trained. Wild bodies must be tamed and restrained.⁴¹ Pupils must keep quiet, focused on the lessons, obedient to the commands, slow to speak, committed to listening, primed to answer questions, and not imprudent to question answers. A culture of silence is nurtured.⁴² A culture of voice is negated.⁴³ Obviously, in this situation, both the educator and the educatee confuse authority with authoritarianism. Banking education gives rise to the authoritarian educator. Or, more accurately, authoritarianism goes hand in hand with banking education.⁴⁴ The child will soon be extinguished and replaced by a normalized body and mind. To be different, which is the original posture of normalcy for the child, is to be abnormal or deviant in the introduced regime of school discipline.

The authoritarian banking educator has many disciplinary mechanisms at their disposal: the supervision of space through enclosure, partitioning, ranking, and hierarchizing; the control of time through strict timetables; and the regulation of the body through detailed and defined gestures, among other things.⁴⁵ Inarguably, one of the most potent apparatuses of classroom management and control has come in the form of a letter or a number: the grade.⁴⁶ The ubiquity of the grades in educational settings cannot be overstressed, so it is almost impossible to imagine the act of teaching and learning without the action of grading, further attaching a sense of moral duty to this act. If the sun is the center of the solar system, the

⁴⁰ "A relation of surveillance, defined and regulated, is inscribed at the heart of the practice of teaching, not as an additional or adjacent part, but as a mechanism that is inherent to it and which increases its efficiency." *Ibid.*, 176.

⁴¹ "To modern educators, the child appears as the primitive embodiment of the good and the natural—the noble savage, if you will. Children are spontaneous and joyful, unpredictable and trusting—traits to be cherished but sadly evanescent in the path toward maturity ... For all its nobility, the noble savage remains savage, and integration into the world of adults requires regimentation." Samuel Bowles and Herbert Gintis, *Schooling in Capitalist America: Educational Reform and the Contradictions of Economic Life* (Chicago: Haymarket Books, 1976/2011), 38.

⁴² Paulo Freire, "Cultural Action and Conscientization," in *The Politics of Education: Culture, Power, and Liberation*, trans. by Donaldo Macedo (Connecticut: Bergin & Garvey Publishers, Inc., 1985), 72.

⁴³ Barrie Thome, "From Silence to Voice: Bringing Children More Fully into Knowledge," in *Childhood*, 9:3 (2002), 253, <<https://doi.org/10.1177/0907568202009003604>>.

⁴⁴ Paulo Freire and Ira Shor, *A Pedagogy for Liberation: Dialogues on Transforming Education* (London: MacMillan, 1987), 46.

⁴⁵ Foucault, *Discipline and Punish*, 141ff.

⁴⁶ "The 'invention' of this new political anatomy must not be seen as a sudden discovery ... On almost every occasion, they were adopted in response to particular needs..." *Ibid.*, 138.

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grade is the heart of the school system. In an enticing article, Pat Belanoff claims that “[g]rades and schools seem synonymous...Many in our society and in the schools accept without question these connections between grades and the quality of student learning.”⁴⁷

The grade must not be dismissed easily as a passive number, mere abstraction, or an innocent indicator; “[a]s a single symbol, each grade carries considerably more information than it can deliver or convey.”⁴⁸ It is deemed to be a summary of one’s school life. It is “an activity in which complex performances and practices are coded into a single variable.”⁴⁹ The grade is perceived to be a determinant of the value of an educatee’s performance. A poor grade means that the student did not study, lack interest in the subject, or are inferior academically. Conversely, a good grade attests to the student’s industriousness, interest, attentiveness, and intelligence. Either the fear of underperforming or the grandeur of excelling consumes the consciousness of the educatee.⁵⁰ Both the inane and the intelligent feel the reckoning and acknowledge the judgment signified by the grade. The verdict is momentary, but the impression may be enduring and stable. High marks boost self-esteem—an assurance of advantage in the struggle for classroom recognition and beyond. Conversely, low or failing grades leave marks beyond classroom walls and into the distant future, carving one’s destiny or even leaving some fatalities, usually in the form of suicide and school shootings. That is why a grade can shape identity, and an educatee may find their identity in their grade. “It is an act of creation of certain types of subjectivities.”⁵¹ Inasmuch as grades bring thrills and triumphs, it may also mean troubles and tribulations.

⁴⁷ Pat Belanoff, “What Is a Grade?,” in *The Subject Is Writing: Essays by Students and Teachers*, 2nd ed., ed. by Wendy Bishop (New Hampshire: Boynton/Cook Publishers, Inc., 1999), 147.

⁴⁸ Kathleen Blake Yancey and Brian Huot, “Construction, Deconstruction, and (Over) Determination: A Foucaultian Analysis of Grades,” in *The Theory and Practice of Grading Writing Problems and Possibilities*, ed. by Frances Zak and Christopher C. Weaver (Albany: State University of New York Press, 1998), 40.

⁴⁹ *Ibid.*, 46.

⁵⁰ Keen readers may retort that this is an exaggerated bifurcation. Grade obsession may not necessarily be the temperament of the ordinary contemporary student. As this paper’s reviewer pointed out, there has been a growing tendency towards mediocrity among many students today—“just passing and getting grades that are good enough.” This attitude of mediocrity appears to negate this paper’s main claim about grade fixation. Granting its truth, however, mediocrity may still relate incidentally to grade fixation. It can be considered a coping mechanism against the anxiety linked with fixation. Mediocrity, like cynicism and apathy, may still be possible outcomes of a grade-centric environment. Admittedly, this needs a standalone in-depth study.

⁵¹ Spyros Themelis, ed., *Critical Reflections on the Language of Neoliberalism in Education: Dangerous Words and Discourses of Possibilities* (New York: Routledge, 2021), 9.

The grade is an external motivator—either as a reward or a punishment, a bribe, or a threat. Several decades ago, the American democratic educator John Dewey had already spoken about the direct connection between the delivery of a dull classroom topic and the recourse to external motivators such as grading. Dewey observes:

...[i]f there is not an inherent attracting power in the material, then...the teacher will either attempt to surround the material with foreign attractiveness, making a bid or offering a bribe for attention by ‘making the lesson interesting’; or else will resort to counterirritants (low marks, threats of non-promotion, staying after school, personal disapprobation, expressed in a great variety of ways, naggings, continuous calling upon the child to “pay attention,” etc.)...But the attention thus gained...always remains dependent upon something external...⁵²

Many years later, the American educational anthropologist Susan Blum comments about grading as both an incentive and a deterrent. She asserts that “[g]rades are the quintessential form of extrinsic motivation: they reward for accomplishment. But they are also threats: if you don’t comply in every way, no matter how you feel about anything, you will be de-throned.”⁵³ Be an obedient imitator of the teacher, and you will get a high grade. Be an obstinate rebel of the system, and you will get a low or failing grade. In the minds of young educatees, the grade has become the ultimate carrot and stick.

The grade generates and accentuates classroom hierarchy, widening the gulf between the educator and the educatees.⁵⁴ The grade-giver—the teacher—is at the top. The graded—the educatee—is always below the grade-giver. When this is shaken deliberately (through a disrespectful behavior maybe) or accidentally (through an inquisitive question probably), the educatees are at once reminded—bluntly or subtly—of who the final grade-giver is. Grading situates the grade-giver in a strategic and advantageous position. The grade does not only signify the authority of the teacher. It also

⁵² John Dewey, *The School and Society and The Child and the Curriculum* (Chicago: The University of Chicago Press, 1956), 148.

⁵³ Susan D. Blum, “Just One Change (Just Kidding): Ungrading and Its Necessary Accompaniments,” in *UNgrading: Why Rating Students Undermines Learning (and What to Do Instead)*, ed. by Susan D. Blum (Morgantown: West Virginia University Press, 2020), 56.

⁵⁴ Yancey and Huot, “Construction, Deconstruction, and (Over) Determination,” 44.

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stresses their authoritative proficiency—the specialist in knowledge, the expert in labeling and classifying, categorization, and segmentation.⁵⁵ The “power dynamic in the classroom”⁵⁶ certainly takes the form of Foucauldian power-knowledge. In their analysis of Foucault’s *Discipline and Punish*, this is how Meghan Kallman and Rachele Dini explain power-knowledge as applied in the dispensation of grade to educatees:

Foucault describes how the techniques of power depend on an “understanding” of their target. To control something or someone, one must have “knowledge” of it. “Understanding” and “knowledge” here mean classifying the individual into one of several possible slots. For example, schools and universities keep transcripts of students’ grades. In the act of doing so, they are classifying young people as “A,” “B,” or “C” students and thus creating “knowledge” about the kind of individual each student is. Instead of contesting a “B” grade, and hence the university’s classification of them, a student may work harder to earn an “A” grade. In this way, the school or university exercises power over the student. Power and knowledge, then, are profoundly interrelated and depend on each other.⁵⁷

But the hierarchical divide caused by grading is not just binary—between the educator and the educatees. Rather, it resembles a stepped pyramid with multiple steps crisscrossing among the educatees themselves. Whole numbers become trivial distinctions, while decimal points become extremely meaningful to justify the ranking from number 1 to number 50. Valedictorian, salutatorian, summa cum laude, magna cum laude, best in Math, best in Science, row 4, row 1, section 2, section 21, novice, apprentice, proficient, outstanding. And who does not want to be in the upper chamber of the pyramid? Who does not fear to be relegated to the base? Bitterness and

⁵⁵ The educator is also often called a faculty member. Online Etymology Dictionary says that “faculty” is from the Latin word *facultas*, which means “power” and “capability.” Eventually, it pertains to an “ability in knowledge,” leading to its connotation as a “body of persons on whom are conferred specific professional powers.” Thus, the faculty is an embodiment of power-knowledge.

⁵⁶ Alfie Kohn, “Foreword,” in *UnGrading: Why Rating Students Undermines Learning (and What to Do Instead)*, ed. by Susan D. Blum (Morgantown: West Virginia University Press, 2020), xvii.

⁵⁷ Meghan Kallman and Rachele Dini, *An Analysis of Michele Foucault’s Discipline and Punish* (London: Routledge, 2017), 31.

envy become intense. Anxiety and self-doubt become commonplace. Competition and rivalry become systemic. One student is unsatisfied with a high grade after finding that others' grades are higher. Another one does not mind a low grade for as long as that of others are lower. Kohn's criticism about standardized testing might also extend to the resultant grading:

First, these tests contribute to the already pathological competitiveness of our culture, which leads us to regard others as obstacles to our own success—with all the suspicion, envy, self-doubt, and hostility that rivalry entails. The process of assigning children to percentiles helps to ensure that schooling is more about triumphing over everyone else than about learning.⁵⁸

If the school is predominantly an ideological state apparatus and secondarily a repressive state apparatus, following the French Marxist Louis Althusser,⁵⁹ we can further describe the school grade as “an apparatus within an apparatus” and, thus, properly be called primarily an ideological school apparatus and secondarily a repressive school apparatus. Laura Gibbs, another critic of grading, explains the coercive nature of grade-giving:

While grades aspire to be a form of feedback, the main function of grading is coercion, the opposite of freedom. We use grades to make students do things that we want them to do. We may have good intentions with our students' interests in mind, but that does not change the fact that we are using grades as a form of control.⁶⁰

And so, the grade urges obedience, silences the noisy, and domesticates the wild. The authoritarian banking educator is respected out of fear, recognized out of trepidation, and obeyed out of anxiety. The violence of the gunpoint (repressive state apparatus) is not so distinct from the violence of the grade-point (repressive school apparatus). Ira Shor, the well-known American critical educator, talks about his experience with his educatees at the college level:

⁵⁸ Kohn, *The Schools Our Children Deserve*, 187–188.

⁵⁹ Louis Althusser, “Ideology and Ideological State Apparatuses (Notes towards an Investigation),” in *Lenin and Philosophy and other Essays*, trans. by Ben Brewster (New York: Monthly Review Press, 1971), 155ff.

⁶⁰ Laura Gibbs, “Let's Talk about Grading,” in *UNgrading: Why Rating Students Undermines Learning (and What to Do Instead)*, ed. by Susan D. Blum (Morgantown: West Virginia University Press, 2020), 95.

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If they speak, they will fashion their words inside the vocabulary of the teacher's politics. When they write papers, they also try to copy the teacher's ideology to get a good grade... These educatees begin expecting lower grades for disagreeing with the teacher, or put another way, they "get by" through agreeing with the boss, the teacher.⁶¹

More interesting still is the grade's predominant function as an ideological school apparatus molding the educatee's perceptions, values, attitudes, and conduct to conform to the school's standard of right and wrong, acceptable and unacceptable, normal and abnormal. Comply so that you will succeed: conformism. Look for yourself only because others look for themselves alone: excessive individualism. The winner earns it through their intelligence, talent, and hard work: meritocratic feeling. The notion of a hidden curriculum will perfectly complement our claim here that the grade functions even more effectively at the level of ideology. The Canadian critical educator Henry Giroux describes the hidden curriculum as "those unstated norms, values, and beliefs transmitted to students through the underlying structure of schooling, as opposed to the formally recognized and sanctioned dimensions of the schooling experience."⁶² In other words, the official curriculum is the explicit text, while the hidden curriculum is the subtext. The official curriculum is on the surface, while the hidden curriculum is on the undercurrent. Some themes are taught effectively by teachers even if they do not deliberately and explicitly teach them. There are values that students effectively learn simply by being graded, even if they do not consciously study and desire to learn them. Giroux rightly argues that "what students learn in school is determined more from the hidden curriculum than from the official curriculum."⁶³

And so, this sustained discussion endeavors to show that an arithmomanic personality is fundamentally raised and formed in the school, specifically in a traditional authoritarian banking educational space with its perpetual disciplinary gaze positioned and perfected through the grade. The educatee realizes that life in the school revolves around the sacred number. Everybody looks up to it. Educatees always need to count and be accountable.

⁶¹ Freire and Shor, *Pedagogy for Liberation*, 183–184.

⁶² Henry Giroux, "Developing Educational Programs: Overcoming the Hidden Curriculum," *The Clearing House*, 52:4 (December 1978), 148, <<https://www.jstor.org/stable/30185121>>.

⁶³ *Ibid.*, 148.

Everything must be accomplished for the grade. Everything that is accomplished must be graded. “Is that included in the test?” “Is it graded?” “Why am I just getting this grade?” “Why is she higher than me?” “Does teacher A give high grades?” “Does teacher B flunk students?” “Pay attention.” “Do the assigned readings.” “Take note of everything the teacher says.” “Memorize all these for the test.”

The overpowering efficiency of the grade as a disciplinary tactic leads students to become obsessed with the grade—a manic reaction to high grade and a phobic reaction to low grade. Phobia is just another side of mania. The latter avoids the object of fear while paradoxically attending to it; the former is fixated on the object of desire. It is not by accident that Freud analyzed obsessions side by side with phobias.⁶⁴ Whether it is phobic or manic, the compulsion is to count the graded achievements and to compute the achieved grades. Starr Sackstein, an advocate and practitioner of ungrading, states that

[at] some point in elementary school—or some may argue when systems start to test—the shift away from sheer curiosity to an obsession with knowing the numbers begins. Whether it is the parental influence, the teacher control, or the student’s drive to be perfect, students seek the elusive perfect score as it is the only way they can feel successful.⁶⁵

Just as how Foucault meticulously explains the efficiency and effectiveness of modern penitentiary innovations and military trainings to create the disciplined subject, the tactic of grading is so efficient and effective in forming docile minds and bodies.⁶⁶ The soldier ultimately self-regulates by standing, walking, and talking the way he was trained and disciplined according to the army’s norms.⁶⁷ The graduate ultimately self-regulates and self-monitors by bowing to measurement and joining the quantification cult the way they were trained and disciplined according to the school’s valuing of the grade. It will not be surprising that any move to ungrade or to imagine a non-traditional way of assessment will be met with skepticism, ridicule, or resistance from all corners—from administrators and teachers, from students and parents, from the media and the netizens. Indeed, a disciplinary

⁶⁴ See Freud, “Obsessions and Phobias.”

⁶⁵ Starr Sackstein, “Shifting the Grading Mindset,” in *UnGrading: Why Rating Students Undermines Learning (and What to Do Instead)*, ed. by Susan D. Blum (Morgantown: West Virginia University Press, 2020), 77.

⁶⁶ “Thus discipline produces subjected and practiced bodies, ‘docile’ bodies.” Foucault, *Discipline and Punish*, 138.

⁶⁷ Kallman and Dini, *Analysis of Foucault’s Discipline and Punish*, 31.

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mechanism does not only generate a willing, happy, and obedient subject. More interestingly, it produces its believer and advocate who defends its fairness and reasonability. Maybe this is how we can further extend the idea that Foucault conveys in the following passage: “The perpetual penalty that traverses all points and supervises every instant in the disciplinary institutions compares, differentiates, hierarchizes, homogenizes, excludes. In short, it normalizes.”⁶⁸ Indeed, the arithmomanic mind is now fully trained to be productive and to participate in the metric society, which is one of the by-products and engines of the contemporary configuration of capitalism.

Final Remarks

Two things must be clarified to conclude this exploration. First, I do not claim a simplistic, smooth, stable, and unilinear movement from school life to societal roles. With Foucault, I maintain that power relations are so complex that one must always consider antagonisms and particularities, thresholds and ruptures, overlaps and discontinuities. Inspired by the brilliant analysis of Mau, Muller, and the theorists of metric society, I emphasize that the social world is multifaceted, and any attempt to absolutize one factor in the pervasiveness of number fetishism will miss the point of valuable theorizing. This critical exploration, therefore, is a modest contribution and supplement to the ongoing theorizing about the quantification cult.

Second, I don't commit numbers to the fire. The world stops functioning effectively without measurement. Quantification is valuable and necessary. Sorokin states, “[a]lready in ancient Egypt, Babylonia, India, China, and Pythagorean Greece, the logical elegance of mathematical thought and its fruitfulness in the analysis of empirical phenomena were fully acknowledged.”⁶⁹ Muller maintains that “there are settings in which metrics, in its various forms, works well,”⁷⁰ and the crucial part is “knowing how much weight to give to metrics, recognizing their characteristic distortions, and appreciating what can't be measured.”⁷¹ Gilles Paquet reiterates that “there is nothing inherently wrong about quantifying anything that can meaningfully be quantified.”⁷² Using the language of critical theory tradition, Mau affirms that quantification can have emancipatory potential.⁷³ In the

⁶⁸ Foucault, *Discipline and Punish*, 183.

⁶⁹ Sorokin, *Fads and Foibles in Modern Sociology*, 102.

⁷⁰ Muller, *The Tyranny of Metrics*, 39.

⁷¹ *Ibid.*, 183.

⁷² Gilles Paquet, “Quantophobia,” in *Optimum Online*, 39:1 (2009), 20.

⁷³ Mau, *The Metric Society*, 17.

issue of school grading, assessment of knowledge and learning gained by educatees is not only essential but also fair and just. But there can be assessment without grading⁷⁴ and “we must now strive for a new biodiversity of assessments.”⁷⁵ This is a topic, of course, that must be taken seriously in a separate study.

The problem is that our society has, David Shaywitz writes, “taken a tool, an approach, a mindset...and started to apply it almost indiscriminately, with a near-religious fervor.”⁷⁶ The issue, according to Kenneth Cukier and Viktor Mayer-Schönberger, is that we “...become so fixated on the data, and so obsessed with the power and promise it offers, that we fail to appreciate its inherent ability to mislead.”⁷⁷ And so, we are concerned about the authoritarian banking educators deploying the grade as the ultimate carrot and stick, the classroom becoming a space for competition at the expense of cooperative living, young minds rehearsing for hierarchy and order at the cost of heterogeneity and disruption, a populace forgetting that the most valuable things in education are those that escape grading and measurement. We are concerned about a banking pedagogy and its inherent accessory – the authoritarian educator and its “perpetual penalty.” For the obsession with quantification is also driven and intensified by oppressive and domesticating classrooms, creating docile minds and bodies that are mystified by numbers and fueled by quantophreniac zeal yet unable to make sense of the interests, values, and normativities inherent in the dictatorship of data and misappropriation of measurement.

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⁷⁴ Assessment of learning without necessarily grading the learners is not a novel idea in educational research and practice. For some examples, see the following: Susan D. Blum, ed., *UNgrading: Why Rating Students Undermines Learning* (Morgantown: West Virginia University Press, 2020); Alfie Kohn, “From Degrading to De-Grading,” in *High School Magazine*, 6, no. 5 (March 1999): 38–43, <<https://www.alfiekohn.org/article/degrading-de-grading>>; Stephanie S. Erickson, “The Game of Grades and the Hidden Curriculum,” in *The Physics Teacher*, 60, no. 5 (2022), 398–399, <<https://doi.org/10.1119/10.0010403>>.

⁷⁵ Ghislain Deslandes, “A Critique of the Tyranny of Metrics and Figures,” in *The Choice* (18 March 18 2021), <<https://thechoice.escp.eu/tl-dr/a-critique-of-the-tyranny-of-metrics-and-figures>>.

⁷⁶ David Shaywitz, “We Are Not a Dashboard: Contesting the Tyranny of Metrics, Measurement, and Managerialism,” in *Forbes* (24 December 2018), <<https://www.forbes.com/sites/davidshaywitz/2018/12/24/we-are-not-a-dashboard-contesting-the-tyranny-of-metrics-measurement-and-managerialism/?sh=510d6a63315b>>.

⁷⁷ Kenneth Cukier and Viktor Mayer-Schönberger, “The Dictatorship of Data,” in *MIT Review* (31 May 2013), <<https://www.technologyreview.com/2013/05/31/178263/the-dictatorship-of-data>>.

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