

# He Who Feels It, Knows It: Rejecting Gentrification and Trauma for Love and Power in Mathematics for Urban Communities

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*He who feels it, knows it. – African Proverb*

It has been almost 25 years since Tate’s (1994) “state of the union address” on mathematics education for Black students invoked Woodson’s (1933/1990) passage as a clarion call to reject the foreign “pedagogy” of mathematics for Black students:

And even in the certitude of science or mathematics it has been unfortunate that the approach to the Negro has been borrowed from a “foreign” method. (p. 4)

Having read Tate’s article soon after beginning my PhD studies (*circa* 2000), it was one of my earliest awakenings in the field. It had crystalized a prior visit to a Wisconsin classroom on culturally relevant pedagogy taught by Professor Gloria Ladson-Billings and the admonition she spoke to me after class: “Lou, *we* don’t need another study on functions” (referencing the cognitively guided instruction dominant mathematics culture at my university). I understood this *we*. Our people. My people. It was the *felt* presence of my community and communities of the African and Caribbean diaspora upon whose hopes and dreams this work is pursued. Yet, Tate’s call was the harbinger of a more intrusive element in the mathematics of our people—the mathematics education reform enterprise itself.

## He Who Feels It Knows It

From the very onset of the founding movement of the *Journal of Urban Mathematics Education* (JUME) with my Georgia State University colleagues David, Christine, Pier, and Ollie,<sup>1</sup> the goal was to take up Tate’s (1994) call to challenge the foreign spaces in mathematics. The tipping point of the work was to create a truer, edgier, more caring environment to engage the “urban” than was available. In 2008, mathematics educators in the urban field found it necessary to sidestep

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<sup>1</sup> The original JUME Editorial Team included me, the founding editor in chief, and associate editors Pier Junor Clarke, Ollie Manley, David Stinson, and Christine Thomas.

mainstream mathematics journals, risk promotion and tenure, form deeper connections outside the reach and focus of their respective university bases, soul search, and then make broad leaps in search of a promise land of scholarly and professional pasture not yet seen in mathematics education. The scant treatments of urban topics (e.g., equity, culture, race, language) present in special issues and one-offers in mainstream publications masked the stories of rejection, discounting, shaming, blacklisting, and even public humiliation experienced by urban mathematics scholars. Luckily, these testimonies were heard out in the safe spaces carved out at conferences, national and regional meetings, summits, lunch rooms and countless happy hours. It was a time when engaging the status quo came with great risk. I recall that even after it was clear *JUME* would be a reality, I was called into the office of the associate dean to be relayed a message by the dean that beginning a scholarly journal was not the work of tenure-seekers—most of us were not tenured at the time.

And now, thousands of pages later, a scholarly line of resistance has been drawn in the sand in and through *JUME*. Because the very notion of urban and its use in mathematics has been troubled and re-focused (and re-re-focused) as an ongoing concern, the public stories of the mathematics educator have been recognized and installed as critical to producing the urban. Even more importantly, more questions and concerns have given rise to what the next 10 years might look like. *JUME* has become a safe space for edgy, moving work. Its impact on my own life has been unmistakable and its presence over the last decade has beckoned a far more brazen question than many of us have been able to ask in open quarters: Can mathematics reform be trusted? Is it a safe space for *our* people?

In the space that follows, I wish to expand on my own reconnaissance around those questions and my current resolve as one experiencing mathematics in urban communities across the diasporas. Much of this time in the last 10 years has been spent in public education and mathematics in Bermuda, participating in Black community action and development and exploring mathematics in the Caribbean, United States, and Africa. These experiences have led me to Black communities in the Cayman Islands, Canada, Ghana, Bermuda, and the United States. I find it fascinating to include these in the mathematics space of urban for a couple of reasons: (a) to extend the inclusion of urban issues in mathematics past the geographical and editorial boundaries of the United States into the invisible Caribbean and African diasporas, and (b) to affirm *JUME*'s "beautiful" vision of the urban as a safe space where the socio-political and -cultural complexities of mathematics teaching and learning in Black (Brown and "Othered") communities can be discussed.

My lived realities have taught me that the (mathematics) experiences of Black communities have little to do with geography (as one might think of urban) and more to do with the complexities of colonialism, racism, and socio-cultural politics. These multiple lived geographic spaces have become a good place to think about *we*. In looking at my own "identity crisis" in an early editorial for *JUME* (Matthews,

2009), I suggested that we must begin to redefine mathematics education as a movement of people (as opposed to content and method). In reality, school mathematics has most often embodied a movement *on* people. My feeling is that communities appear helpless to resist the endless parade of initiatives driven by various political entities, powered by a limited view of the nature of mathematics (as abstract, independent, and absolute), and an even more restrictive view of *who* should have access to mathematics. This scenario has played out “for real, for real” in the urban schooling spaces I have been blessed to live, work, and frequent over my life. In short, this mathematics reform “ain’t been for us,” and it *feels* foreign. And in the words of the African proverb and the legendary Bob Marley, “he who feels it, knows it.”

Since that time, I have been grappling with an ever-evolving set of tensions around my public leadership narrative in mathematics and STEM (science, technology, engineering, and mathematics) education. The public narrative involves the intersectionality and integration of lived experiences and values in and around mathematics (my story); my connectedness to community(ies) within the African and Caribbean diasporas (our story); and the *relevance*, authenticity, and positioning of mathematics reform as a liberation force (our mission). The more time I spend in these communities, the more this mathematics reform feels foreign. Because he who feels it, knows it, I offer insight into these tensions here as I share four moments of the last 10 years.

### **Mathematics Reform as a Gentrification Force**

I relocated to a southeast neighborhood in Washington, DC in 2017. I had been to DC many times in the last 20 years, but the demographic and economic shifts had never been more apparent than in this southeast neighborhood. Once a predominantly Black neighborhood shared with naval buildings and a/the shipping yard, the transition into a gentrified space was immediately felt by me. Complete with a cornerstone Starbucks, a plethora of salad shops, gyms, boutique pizza joints, pet stores, and grooming salons. All of these changes are headlined by a boardwalk along the river with new construction projects of condominiums, a stadium, and residences who have replaced the old neighborhood. Remnants of the old are now further across the river where predominantly Black neighborhoods and schools exist under the ever-hanging threat of gentrification. My neighbors are mostly White as well as the thousands of people that visit the area daily to shop, eat at the restaurants, or attend the baseball and soccer games. Each morning, dozens of Latino and Black men arrive to work at the construction sites constructing new apartments, while similarly, many of the workers at coffee shops and grocery stores are people of color. The cleaners and concierges of my apartment building are also people of color. In the midst of this, I am never more clear of my conflicted position. Admit-

tedly, I am double-minded: wanting to experience the familiarity and safe space of Black community yet situated, and consequently pulled by the relative comforts of urban reform. I travel out of the neighborhood each week to my Black church (they are scarce) and my Black barber (even more scarce).

The *way* mathematics reform *happens* looks and feels like gentrification, a foreign force which devalues and displaces Black and Brown communities. Each day I am aware of the clear lines of division that are framing my comfort. This compromised space is similar to my growing positionality in mathematics and reform. It happened recently visiting and working with teachers in Ghana in one village's junior high school. Even here, the remnants of past mathematics reform efforts to engage Ghanaian children were evident as teachers followed a United Kingdom styled reform textbook that had been refined to include Ghanaian names, while not allowed to use the native Ashanti Twi to teach (the children spoke this dialect of the Akan language in the playgrounds and in informal circles). Similarly, a reform narrative had already started, centered around how unprepared and unready students were for higher level of study—a common refrain in urban spaces.

For purposes of this conversation, anyone familiar with a gentrification process can trace at least these four characteristics: (a) degradation and devaluation of the existing areas and spaces, (b) displacement of the established people and narrative, (c) replacement with the new design, and (d) dissemination of the new narrative in the “new” place. Think about the motivations for how we have been taught to work as reformers. First, neighbourhoods are deliberately, as unintended consequences of larger societal forces, unable to sustain the necessary conditions for economic, physical, social, and communal growth. The neighbourhood becomes the “hood.” In retrospect, every new curriculum, initiative, or program I have ever encountered in mathematics—as teacher, professor, researcher, administrator—has first worked to create or exploit a narrative in which the established paradigm of mathematics and school practices was first demonized. From Spartanburg, South Carolina to Gomoa Fetteh, Ghana, the work of improving mathematics has focused on addressing achievement gaps, reworking traditional environments, motivating learners to pursue mathematics or STEM, and answering national crises (economic mostly) that all headline an urgent narrative communicated powerfully throughout the pipeline. The narrative is set and acted upon.

Struggling learners, traditionally underrepresented, multi-language speakers, minorities, and Black boys and Black girls are named, identified as the *displaced*. The displacement can be physical if one thinks about the tracking and intervention solutions in some school, but it is almost always a displaced mathematical and cultural identity. The displaced become the face of the (equity) campaign and often viewed absolutely and synonymous with the narrative in much the same way distressed neighborhoods are *ghettoized* in the minds of the police and potential residents. The mathematics classrooms of urban children are likened unto abandoned

buildings, housing poor quality educators and resources, and hard to staff. In response new initiatives, curriculum, products, and interventions, creations of the mathematics education enterprise, all representing the new design are deployed. Finally, the new narrative (when this works) is heralded usually tied to achievement scores and assessment. By the time new initiatives arrive in the community, the deficit narrative surrounding people and practices have usually been frequently articulated. This one-sided interrogation of urban communities works to establish a dominant power position on the behalf of mathematics education reformers. This process of reform is not dissimilar to the first sighting of colonial fleets on the shores of new lands. In this role, mathematics agents often play a policing role—to enforce non-deviation from new narrative.

Until interrupted, I was being trained to tacitly accept that the very nature of mathematics reform was good for our communities. The promotion of “good” mathematics teaching and rich mathematics tasks and opportunities were at the heart of mathematics for all doctrine. Yet, seeing mathematics reform as gentrification is a far more palatable position as it has allowed me to organize for resistance and liberation more effectively. Resistance is a natural orientation for Black and urban communities. This stance allows community activist to: (a) identify the hidden, unaddressed drivers of seen change; (b) organize protection of hidden or neglected legacy and wisdom that might otherwise be ignored; and (c) galvanize renewed community-building efforts in ways that resist displacement. Such a positioning may allow us to place at the forefront the beauty and power of urban environments. Returning to that Ghanaian school mentioned earlier, after several days, I was blessed to unearth counter stories centered on the use of Twi dialect, cultural mathematics experiences (students playing marbles at recess), and a communal identity among students (witnessed in the village)—all, outside of my espoused mathematics education domains.

### **Toward Math as Black (Brown and Urban) Power**

A few years ago, I was involved in a protest on the Cabinet grounds of the Bermuda Parliament. Thousands of civil service workers over the course of several days had left work to protest the forced extension of furlough days, a budget cutting measure offered by government workers to reduce government expenditures. Bermuda had not yet recovered from the devastating global recession of 2007-08 and all government agencies were reeling from systemic cuts, early retirements, and attrition. In the absence of cost of living increases, the furloughs were *defacto* pay cuts felt deeply by the thousands of government workers representing the working middle class. In the days that followed, I wrestled as the Acting Commissioner for the Department of Education over whether to join the ranks of the people who were steadily amassing or continue to work as senior management (although we were all

impacted). I made the decision to join the ranks of this now historical occupation, not without escaping serious professional reprimand.

About five years ago, the Black diaspora was shaken irreversibly with a series of protest movements in the United States, Black Lives Matter, spurred on by the public deaths of Black men at the hands of police officers from Ferguson, Missouri to New York City, New York. This movement and its impacts have spread throughout urban communities and became a marker for modern protest for Black communities around the world. Most notably, Black Lives Matter drives particular attention to the status of racial equality and equity across a number of social contexts. It underscored a renewed resolve amongst Black communities, Black power, to amplify their right to be treated humanely, to be seen, to have access, and to be acknowledged. Similar social media campaigns #blackgirlmagic, #blackboyjoy, #blackgirlsrun and Facebook groups like Black Educators Rock with over 10,000 members speak to the online ways Black communities have taken control of their own spaces of reform. Add to this the phenomenal appeal of the movies *Hidden Figures* (Gigliotti, Chernin, Topping, Williams, & Melfi & Melfi, 2016) and *Black Panther* (Feige & Coogler, 2018) in the Black diaspora and the last few years have been heralded by a wave of empowering resistance narratives from academic to popular culture.

In most places I have been, these movements of community, following some crisis, have powered the words *strong Black community* as a collective unifying theme. In Bermuda, this cry arose after the gang and gun violence went viral in 2009 shortly after my return home. A group of us formed the group Rise Above Bermuda to organize community to engage the rash of violent deaths among Black men. As in much of these experiences, there are at least five elements for strong Black community that resonate: Community Health (Are we all okay?), Community Safety (Is this space safe?), Community Ownership (Are we in control of our own resources and destiny?), Community Sustainability and Legacy (Can this be held in our institutions?), and Community Pipeline (Is there for all of us a path for current and future generations to follow?). Because mathematics reform ideology is not connected to strong Black community, it does not adequately consider these questions. For instance, in the most recent gathering of mathematics resources producers and facilitators, I found only two Black entrepreneurs. How do we challenge the producers of mathematics goods and services that proliferate the field?

Does mathematics power mean Black power? Martin's (2018) presentation at the 2018 National Council of Teachers of Mathematics Annual Meeting and Exposition planted a stake in the ground for a divergent path from mathematics reform and toward Black and urban communities. Martin declares: "We define black liberatory mathematics education as the framing and practice of math education that allows Black learners to flourish in their humanity and brilliance, unfettered by whiteness, White supremacy and anti-blackness" (para. 4). This statement is what I

am terming as a declaration of independence from (existing) mathematics education reform and expands on three components critical to Black power: (a) prioritizes liberation, (b) rejects mathematics institutions and organizations entrenched in White supremacy culture, and (c) led first and foremost by “liberation-seeking” members of the Black community. Although increasingly academic work is including liberatory perspectives in some spaces, rejecting mainstream reform institutions and activities that propagate the invisibility of Black community in mathematics represent great difficulty.

It is not blasphemy to consider whether this thing we call mathematics education operates in the explicit interests of Black and urban communities. Why are so many publishing, promotional, exhibit, and professional development interests missing people of color in ownership, contracts, and presence? At the last annual gathering of the NCTM, the largest mathematics education organization in the world, I found only two Black entrepreneurs in a sea of commercial exhibitors (over 200 by my count). While this anecdote is a limited analysis, my felt experience in scores of these conferences and meetings over the years has borne out limited representation of Black owners and producers of mathematics. Are urban communities capable of producing the products of innovation needed for addressing mathematics excellence?

The notion of mathematics reform as Black power in Black communities is suitable antidote to the gentrification metaphor. In leading mathematics reform, the central unit of operation is the school, or some element of schooling such as an “achievement gap.” The closing of achievement gaps does not mitigate the existence of excellence, or strong, healthy urban community. This omission was made clear to me when I returned home after finishing my doctoral degree. I began my career poised to engage classrooms and schools by addressing the usual “math speak”—rich tasks, orchestrating classroom discourse, connections, problem solving, representations, reasoning, and so on. My community, however, wanted Black male empowerment, affordable housing, political leadership, church rebuilding, jobs creating, engaged gang violence entrepreneurship, and remaking public education. It wasn’t that mathematics wasn’t critical. It could not be actualized (or *prioritized*) outside of real life, the felt impacts of infrastructural and political dimensions of building a strong Black community. The reform imperative (universally given to me in Illinois) I had long rehearsed was inadequate to interrogate life in Bermuda as constructed. Thus, in schools the enterprise of mathematics reform, complete with rationales, resources, and initiatives represented an intrusive platform placed onto, not into or out from our community.

Scan any of the above movements and what stands out is that they are aligned with community priorities, safety and defense, filled with organic, mobile community leadership, aligned with parental and family empowerment, organized around community spaces, and driven by local narratives and legacies. To see mathematics

as Black power is to envision strong Black community as the object of affection. Largely, mathematics education infrastructure has not drawn from this power base. Such a vision of how this might work was imagined in the fictional nation Wakanda in the movie *Black Panther* (Feige & Coogler, 2018). The wonder of Wakanda is that Black excellence is a critical power base for strong Black communities. Indeed, strong Black communities have always been rooted in such. In resistance, we reposition and realign mathematics reform (language, resources, narratives, affect, policy) with strong Black communities drawing from a movement of Black power, leaving them fortified for the challenges ahead. In short, several elements are critical to Black power discussion: (a) Black wisdom, (b) Black entrepreneurship, (c) Black resources, and (d) Black narratives. In Black wisdom, the base of mathematics reform would draw from the remastered stories of Black mathematicians, community activists, historical community problems overcome, efforts. In Black entrepreneurship we redouble our efforts to create, own, and distribute mathematics products that impact our children. In Black resources we commit to using the tools of liberation and lastly, we create, unarchive, celebrate, and reposition community narratives as mathematics narratives. These are of course incomplete. Suffice it to say, we must question whether movements of urban education can be adequately housed in the academy, national organizations, and even our schools. They must be housed in safe spaces of Black community.

### **Mathematics Experiences as Racialized Trauma**

*I left her office feeling nothing but shame because of my gender. No one encouraged me in STEM. I was seen as just a black girl who happened to outperform her peers.*

My good friend, Kristie (pseudonym), shared her experiences with me as I was preparing for a presentation in 2017 on past mathematics experiences in the Black community. She had recently connected me to a Massachusetts Institute of Technology professor doing some culturally relevant work in Haiti, and as I was probing her personal interest in STEM, I asked her to describe her memorable moments in mathematics. She began to discuss a particular episode, a turning point, where she had been declined entrance into a STEM program:

I declared math as my major in undergrad college applications. A university in Boston invited me for an interview. The admissions dean was a woman—I sat in her beautiful office, nice leather chair, and she said without apology that if I were a male applicant, she would've accepted the presentation of my application.

She left STEM soon after and pursued a job in international business. After several years, she has begun to revisit STEM projects in her native homeland of Haiti. Interactions like these with adults in my community occur almost daily, or at least any

time I share my role in mathematics. The detail and emotion that accompanies these interactions is always evident. This troubling exchange within the mathematical sciences pipeline, and its gatekeepers—educators, schools, colleges, counsellors—is played out every day in our communities.

Over the last 25 years of listening to stories of struggle and resistance from within and alongside the Black community, I have come to realize the secondary impact of these stories on the educators that tell them. They must not only capture but also relive the collection of disappointments in their own personal mathematics experiences. In the way that I have experienced these accounts, they read more like racialized trauma. Which is far different from locating these experiences as mathematics anxiety, something my early training emphasized. In the article “Healing the Hidden Wounds of Racial Trauma,” Hardy (2013) compares racial oppression as a “traumatic form of interpersonal violence which can lacerate the spirit, scar the soul, and puncture the psyche” (p. 25).

Hardy (2013) describes the *assaulted sense of self* in racialized trauma as overexposure to dehumanizing experiences, or devaluation. The fact that “the source of their hurt is often confused with distracting secondary symptoms ranging from hopelessness to acting out behavior” (p. 25) is but a distraction. One such distraction might be the focus on mathematics anxiety. When I meet people who profess this popular label a deeper probe often reveals hidden stories of oppression. The end product of mathematics anxiety is exclusion. While much is said about mathematics anxiety, little is written on the longitudinal impact of exclusion on urban families and communities. Communities of color describe on a daily basis episode of failure, classifications, denials of access, and being overlooked in mathematics. Members and the mathematics scholars that tell their stories experience this same hammering at the hands of the mathematics enterprise in schooling.

It occurred as easily as with my Ghanaian-American Uber driver, Cofi, in Washington, DC during a casual trip to an appointment; he deplored the one-size-fits-all teaching that “killed” his opportunity to do mathematics in Ghana. Having heard these stories before, it would not have normally stuck on me had it not been for my subsequent visit to some mathematics classrooms in Gomoa-Fetteh, a small town outside Accra, Ghana. There, I witnessed mundane, British-text styled lessons taught with little intent in teaching mathematics for use beyond junior high school, and certainly not for self-empowerment.

The significance of Cofi’s story was punctuated in my visit to the African Institute of Mathematical Sciences (AIMS) in the coastal town of Biriwa, Ghana, one of nine across the continent designed to recruit talented African students into careers in the mathematical sciences. The AIMS in Ghana had enrolled 37 students in various post graduate M.Sc. programs, far less than its planned complement of 50, with a third being women and one-third Ghanaian. The approximate 13 Ghanaian students (Ghana’s population is approximately 29 million for context), representing

fractions of a percentage, was a critical confirmation of the lack of opportunity and access in mathematics in the African diaspora—still *felt* thousands of miles away, and years later by my Uber driver. These experiences were soberly contrasted with a visit to the Cape Coast slave castle, one of many, where millions of lives were traumatized and lost to one of the most atrocious systems of human depravity imaginable. Similar to the parallels of slave castles on the coast with colonialism and slavery, mathematics exclusion is a far-reaching system, punctures of which are far-reaching and long-lasting for the Black community.

The story is also similar for Stan, my former undergraduate student, an African American man now in his late 30s who recounts how he was tracked (along with countless African Americans) in classrooms across the South into non-college-pointing, remedial mathematics. The classes were disguised as a slower journey into algebra over two years (as opposed to one) but rarely every reached past general mathematics. As he remembers, they were designed for students who weren't going to college. I can't forget his words, recalling the trauma, as if it had just happened, "...[stammering] but I wanted to go to college." After several attempts, much tutoring, counsel, and grit, Stan not only passed but is now a principal in South Carolina and currently completing his doctorate at Clemson University. His story is symbolic of countless other stories where urban community members carry with them—stories of hurt and pain associated with interactions with status quo mathematics policy, racist and chauvinistic deliberations, and hostile expectations. None is more powerful than my most recent experiences at the 2018 NCTM meeting: a mathematics instructional coach, a Black man in his 40s who attended an NCTM session I facilitated several months ago. As the audience was asked to examine the experiences that led to their empowerment or un-empowerment in mathematics, he notably left the room and disappeared for a length of time. He returned and sometime after the session he came up to me and revealed that he was in tears as he revealed the trauma of that high school teacher who told him he would not amount to "shit." He admitted that he went through his entire college experience and early career with those words chasing him. Our session allowed him to release for the first time; he left to call his wife midstream to express himself. As the reggae song goes "I could go on and on, the full has never been told." As he recounted to me, I went back to the words of my own college professor: "Maybe you aren't cut out for this!"

Taken together these experiences of trauma in urban communities represent the *collective* assault felt by the mathematics enterprise. The unwritten rules of mathematics and science exclusion and promotion have lasting generational effects in communities of color and are swifter and longer lasting within communities situated in the Caribbean, United States, Africa, and the African and Caribbean Diasporas. My encounters with the multitude of instances of trauma in classrooms and schools surrounding mathematics have convinced me that it may be more useful to

tackle failed urban mathematics experiences as racialized trauma and begin to triage and treat Black families and their educators. Because of the longstanding experience in other contexts, I find Black communities better organized to countermand racialized trauma (vs. mathematics anxiety) in real, meaningful ways. My church, for example, has a social worker on call for every service. What might a similar approach look like across the urban mathematics landscape. Hardy (2013) outlines eight steps needed to engage the effects of racialized trauma which I relate to mathematics: Step 1 – *affirmation and acknowledgement* of racialized experiences in mathematics; Step 2 – *create space for race* through focused conversations about race in mathematics (vs. equity or diversity by association); Step 3 – *racial storytelling* where personal experiences of racial trauma in mathematics are amplified; Step 4 – *validation* of Black experiences, worldviews, and origins in mathematics; Step 5 – the *process of naming* is employed to “affix words to racially based experiences” that offer “external and consensual validation to racially oppressed youth and helps restore their voices” (p. 28); Step 6 – *external devaluation* factors that inhibit access, representation, and success are openly confronted in mathematics environments and structures; Step 7 – resources that *counteract devaluation* and act as a “buffer against future assaults” (p. 28) in mathematics are harnessed and positioned; and Step 8 – *rechanneling rage* not to rid students of their rage of racialized trauma in mathematics “but instead to help them be aware of it, gain control of it, and ultimately to redirect it” (p. 28).

In considering Step 7, counteracting devaluation, I think about how Bermuda and other Caribbean islands have had to organize to prepare for hurricane assault, particularly when evacuation is not an option. In Bermuda, the machine is impressive and the loss of life and time to recover is minimal. An Emergency Measures Organization of representatives from all essential services and agencies is activated to centralize, marshal, and direct all critical resources and information with one goal in mind: minimize disruption and facilitate restoration. In a similar way, mathematics reformers would envision potential and recurring mathematics experiences as forces of disruption. A natural by-product of this mindset might be *engineering* a mathematics pipeline of explicit trauma-responsive policy, programming, curricula, and structures that acknowledge and circumvent mathematics disruption in urban community.

It is probably already evident that the aims of *JUME* in its conception directly address several of the eight critical steps to counteract racialized trauma in mathematics. It is also clear that there are growing number of therapeutic micro-movements across mathematics that hold similar ideals. A recent meeting of Mathematics Education Scholars of Color (MESOC) provided just such healing space for me in the spring of 2018. For years the Benjamin Banneker Association provide great opportunity for my colleagues and me to chase validation of Black excellence. There are currently Facebook groups, chats, and a growing Twitter community ded-

icated to providing just such opportunities. Building a trauma-responsive pipeline to combat racialized trauma in mathematics is a next level of work, and of course, one that may place us in direct conflict with the mathematics education enterprise. But they who feel it, know it.

### **Toward Mathematics as Love**

**Me:** *I love you Nana*

**Nana:** *Love don't pay the bills!*

My Nana said the above statement to me once when I was little, and later in my adulthood we would reenact the exchange every chance we got. Joke aside, the statement was a powerful reminder for me that I lived in an exacting world not ordinarily concerned with my feelings. This final perspective is written as a follow on and admittedly a work in progress. I have always loved mathematics, but I have often wondered if the relationship is mutual. The last powerful moment to acknowledge is found in hearing Christopher Emdin's keynote address to several thousand mathematics educators at the 2018 NCTM Annual Meeting and Expositions which was a catalyst for a new public perspective of mathematics for me. Addressing several thousand mathematics educators, part of the way through his speech, he proclaimed (paraphrasing): *I just want a pedagogy of love*. This sentence captured his sentiments and forced me to re-boot, to come clean again, in public narrative fashion, with my own voice. In one sentence, I was forced to connect my social, personal story to my professional story. Before this moment, the words in my professional discourse always included: "rethink," "critical discourse," "resistance," "oppositional"—but never "love." I suspect like others, I resisted including an emotional tie to this work, particularly love, as the underlying motivation of the work. Yet, it was true. I believed (though cannot remember ever proclaiming) that mathematics could be experienced in a way that brings people together—in love. This belief may have something to do with my first doctoral professor, a stalwart.

The first wave of the culturally relevant movement focused on utilizing culture in ways that supported mathematics learning. The second wave of efforts on social justice (an original component of culturally relevant pedagogy [CRP] rendered invisible by mass adoption) center around countering the impacts of injustice and aligning mathematics practice in solidarity with self- and collective-liberation. What I have seen in practice are now waves of practitioners who attempt to do social justice, culturally responsive practice as a form of methodology—as a practical response to achievement gaps and other gap-conditions. I fear we have not rooted CRP in what is its most powerful driver: a deep abiding love of our people and our communities. To espouse this condition is to re-define or re-humanize mathematics, teaching and learning, and its purposes for urban communities. That is, to articulate

a vision of mathematics that can reside closer to human condition, rather than simply operating on it. My team is currently reading *Annual Perspectives in Mathematics Education 2018: Dehumanizing Mathematics for Black, Indigenous and Latinx Students* (Goffney, Gutiérrez, & Boston, 2018) for our book study as we frame mathematics coursework for prospective teachers. The work of re-humanizing mathematics lends itself to repurposing *mathematics as love* because the act seeks “connections, joy, belonging” (Gutiérrez, 2018, p. 4) as part of the mathematics experience.

Mathematics as love is a counter-space to those who overly tout the beauty in mathematics. Under this public narrative, mathematics, and particularly, its beauty is often stated referencing *exquisite* (another mathematics word ported into elite language) abstract shapes, processes, and algorithms are presented as objects of beauty. I have often heard those who have been really successful in professional mathematics brag about the ability to see it as beautiful. There was a movie several years ago entitled *A Beautiful Mind* (Glaser & Howard & Howard, 2001) to capture the narrative of one with one such ability. Indeed, popular television media has depicted beautiful mathematics and beautiful minds as in *Good Will Hunting* (Bender & Van Sant, 1997), *Scorpion* (Manson et al., 2014) and *Numb3rs* (Scott & Scott, 2005). It is no coincidence that the main actors cast in fictional Hollywood productions are White men, which works to perpetuate them as the *only* doers of important mathematics. Such a focus is incomplete. It promotes internal devaluation because people who cannot experience, understand or see the beauty of *this* mathematics are led to believe that they do not possess the capacity to do mathematics. The opposite is true. There is beauty in people, in communities, in the activities that they engage in, culturally, politically, economically, and spiritually. These communities do mathematics and there is beauty in that. Mathematics as love captures that orientation.

Mathematics as love is more fanciful speech though. Rather, it is a rallying cry. One, not just for the classroom, but a gut-check call for scholars and educators to reassess the aims, motivations, and the public words around our work. It is a call to reassess the inside dealings of our committees, our conferences, our meetings, and our online relationships. The recent attacks on mathematics scholars of color and others was made easier partly because of the frequent hostilities exuding in environments in our personal professional spaces, where many of us call academy. The competitive, restrictive, and elite clubs of mathematics education have not only contributed to perpetuation of the trauma felt by communities of color, simultaneously, this environment have made it easier for racist entities to attack and isolate. Believing that our field is bonded to the human experience beyond its mathematics products, problems and conventions can make us stronger in defense of any, and all of us. There are four elements I associate with a love orientation in mathematics:

1. Espousing a *public* definition of mathematics that expresses its use in improving and connecting the human/Black/Brown/urban condition;
2. Engaging directly in identity work with prospective and practicing teachers of mathematics in building relationships with urban communities and communities of color;
3. Building and mathematizing community projects that work to alleviate conditions and foster healing relationships in Black, Brown, and urban communities (vs. contrived problem solving); and
4. Creating professional spaces for mathematics education scholars to affirm and support each other, in contrast to spaces that favor competition among urban scholars.

The past 10 or so years have given me greater clarity as one who reforms and yet, like *JUME*, there are more shifts to come as we explore this complex urban space in love and power. Upon reflection of what has been written in the preceding paragraphs, I realize that many of the spaces of love, trauma, gentrification, and power remain unresolved in my own journey. And yet because I have lived these moments, I know them, and it feels right to pursue these tensions. Knowing that there are so many more of us pursuing mathematics in this vein is more encouraging now than it was 10 years ago. In seeing mathematics reform as gentrification and racialized trauma in our communities, we are more empowered. Mathematics as power gives me something to fight with and mathematics as love grounds us in hope—the hope that we can live in a world better served by human mathematics.

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