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In Mangal's New World

Mangal's mutiny against the machine was driven by the historical injustices it reminded him of. His rebellion ushers in a long lasting socio-technical revolution that changes the way people live in 2040.

INTRODUCTION

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The short story "In Mangal's New World" attempts to understand the world of people who occupy positions of marginality and find themselves vulnerable to the top-down diktats of technological systems. Specifically, it examines the enforcement of biometric authentication through fingerprints on the poor so that they can obtain state-sponsored entitlements of essential commodities. The digital utopia

draws on the literature of broken-world thinking advanced by Steven J Jackson and wants to understand people's experiences when their biometrics fail or "break." By doing so, the text presents two points. First, it explores the claim that transferring one's touch to a machine as a way to record and authenticate fingerprints is a foolproof way to correctly identify a person. The idea of touch in Hindu society has had a

contentious history, given the practice of untouchability that was used to discriminate against the lower castes. Thus, the process of touching a machine to submit one's fingerprints as biometric data and then experiencing rejection when the biometrics fail seemed to evoke a historically precarious nuance about the deeply contentious nature of touch that is experienced by those occupying the lowest rungs of the caste hierarchy in India. Second, it delves into the idea of rebellion against the tyranny of technology. Naming the protagonist Mangal was a deliberate choice as it is also the name of an upper-caste Brahmin soldier who ignited the 1857 Indian Sepoy Mutiny against the rule of the

British East India Company. While the rebellion in 1857 failed, Mangal, who comes from a lower-caste background in this story, succeeds in ushering in a socio-technical revolution in 2040. The story is a descriptive piece on the trials and tribulations of Mangal, who regularly finds his biometrics failing. The piece allows readers a glimpse into the many ways in which biometric systems inherently fail people by refusing to recognize their conditions, their contexts, their existence, and thus their claims. Speaking to the discipline of human computer interaction, the author implicitly asks the question of whether we should instead be working towards *humane* computer interaction?

As a veteran of the 2020 mutiny, Mangal had never managed to shake off the deep anxiety that robots engendered in him. Even as they cheerfully hailed him on his yearly visits to the welfare office to renew his pension claims. “Namaskar, Mr. Mangal. We acknowledge your needs and strive to be of service to you,” the pleasantly modulated voice would greet him when he placed himself in their line of vision. When his turn came, Mangal held up his palm as if he were high-fiving the robot. This was the gesture that everyone adopted to enable a collaborative inquiry into the purpose of their visits.

When Mangal's hand met the robot's, the machine's emotional intelligence set to work, analyzing and feeling through the data that Mangal permitted it to access depending on the task at hand. For his pension renewal, the robot needed to authenticate Mangal's proof of life and assess his health condition to determine if the amount due to him needed to be increased to accommodate any physical, social, mental, or emotional distress. Accordingly, Mangal accepted the robot's request to access his pulse. He also allowed his synapses to transmit their signals for a quick scan of the valences of his feelings. This was essential to identify if he needed to see a counsellor to help him with any unhealthy thought patterns that were plaguing him.

The screen on the robot's chest threw up a detailed graph charting his moods and feelings over the past month. It was a colorful representation of their occurrence and frequency, leaving Mangal free to think through and correlate his moods with the actual incidents in his life. Looking at the chart this time around, he could identify how his worry had spiked every time his granddaughter had travelled outside the city on work and had forgotten to call him. The blanket of sadness that was a grey patch on his chart, had occurred at the time when he had been busy with his duties as the presiding authority for the 20th anniversary of the mutiny. He was not surprised to note that it had overlapped with frenetic nostalgic activity. He had given interview after interview recalling the events that had led to that eventful night in 2020.

Nostalgia had continued to show a strong presence, even after the anniversary had ended. It coincided with the new headset that his granddaughter had gifted him on his birthday. It came pre-programmed with the hit parade of the Hindi songs of his youth and he had taken to spending his mornings oscillating between schmaltzy mushiness and a wistful longing for the simpler times of his boyhood. As in the past, his anxiety levels showed a gradual increase as the day of his visit to the welfare center neared, but it wasn't severe enough to warrant concern just yet.

Mangal swiped to save the chart to his pension and health account, over which he had sovereign control. Nobody could access his data without his consent. The robot renewed his pension and wiped his health data clean from its memory. Their interaction ended. Respect for individual privacy was one of the cornerstones of the New Order that had come into force post the mutiny. The rules of the new world that Mangal now inhabited, emphasized sensitivity and dignity in interactions and transactions between people and machines. Even the vocabulary that was used to describe the essentials of a digital society had transformed to accommodate a changed value system.

Thus, human computer interaction had transitioned into humane computer interaction. There was even a department of Humane Computer Interaction to oversee and regulate human-machine relations. The violence inherent in a regime that solely operated on the principles of machine-readable bodies had been discarded. With it went the anxiety and indignity that oppressed people when machines failed to correctly assess them and their needs. In its stead, the New Order operated on the values of machine sensitivity towards humans. Before the mutiny, machines would blithely pronounce people as failed data if they did not meet the machine's standardized requirements for recognition. Now, machines could not be deemed intelligent if they did not contextualize how people dwelled within the differing situations and positions that defined their lives. It meant that the robots, were built to operate through multiple models of thought and feelings that they used to navigate different cases. For instance, when confronted with a person whose palm could not adequately transmit the required information, or worse, a person with no upper limbs, the robots searched through their accumulated emotional and knowledge store to find alternative ways to identify and serve the person or transfer them to a human for assistance.

In this way, the New Order required machines to recognize, process, and address the plurality and diversity of the human way of life. Still, even with the high competencies that machines had come to acquire, alternatives were maintained. Thus, even while the government trained and updated the machine brains of the robots with regular caregiving patches of empathy, patience, and kindness, they remained mindful of the minority community of the machine avoiders—people who did not wish to interact with machine way of life.

Mangal could just as well have been one of the machine avoiders. The sheer convenience and swiftness with which the robots operated meant that most people defaulted to the machine embracer status. However, being a machine avoider never imperiled the avoider's way of life. The constitution of the New Order that was enforced in the year 2040 guaranteed and safeguarded the rights of the minorities conscientiously. Mangal would have had nothing to fear if he had chosen to live as an avoider. Moreover, it would have helped him in bypassing the anxiety he experienced whenever he had to engage in machine interactions.

Still, Mangal persisted in interacting with all kinds of machines, including the welfare robots. Years after having been once responsible for a mutiny against the Machine, he forced himself to continue interacting with them. It was his way of maintaining eternal vigil over a system that had once destroyed his will to live.

The year was 2020. In the nine months since the Rule of the Machine had first come to the village, Mangal's body had developed its own monthly cycle of reactions to its diktat. They foreshadowed his eventual encounter with the fingerprint verification process that had wreaked havoc in the hardscrabble chaos of his daily life. It always started in his head. The dull throbbing at his temples, which would soon transform into an ache behind his eyes. Within a couple of days, it would travel down to his forearms, shooting sharp darts of pain down to his wrists. Its eventual destination would be his fingers, where, on the fourth day, it would take up residence. For the rest of the week, it would shoot regularly from his head, travel down his arms, and coil tightly at the tips, as if to imprint itself on the whorls of his fingers. And there it would remain until Mangal finished the long-drawn-out fingerprint verification process every month.

During the week when the pain took over, Mangal would be stunned into silence. His jaw would clench with the effort it took to bear the pain that would course through his body. All attempts at speech would result in stifled noises. Instead, his ears would ring with the Machine's voice. "*Your touch has failed, your touch has failed, your touch has failed.*" Over and over again, the Machine would intone, even as, one by one, Mangal would press all of his ten fingers to the glass plate in the hope that one of them would work. Fingerprinting was the only way to prove his existence, identity, and valid claim to the water pills that the government disbursed to his family of five every month.

Often, when he was by himself, away from the worried eyes of his children and wife, Mangal would pore over his palms. It seemed to him that they were fated to wrestle and scuffle with the vicissitudes of touch. They carried within them ancient grievances of lives that were lived in careful avoidance of touching the wrong things. He had grown up hearing how, for people of his kind, who occupied the very bottom of the caste structure, touch had never been a neutral act. It had always been fraught with the peril of threats, uncertainty, and vulnerability that his ancestors had survived.

Water, even then—in the time of his forefathers—had been a site of contention, and the punishment for drawing water from the common well was often fatal. As was drinking tea from the wrong saucer or even letting their shadows fall upon a higher caste person. All of these acts carried swift and immediate retribution for the pollution and bad luck that their touch would bring upon those perched higher up in the social order. So, you see, there was never the slightest scope for accidentally grazing against the wrong kind of object or person. Their very survival depended on the surveillance and vigilance of their touch. The language of their bodies

was cultivated so they could shrink into spaces so small that they often asphyxiated on the toxicity of their circumstances.

Accordingly, Mangal had inherited an acute sense of the way bodies such as his could become mistakes. It was a part of his inheritance. The way his body carried within itself a few millennia worth of remembered oppression as bearers of impure touch. Hence, when the Age of the Machine first came to the village on the back of promises of recording their fingerprints for posterity to make their lives easy, Mangal was skeptical. It would involve physical contact with machines and who knows how they would react to his touch?

The great water drought was well underway by 2020. The devastation that climate change had brought about hit people like Mangal the hardest. His family of five needed a water pill a day to survive. Each pill expanded to a bucket of water. With careful rationing, it would last an entire day—if they were lucky enough not to have any accidents. Sometimes, buckets developed leaks. The first time it happened, Mangal discovered it only late in the evening after all the water had slowly drained away. One time, a full bucket had slipped from his mother's frail hands. It meant the loss of two water pills in a day. Despite their caution, water spillage was common. Sometimes due to bad luck, sometimes due to accidents. When this happened, it cut deep into their ration and brought additional hardships. It often meant borrowing money to be able to buy expensive water pills from the open market and sinking deeper in debt.

After years of agitation and lobbying by activists, the government had finally been compelled to bring in the Right to Water Act. It helped create a water security net for the poor. It meant that Mangal could receive subsidized pills from the village council office against his signature. But, the government decided to introduce the Rule of the Machine to keep count of the demand for and supply of the pills in a bid to track and save costs. Water pills would now be available only against the successful verification of fingerprints. There was unease in the village when this was announced.

What would the Machine do to a life such as Mangal's that was spent bent from the waist down, with both feet and hands rooted in soil? At work, he spent all his time busily toiling in his landlord's fields. Season after season, the cycle of his life rolled from tilling and sowing to plucking and harvesting. His hands expertly wielding plough and sickle with equal ease. His palms and fingers bore the mark of his expertise. They were scarred and pitted with bruises and wounds. Some healed, some unhealed, some maintaining their forever status as an injury-in-progress. The rigor and unyielding labor that characterized his work had mapped itself on to his hands and made his fingers rock hard, unyielding, stiff, and inflexibly thick.

And thus, when the Machine began repeatedly pronouncing the touch of his fingers a failure, Mangal's fears were confirmed. He did not know what was worse: trying to put behind him a history of humans ostracizing the very thought of his touch or beginning a new chapter of machines loudly disagreeing with the reality of his touch. While the Machine could not feel or listen, it could speak very well indeed. When it pronounced a touch a success or failure, it made sure everybody heard its verdict. But it was not sentient to the friction it was creating within people and could not listen to their dissenting cries of despair.

Mangal's obsession with examining his hands began the very first time he recorded his ten fingers with the Machine. He was told that what the Machine had captured was to be his only identity from that moment. As he pored over the landscape of his palms, he wondered about his fate. If a palmist were to read Mangal's hand, he would have been confronted not with the mounts of planets, but with mounts of hard, callused flesh. Together, they would have presented a narration of Mangal's story for anyone.

Every month as the pain began its journey down to his fingers, Mangal set about trying to repair and groom them. After returning from work, he would scrub and oil his fingers in a bid to soften and ready them so that the Machine could read his prints clearly. Given the strict rationing of water, his family would scrimp and scrounge on their consumption to reserve the four water pills that Mangal would need to minister to his fingers through the month. However, this rarely worked. Instead, Mangal would find himself queuing up along with many others like him, fervently praying for a successful verification outcome.

Among the villagers, talk about the Rule of the Machine was varied. For some, the Machine promised a righteous form of governance. They said that the experience of extending their finger to the Machine was their way of pledging regular allegiance to the government. It allowed records to be produced, such as the date and time of verification and the quantity of pills disbursed, which officials offered as proof of efficient administration. But, its record keeping was only partial. Opposition to the Machine meant that they were quick to brand you a traitor to the cause of an efficient nation. Some even suggested that such treachery should be punished by sending people to the notorious Island of the Black Waters that housed a digital poorhouse for people deemed unfit for the digital age.

So, Mangal said nothing. In any case, the pain made it difficult for him to speak. He continued to coax his fingers into being read by the Machine, but their obedience was hard to achieve. His touch continued to fail more often than it succeeded and the pain returned unfailingly every month.

Until one evening, when Mangal was driven to distraction by the pain coursing through his body. On that hot May night after a hard day's work harvesting crops on the field, Mangal found himself convulsed with spasms. As he lay writhing on the floor, blinded by his misery, he was alarmed as his voice acquired a life of its own and he heard himself scream. Something within him snapped and he got to his feet. Instead of the fear and anxiety that he had felt moments earlier, he now felt a welcome surge of exhilaration, an unexpected sense of independence. He found himself liberated from all compulsions of expected behavior. There was no one to beat him into timid submission, no one to seek approval from, and definitely no one to disapprove. The thought gave him wings and he soon found himself running through the grounds to the far end of the village.

When he reached the edge of the village and could run no further, Mangal realized he had also reached the end of his imagination. What should he do with his newfound sense of self and where should he go? He began running towards the village council office. A machine just like the one to which he offered his fingers every month stood guard against the door. It would only let you inside if your fingerprint was read correctly. The blood rushing to his head, Mangal placed his finger on the machine. Predictably, it told him his touch had failed. Mangal smashed the machine and continued battering it in a frenzy. The machine shrieked, and then, felled by Mangal's touch, its speaker blew up. It could no longer pass any verdict.

The resultant commotion brought several people to the office. Stunned at first, they looked at Mangal, who was charging around the office breaking every machine he could lay his hands on. His intelligible screaming echoed in the village. The revolt spread. Beginning that May evening, the rage of a million mutineers turned against the Machine, as people across the dusty plains of the country banded together in rebellion demanding an immediate recognition of the authenticity of their claims and their touch.

In the immediate aftermath of the riots, Mangal was arrested and sentenced to prison. He stood trial for inciting the revolt and was convicted and sentenced to life on the Island of Black Waters. The riots, however, continued to rage.

Even as Mangal was serving his sentence, the uprising forced a change in the regime. The old order was ousted and in its place a new technological imagination that pledged to privilege humanity over machines assumed leadership. The machines lost their capital M status. Among the things that the New Order did was to bring Mangal back from the Island of Black Waters. Its leadership wanted to listen to his experience. To recognize the despair that led to the violence of the mutiny. The new order

constructed a memorial in Mangal's village recognizing it as the site of the 2020 insurrection. In Mangal's new world, it was the only remnant of the Old Order.

He no longer experienced pain.

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