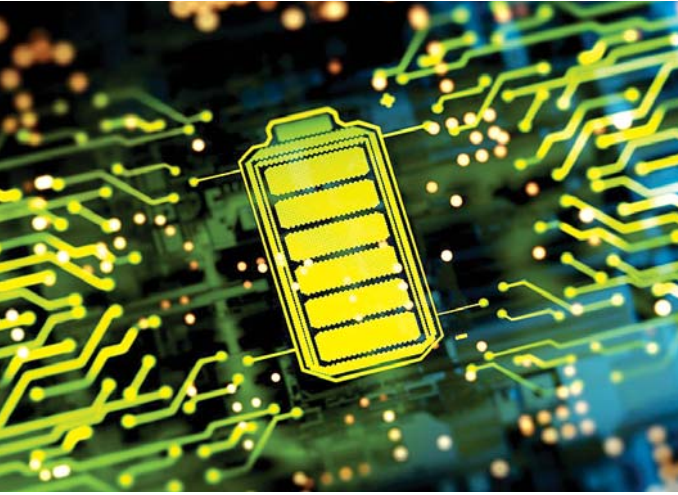


#INNOVATION

The Battery Revolution Begins

Coin-sized Nuclear Battery enters Mass Production in China.



Imagine a battery, no bigger than a coin, that can power your device non-stop for 50 years, no charging, no cables, no maintenance. It sounds like sci-

What is the BV100?

The BV100 is Betavolt's flagship innovation, a miniature nuclear battery that delivers 100 microwatts of power at 3 volts. While its energy output may be small, for now, its potential is enormous. At its core is a radioactive isotope called nickel-63, encased in a layer of artificial diamond that converts decay energy into electricity. The result? A bat-

From Sci-Fi to Factory Floor

Having completed successful prototypes in 2023-24, Betavolt's move to industrial production in 2025 marks a huge leap from lab to reality. The company is initially targeting microelectronic devices such as sensors, pacemakers, and AI

A Game-Changer in the Energy Race

With global interest in clean, long-lasting energy, Betavolt's nuclear battery could be a game-changer. Traditional lithium-ion batteries rely on finite resources, require frequent recharging, and pose disposal challenges. In contrast, the BV100 could dramatically reduce e-waste, eliminate charging infrastructure, and support remote

Hurdles Ahead?

Of course, challenges remain. Regulatory approvals, especially for nuclear technology, can be complex, particularly in export markets. Public perception of the word 'nuclear' may also pose branding issues, despite the battery's proven safety and eco-friendly credentials.

The Future is (Nuclear) Electric

Whether powering smart sensors in remote locations or enabling a pacemaker to run for a lifetime without surgery, the applications for the BV100 are as vast as they are visionary. In an era obsessed with charging speeds and battery

ence fiction, but Chinese startup Betavolt is making it a reality. The company has just begun mass production of the BV100, a nuclear-powered, no cables, no maintenance. It sounds like sci-

tery that can run continuously for five decades. And no, this isn't the kind of nuclear that should raise alarms. Betavolt stresses that the BV100 is safe, stable, and non-flammable. The isotope used decays into non-toxic copper, leaving behind zero environmental waste. It's a clean, contained system with no risk of leaks, explosions, or fires.

modules. But that's just the beginning. A more powerful 1-watt version is already in development and expected by late 2025. Future iterations could be stacked together to power larger devices like mobile phones, drones, and even space satellites.

or mission-critical systems where battery replacement is impossible. "We are pioneering a new era where power is compact, sustainable, and incredibly long-lasting," Betavolt said in a statement. "Our batteries could operate in deep space, under the ocean, or inside the human body, anywhere reliable energy is needed."

Still, Betavolt is optimistic. The company is working with government bodies to ensure that all safety and quality standards are met. It's also in talks with potential partners in aerospace, healthcare, defense, and IoT sectors to roll out use cases that push the limits of battery innovation.

cycles, Betavolt is offering sensors in remote locations a battery you might never have to touch again. And if it delivers on its promise, the BV100 won't just power devices, it could power a whole new way of thinking about energy.

C is described in Mazuchelli's book as an important colonial official, a 'burra sahib.' She credits him for making all the plans for the journey and engaging the helpers. She says that he wanted the Mazuchellis to feel like his 'guests' and even carried a map of Sikkim 'deep in his portmanteau.' What she does not say explicitly but can be deduced from her words is that C was on a secret, quasi-official mission, to find a route to the Tibetan frontier via Sikkim.

The Friend Called C...

• Anu Kumar

In November 1869, as the rains ended in Darjeeling, Nina Mazuchelli set out with her husband, a friend she called C and a team of nearly 90 coolies towards the eastern Himalayas, or as she called them, 'the Indian Alps.'

It was an arduous journey that took them through steep mountain crossings, narrow gorges and treacherous ravines. Uncertainty could stalk them anytime, anywhere. Halfway through the journey, at a camp close to Yangpoong, at a height of 14,500 feet, their promised food supplies did not turn up. In desperation, C dispatched messengers and began rationing the food they had. In the meantime, their guide, who, it turned out, had deliberately led them astray, disappeared. "Great and hourly increasing depression reigns in camp," said Mazuchelli. "The poor coolies have lost all their natural exuberance of spirits."

Left with few options, the group turned back in the face of a dense mist. Mazuchelli lived to tell the tale. The Englishwoman's account of the journey, *The Indian Alps and How We Crossed Them*, is written in a rapturous style and is illustrated with her sketches. The book was authored under the pseudonym, 'A Lady Pioneer.' Like most women writers of the time, she remained anonymous, but decades after her death, it secured Mazuchelli a place among pioneering women adventurers such as Fanny Workman and Alexandra David-Neel.

From its pages, it is evident that Mazuchelli had a deep fascination with the Himalayas. She says she felt a longing to get closer to the 'stupendous amphitheatre of snow-capped mountains' as soon as she moved to Darjeeling in 1868 with her army captain husband, Felix Francis. But once their friend C got involved, a new purpose got tacked on to the trip.

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Nina Mazuchelli and her husband Felix Francis.



Map from Mazuchelli's book.

secret, quasi-official mission, to find a route to the Tibetan frontier via Sikkim. So, who was this C, the influential companion and fixer? Why was he never named in the book? And did he have a larger role in the geopolitical games playing out in Sikkim, British India and Tibet at the time? I was so compelled by this mystery that I spent days digging through archival sources to ascertain C's identity. Cross-referencing Mazuchelli's book with administrative reports, accounts by peers and newspaper dispatches, I concluded with near certainty that C was Colonel John Colpoys Houghton, the Commissioner of Cooch Behar, who held the additional charge of steering British India's political relations with Sikkim and Bhutan from 1865 to 1873.



J. C. Houghton.

#HISTORY

The Great Game

Haughton was a distinguished soldier. Before he came to Cooch Behar, he had served in the Chota Nagpur region, the Andamans, Burma, Assam and Afghanistan. In 1841, when he was a young 24-year-old officer in the Gurkha regiment, his forces were besieged by hostile Afghans at Charikar, 40 miles north of Kabul. Desperate, his soldiers parched for water. Haughton decided to move to Kabul, but was attacked by his own Afghan gunners. That he made it out alive was partly thanks to a fellow officer and a Gurkha soldier, although, he did suffer severe injuries to the neck and the arm, because of which his right hand had to be amputated. Mazuchelli describes C as six feet tall and mentions his military bearing. Other sources refer to Haughton's 'wiry and spare frame' and his 'great capacity for physical endurance.' Mazuchelli writes that he insisted on riding on a pony on their journey and hiked on foot when required. Meanwhile, she was carried by bearers on a 'Barreilly dandy,' an upright chair with poles, except on steep ascents, when she was carried on a helper's back. This was the period of the Great Game, a time of intense rivalry between Britain and Czarist Russia for the control of Central Asia, Afghanistan, Persia and Tibet. Haughton had experienced this conflict firsthand during his service in Afghanistan, whose rulers and chieftains frequently sought to play the two big powers against each other. Two decades later, as a colonial official in India's east, Haughton was aware of British India's overtures to Tibet and its simultaneous moves to maintain influence in Nepal and Sikkim, which were independent kingdoms with historic links with Tibet.



In Sikkim, the British had achieved a degree of success. Sikkim aided them in the Anglo-Nepalese War of 1816 and its ruler, called the Chogyal, gave Darjeeling to them in 1835. This acquiescence rankled many in the Sikkim court who retained familial links with Tibet and resented British interference of any kind. In 1849, the *diwan* of Sikkim, Tokhang Donyer Namgyal, triggered a face-off with the British when he imprisoned Darjeeling's medical superintendent and an English explorer. The British won that confrontation and wrested various concessions from Sikkim. A second stand-off between them in 1861 went the same way, with the two sides signing the *Treaty of Tumlung* that gave the British even more advantages, including the permission to secure a route to Tibet via Sikkim. This was vital for the British since ongoing attempts to find a route to Tibet from Ladakh remained, at this stage, uncertain and perilous. Anyone suspected by Tibetans of spying was arrested or, worse, killed. The Treaty of Tumlung deepened the simmering resentment in Sikkim. The diwan went into exile in Tibet, even though, he continued to enjoy visible support, something the Mazuchellis and C witnessed during their journey.



Nina Mazuchelli.

Mission Unaccomplished

To Haughton, the journey had one overarching purpose, to find a route to facilitate trade to Tibet through Sikkim, especially in tea. The very year he had taken charge in Cooch Behar, British India had won a battle against Bhutan, seizing territory and privileges related to trade and tea cultivation. Haughton had shared his idea with his superiors, but they were circumspect, advising him instead to relay it to Tibet via the Chogyal of Sikkim and the British minister at Peking. Other administrators were wary that his plan might antagonise powerful people in Nepal, which had controlled Sikkim till 1816 and still wielded considerable influence there.

Knowing that his superiors would not give official permission for his mission, Haughton tagged along with the Mazuchellis. Their expedition was an ideal cover for him. It saved him from antagonising his bosses and, besides, he was deeply aware of Tibet's insistence on isolation and its suspicion of outsiders. An attempt by the explorer Thomas Thorneville Cooper to seek a route to Tibet via Sadiya andawang had ominously failed after Cooper was turned back, soon after crossing into Tibet territory at Rima. The initial weeks of C and Mazuchelli's journey were delightful. The travelling party crossed the Dumgongla Pass, camped in pine forests and dined in style. Soon enough, though, problems started arising. On their journey, Mazuchelli could not help but notice the suspicious looks she got. Whenever she went on a sketching sojourn, some of her helpers assumed she was surveying the land for 'possible annexation.' As the large group moved northwards along the Singalila Range, and towards Kanglanamo Pass, the Kazi of Yamtang reneged on his promise to deliver supplies and the guide led them off track, making the group go back. Mazuchelli sug-

Spreading Awareness, Inspiring Hope

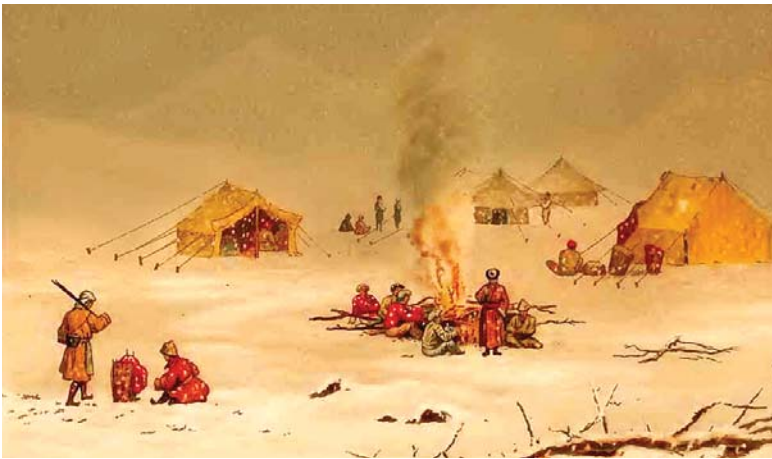
bserved on April 11, World Parkinson's Day aims to raise awareness about Parkinson's disease—a progressive neurological disorder affecting movement and coordination. Marking the birth anniversary of Dr. James Parkinson, who first described the condition in 1817, this day unites global communities to advocate for early diagnosis, better treatment, and stronger support systems. With symptoms like tremors, stiffness, and slow movement, Parkinson's affects millions worldwide. Red tulips, a symbol of hope, are often worn to show solidarity. Through awareness campaigns, medical research, and patient stories, World Parkinson's Day reminds us to stand by those fighting this lifelong battle.



Indian Alps.

tempest-shattered peaks, and beetling crags, and above these an undulating sweep of crystal, the snowy range of Nepal, looking marvellously near, and with that terrible beauty of death, like repose, which precedes sunrise, as it follows upon sunset. Whilst I stand alone amidst this infinitude of Nature, the sun, beginning to ascend on his triumphal car of crimson cloud, tips the highest pinnacle with an aerial glory. In an instant, it dawned upon me that I was at last gazing on Mount Everest, the highest mountain in the world. I could not be mistaken. There it stood, like a stupendous barrier, shutting out the west, with austere sublimity, till the glorious sun arises."

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The Indian Alps and how we crossed them, Nina Mazuchelli.

#TRIED & TASTED

Scoop Dreams

Irresistible Homemade Ice Cream recipes to beat the Summer Heat!






Shruti Kothari

T here's something about summer that stirs up the sweetest cravings, mangoes, watermelon, chilled falooda, and most of all, ice cream. But not the kind you grab from the store freezer aisle. We're talking about the kind that drips down your fingers while you laugh with your cousins, made in your own kitchen with love, real ingredients, and just the right dash of nostalgia. Yes, homemade ice cream is having a moment, and it's not just for the gourmet-inclined. So, pull out that blender, grab your kulfi moulds or mason jars, and prepare to churn up joy, one creamy scoop at a time.

The No-Churn Revolution: Creamy Magic in a Bowl



Before we dive into flavour fantasies, let's get the basics straight. No-churn ice cream is the hero we didn't know we needed. All you need is:

1. 2 cups heavy cream (or fresh malai if you're going old school)

2. 1 can of condensed milk

3. A pinch of salt

4. Vanilla extract (optional)

Whip the cream until soft peaks form, fold in condensed milk, add your flavorings, and freeze overnight. That's it. No ice cream maker, no drama, no regrets.

1. Mango Lassi Ice Cream (The Desi Showstopper)

Ingredients:

• 1 cup Alphonso mango pulp

• 1/2 cup yogurt

• 1 tsp cardamom powder

• Basic no-churn base

Preparation:

Mix mango pulp, yogurt, and cardamom powder until smooth. Fold into the no-churn base, pour into a container, and freeze for 6-8 hours. Scoop and serve!

4. Coconut Jaggery Vegan Ice Cream (No Moo, No Problem)

Ingredients:

• 1 can coconut cream

• 1/2 cup jaggery syrup

• A pinch of sea salt

• Toasted coconut flakes for garnish

Preparation:

Whisk everything together and freeze. The result? Rich, nutty, slightly caramel, a kulfi-meets-tropical-holiday kind of vibe.

2. Filter Coffee Ice Cream (For the Caffeine Devotees)

Ingredients:

• 1/2 cup strong decoction or espresso

• 1 tsp chicory powder (optional, for authenticity)

• Basic no-churn base

Preparation:

Add the decoction and chicory to your cream mixture and fold in. Freeze it, and brace yourself for a bold, bittersweet kick that's perfect post-dinner. Bonus: add caramel swirls or chocolate chips if you're feeling fancy.

3. Rose Milk Falooda Ice Cream (Because Why Not?)

Inspired by Chennai's famous Kalathi Rose Milk and our collective love for falooda.

Ingredients:

• 2 tsp rose syrup (Rooh Afza works)

• 2 tsp soaked basil seeds (sabja)

• Cooked vermicelli (optional but authentic)

• Basic no-churn base

Preparation:

Add rose syrup and sabja seeds to the cream mixture. For drama, layer it with falooda sev and jelly before freezing. It's floral, crunchy, creamy.

THE WALL

BABY BLUES

By Rick Kirkman & Jerry Scott

ZITS

By Jerry Scott & Jim Borgman