

#COFFEE CHRONICLE

The Birth of the Frappuccino

Understanding the Frappuccino's place in beverage lore



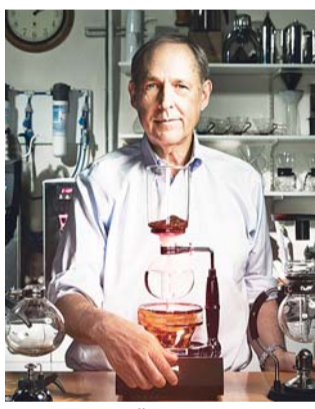
Of all the cultural touchstones that came out of Massachusetts in the 1990s - Napster, Good Will Hunting, Marky Mark and the Funky Bunch - none have endured like the Frappuccino. That's right: The original brain-freezing, whipped-cream-topped wonder slurped around the globe didn't unfold in some Starbucks test kitchen but rather at an independently owned café one sweltering summer in Cambridge, Massachusetts.

Behind the Frappuccino, is a visionary named George Howell, a name virtually unknown outside the coffee industry. But who was this man who gave rise to the biggest beverage craze since the old-fashioned soda fountain? And what does he think of the Frappuccino today?

Frappuccino Forebears

To understand the Frappuccino's place in beverage lore, you first have to know about the soda fountain, another Massachusetts-born phenomenon.

In the mid-1800s, a drugstore in Lowell, Massachusetts, became the site of the first concession counter with an ice shaver



George Howell.

that automatically mixed in cold cream and syrup - and voila, the ice-cream soda was born. It became all the rage. New England was suddenly the soda fountain epicentre of the country.

In many ways, the rise of the Frappuccino echoes that history. The soda fountain and the coffee shop both serve non-alcoholic drinks, are places where young people can gather to kill time or flirt, and are generally seen as more "wholesome" or family friendly than, say, the town pub.

"The soda jerk and the barista are parallel roles-young and charismatic, serving fancy concoctions with a flourish," says Peter Giuliano, executive director of the Coffee Science Foundation and chief research officer for the Specialty Coffee Association.

In other words, the Frappuccino didn't invent the wheel, but it may have spun it full circle.

The First Frappuccino

George Howell looms large in the coffee world: His legacy is a laundry list of totally out-



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Dr Goutam Sen
CTVS Surgeon
Traveller
Storyteller

The week had been hectic if not chaotic. The atmosphere at home had changed from dismal gloom to bright bloom. The family was bouncing back to normal although there was a major heart operation for Simran in the near future.

The appearance of the 'miracle money' had changed the atmosphere. When Simran's mother Neetu asked Sarabjeet where the money had come from, he gave an enigmatic smile and said, "All you need is to have faith in 'Rab'. Neetu asked him jokingly, if he could go back to the tree under which he found this 'pot of gold' and see if there was some more. She was hard pressed this month. The grocery bill was still to be paid and there was very little left in the kitty.

All Sarabjeet said was "Rab finds a way to solve problems of all his devotees. You go and find your own pot."

His demeanour had changed. He was not moving around with hunched shoulders and drooping head. He stood tall. He did not just stand tall but even looked taller. His erect bearing and his sparkling eyes were a pleasure to watch. The message his body language gave was a challenge - Come one! Come all! I am ready to face whatever challenge you throw at me! In fact, he glowed with unprecedented confidence.

The doctors had called Sarbjeet and Neetu for a final meeting. They wanted to explain all the risks involved in the operation. They also wanted to add hope to their lives by showing that the risks were small and many others had gone through the operation without a hitch. They even said "It has a one per cent mortality." (This was way back in the 1990s. This

are at least 5 times better now!). It was a bit worrying because Simran was just ten years old and once she recover after the operation she would grow tall and the valve that would fit her at this age may become inadequate at a later age. That could warrant a reassessment at a later date and may even require a second heart operation. The heart had already enlarged considerably in size. It was hoped that, it would remodel itself and regain a normal shape but there was always the worry that the rheumatic fever may cause damage to the other three valves. Although undetected at the moment, time and sophisticated investigations would show them up in the years to follow.

The Consent
Unfortunately, all this was heard by Simran's parents inattentively. It entered one ear and went out through the other one. They were just happy that Simran was going to get better after the operation. There were a sheaf of forms to sign. The consent for such operations had become voluminous and



Passage to a New Life



#SURGERY

Every complication imagined or seen was mentioned. The consent was required with full knowledge and comprehension. These were the days of Medico-legal cases and consumer courts. The doctor's thought confident were wary. They had been burnt too often in the past. Friendly faces became aggressive when things turned bad!

What kind of valve would be best suited for Simran, was the matter of discussion amongst the treating doctors. There were two types of valves available and the choice had to be explained to the parents. The ideal valve was yet to be manufactured. The God given one was such a marvel of engineering. No valve devised yet in the last 60 years comes even close to the God's design. The manufactured valve had many prerequisites. Such a valve should be closest to the native valve in structure and material. It should not require any further medication to give it a long life. It should not require any adjunct medication to sustain itself in Simran's body. Mainly, there was this issue of a

life, to be lived with anticoagulants (Blood thinners) to prevent clotting of the newly placed valve. The anticoagulants has interaction with many drugs especially analgesics. All leafy vegetables were banned lifelong in the diet. No more of those lovely chatnis.

So ideally, the first thought was to use the God-given valve. Many people pass away from other causes who had healthy hearts. The healthy valves were harvested and preserved with chemicals and antibiotics. They were then mounted on a Dacron covered wire frame. In some circumstances, they were even put in without the frame. There were many impediments. Such valves had to be harvested fresh. Often consent was not received for such retrieval. The methods of preservation gave a short shelf life. Most centres did not have the stringent facilities required to prevent infections. They had structural failures and needed re-operations.

The doctors who were operating on Simran were not offering this option. Many mechanical valves of varied designs were available. This fact by itself proved that none offered, was perfect. The mechanical valves were made of various materials. The metallic frame was made of non-reactive material (to prevent chelation). It had a strong Dacron sewing ring and the leaflets were made of a pyrolytic carbon (a boon as a result



of space technology). Making them in the shape of the native valve with three leaflets was a problem. So, the valves on offer were either mono-leaflet or bi-leaflet. Simran's parents did not understand all this.

In good faith, they plainly said: 'Choose whichever you think is the best for our Simran. Of course, Simran was too young to be asked although she would be carrying that valve within her for the rest of her life. The doctors would have loved to give her a biological valve, harvested from a pig's heart (It is amazing how similar the pig's heart is to that of a human). There were some valves constructed from preserved calf pericardium. All these functioned well in the early phases but degeneration and calcification within a decade in young people was a major issue.

Simran was being offered the best mechanical valve available at that moment and the discussion ended there.

A Flurry of Activity

Once admitted Simran found many other patients with similar condition in her ward. Her winning smile made her new friends in a small while. Some of the patients were in worse condition than her because of the delay in seeking help. Simran needed intensive medication for a short period before the surgery to optimize the heart condition. The young doctors were attentive but seem to have little time for small talks. The big doctors were usually just concerned about the medical status and looked more at the charts and investigations than at Simran. Out of all the doctors, Simran liked the tall and bald one. Whenever he stopped by her bed, he would at least smile at her and

put his hand on her head in a loving fashion. The nurses in the ward too seemed to dote on him.

The day before the surgery the pace became frenetic. A huge number of blood tests were done. Simran was given a Betadine bath. This was an iodine derivative which was helpful in removing the bacteria on the body surface. Normally, such patients require a total body shave but our Simran had no body hair! She was given a special dress to wear. It was an oversized gown with tapes in the back to bring the edges together. It was ugly and Simran felt as if her back was all naked. Wearing no under clothing was embarrassing. The design was such it could be conveniently taken off in the operation room. But it was a challenge to the modesty. The kind nurses offered a sheet as a wrap-around to cover up the bare parts.

In the evening, there was a flurry of activity. The case files of the patients, to be operated the next day, had to be ready for the Chief's round. Any hitches had to be sorted out. One of the residents came to Simran and asked abruptly where

her parents were. An announcement was made on the public address system and soon Sarabjeet and Neetu were at Simran's bedside. Blood test showed that Simran's blood group was O-ve. This was a rare group and since four bags of this group had to be kept ready before the operation, the resident asked the parents to go to the blood bank. One of the parents was likely to be O-ve. The blood bank was always in short supply. The parents were asked to call other people, from friends and family, to see if any other donor could be found. This was quite troublesome. Sarabjeet had left his family behind in Bhatinda when he came to Study in Delhi 15 years ago. There were no connections now. Neetu was an orphan. The few college friends and neighbours were hard to convince. All these stories about weakness and loss of potency were repeated as an excuse. Fortunately, Neetu was O-ve and she was able to donate one bag. She pleaded with the blood bank people that they should take more blood from her as she was healthy. Of course, they did nothing of the sort. Fortunately, the bank kept a list of O-ve donors and they were able to call some of them. They came willingly and that hurdle too was crossed.

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Just Keep Breathing
Simran slept soundly that night as she had been given a sleeping pill. She was kept nothing by mouth as per the protocol. She was the first patient. She said her goodbyes to her parents early in the morning as she was wheeled into the theatre on the 7th floor. As the nurses switched trolleys, Dr. Nirmal appeared next to Simran. She lovingly held Simran's hand as she was wheeled into the operating room. Soft music was playing and Simran felt a small prick on her left forearm when a cannula was connected to an IV drip. After that it was oblivion.

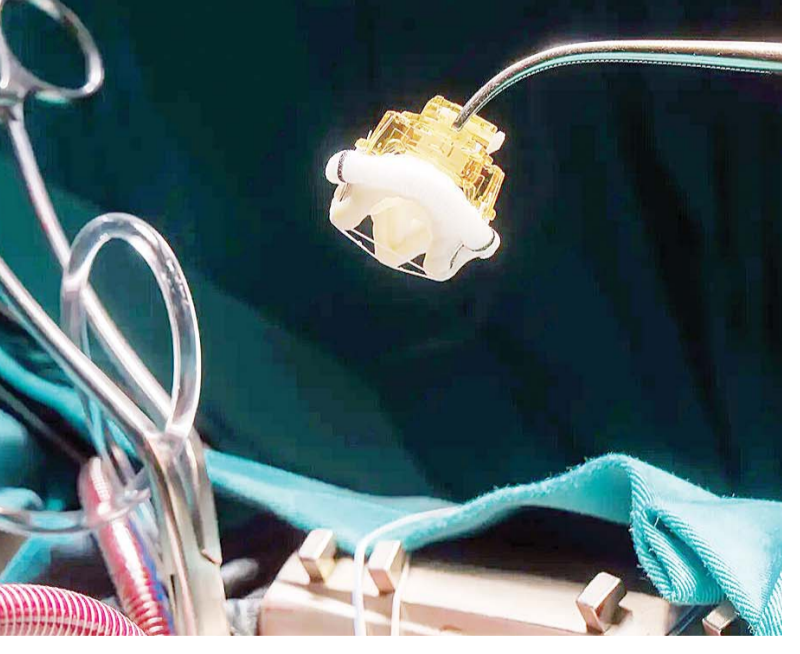
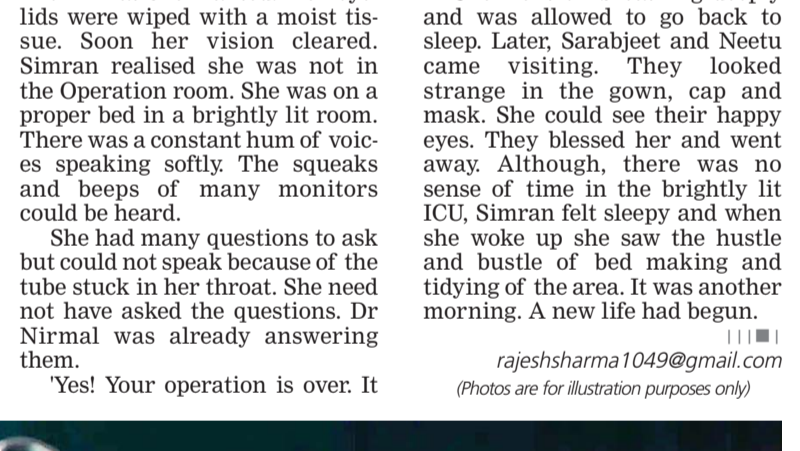
Simran! Simran! Wake Up! Open your eyes!
It felt as if Dr. Nirmal was calling from far away. The sense of hearing awakens first after anaesthesia. She opened her eyes. They were sticky with the ointment that had been put when the surgery began. She wanted to ask for a wipe. The nurse at the bedside knew what she wanted. Her eyelids were wiped with a moist tissue. Soon her vision cleared. Simran realised she was not in the Operation room. She was on a proper bed in a brightly lit room. There was a constant hum of voices speaking softly. The squeaks and beeps of many monitors could be heard. She had many questions to ask but could not speak because of the tube stuck in her throat. She need not have asked the questions. Dr Nirmal was already answering them. 'Yes! Your operation is over. It



took three hours. You are in the ICU for the last two hours.' 'Yes your parents have come and seen you.' 'It went off well. You have a new valve now.' 'You are very thirsty! And your throat is dry and hurting!' 'Remember what I told you yesterday evening. Just take deep breaths through the tube. If you do it well, I will be able to take the throat tube out soon.' Simran realised that besides the throat tube she had so many other things coming out of her body. A bunch of wires attached to round stickers on her chest were being used to monitor her ECG. There was a thin cannula stuck to her neck through which IV fluid and blood was being slowly dripped into her neck vein. A small cannula on her left wrist was connected to the bedside monitor. It was showing her blood pressure in a wave pattern. There were two big tubes draining from upper part of her tummy. They were full of blood. She could feel the mild irritation of the urinary catheter below. Something stuck in the nostril. Later, she was told that it was a temperature probe. Even with all these she was comfortable. Her pain had been taken care of. She was able to breathe easily and deeply. Her lips were being wiped with water soaked gauze piece. She was at peace. Another hurdle had been crossed. Soon the throat tube was taken out and replaced with a snug fitting oxygen mask. She wanted to say so many things but her voice was hoarse. The nurse tapped her shoulder and said: 'You will feel better in a few hours. Just do the deep breathing now.'

She went on breathing deeply and was allowed to go back to sleep. Later, Sarabjeet and Neetu came visiting. They looked strange in the gown, cap and mask. She could see their happy eyes. They blessed her and went away. Although, there was no sense of time in the brightly lit ICU, Simran felt sleepy and when she woke up she saw the hustle and bustle of bed making and tidying of the area. It was another morning. A new life had begun.

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#SPACE

Jets From Black Holes

Fast jets of matter - moving close to the speed of light - are launched by supermassive black holes.

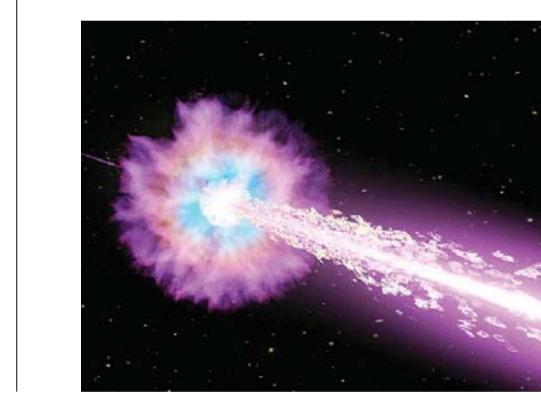


AN INTERNATIONAL team of researchers - including scientists from the Inter-University Centre for Astronomy and Astrophysics (IUCAA) in Pune - have found a radio jet from a supermassive black hole stirring the gas in what is called the Teacup galaxy.

Fast jets of matter - moving close to the speed of light - are launched by supermassive black holes. It has been predicted that such jets of matter can interact with the gas in galaxies. In their research, the team of scientists found that such a jet is strongly disturbing the gas in the galaxy. The international team studied the interaction of the radio jet with the cold gas around a massive quasar, named the Teacup galaxy. The Teacup is a radio-quiet quasar located 1.3 billion light years away. The surprising thing observed was that the jet not only disturbs the gas along its path but also regions far away from it. This results from a bubble of hot gas, the jet creates, that is not easy to directly observe but expands in all directions, disturbing the gas everywhere, even those away from the observed jet," explains Professor Dipanjan Mukherjee, co-author of the study whose findings were published on Tuesday in the Journal Astronomy and Astrophysics Letters.

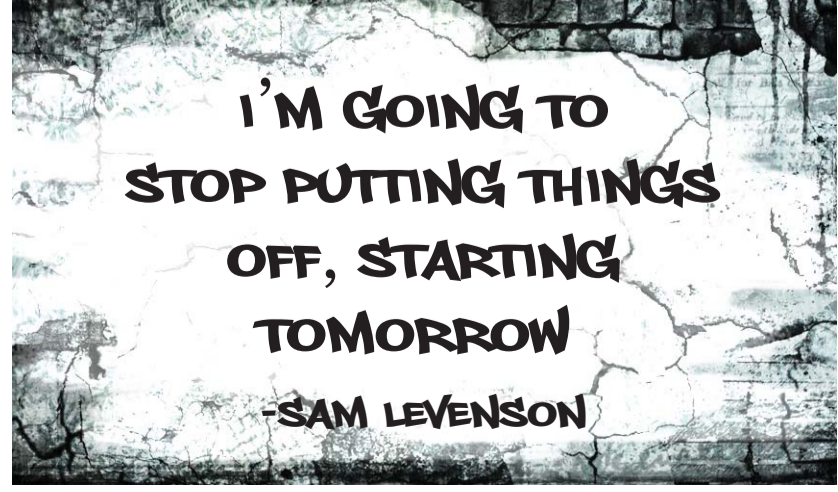
The study was led by Dr. Anelise Audibert and Dr. Cristina Ramos Almeida at the Instituto de Astrofisica de Canarias (IAC), Canary Islands, Spain, and the work involved co-authors, Professor Mukherjee from the IUCAA and Meenakshi, a PhD student. The team's findings were supported by the comparison with high-resolution hydrodynamic simulations performed by an international group of experts led by Professor Mukherjee. The IUCAA team used results from their hydrodynamical simulations and provided the theoretical interpretation of the astronomical observations that were carried out by the international collaboration using the Atacama Large millimetre/submillimetre Array (ALMA) telescopes in Chile.

Using observations performed with the telescope in the Chilean desert, the ALMA, the work led by IAC researcher Anelise Audibert, was able to capture the emission from the dense and cold gas in the Teacup, traced by two carbon monoxide molecules. Based on these observations, they found that the compact jet is clearly perturbing the gas distribution, clearing out the gas from the centre and pushing it away, despite it being a low-power jet.

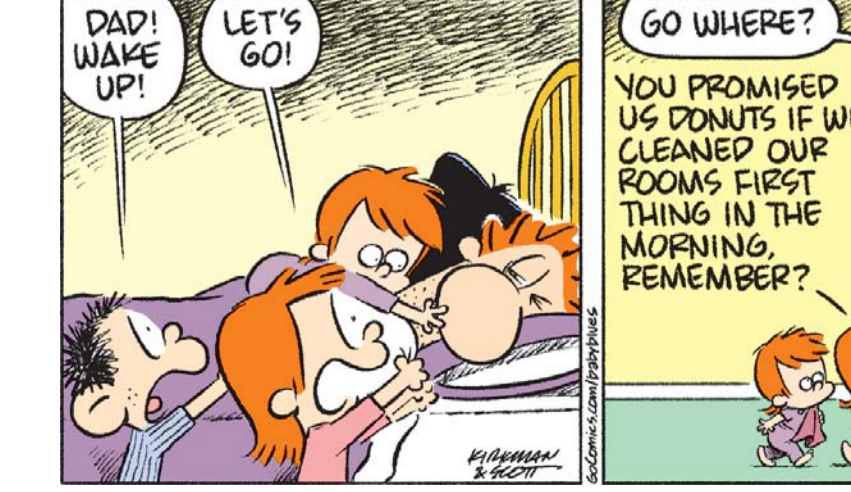


By Jerry Scott & Jim Borgman

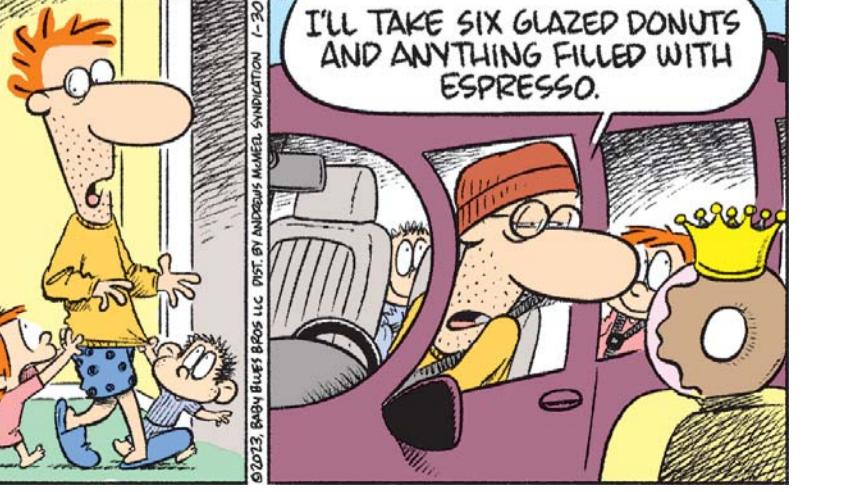
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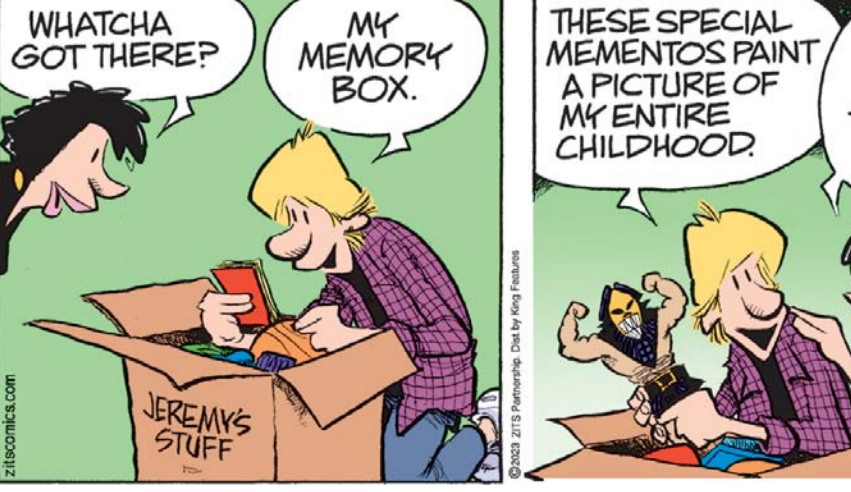
BABY BLUES



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