



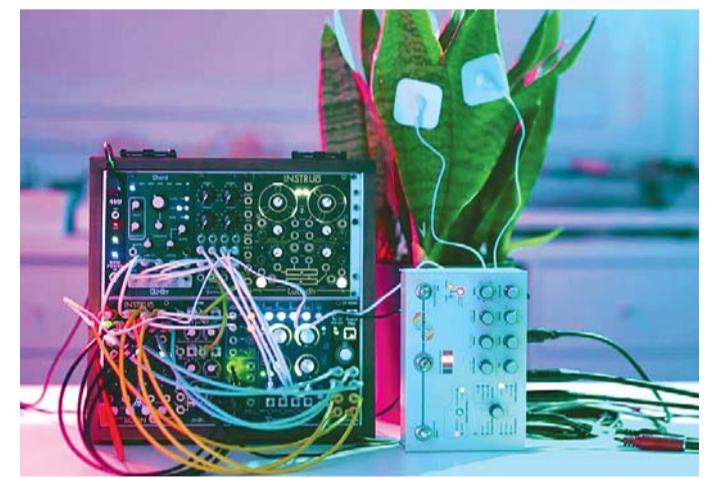
International Clouded Leopard Day

Of course, every species on earth has its own unique role to play in maintaining an overarching ecological balance, both, in life and in nature, and the *clouded leopard* is one that is having its place taken away. With the population decreasing, this species is considered on the 'vulnerable' list. The hope is that in some small way, raising the awareness of the plight of the clouded leopard, may somehow help this most beautiful of cats in the wild and also provide humans with a greater understanding of its needs. Welcome to International Clouded Leopard Day!

#BOTANY

Plant Patch

The earlier growers can identify plant diseases or fungal infections, the better able they will be to limit the spread of the disease and preserve their crop.



A n electronic patch, applied to the leaves of plants, can monitor crops for different pathogens, such as viral and fungal infections, and stresses such as drought or salinity. In testing, researchers found that the patch was able to detect a viral infection in tomatoes more than a week before growers would be able to detect any visible symptoms of disease.

"This is important because the earlier growers can identify plant diseases or fungal infections, the better able they will be to limit the spread of the disease and preserve their crop," says Qingshan Wei, an assistant professor of Chemical and Biomolecular Engineering at North Carolina State University and corresponding author of a paper in *Science Advances*.

"In addition, the more quickly growers can identify abiotic stresses, such as irrigation water contaminated by saltwater intrusion, the better they will be to address relevant challenges and improve crop yield."

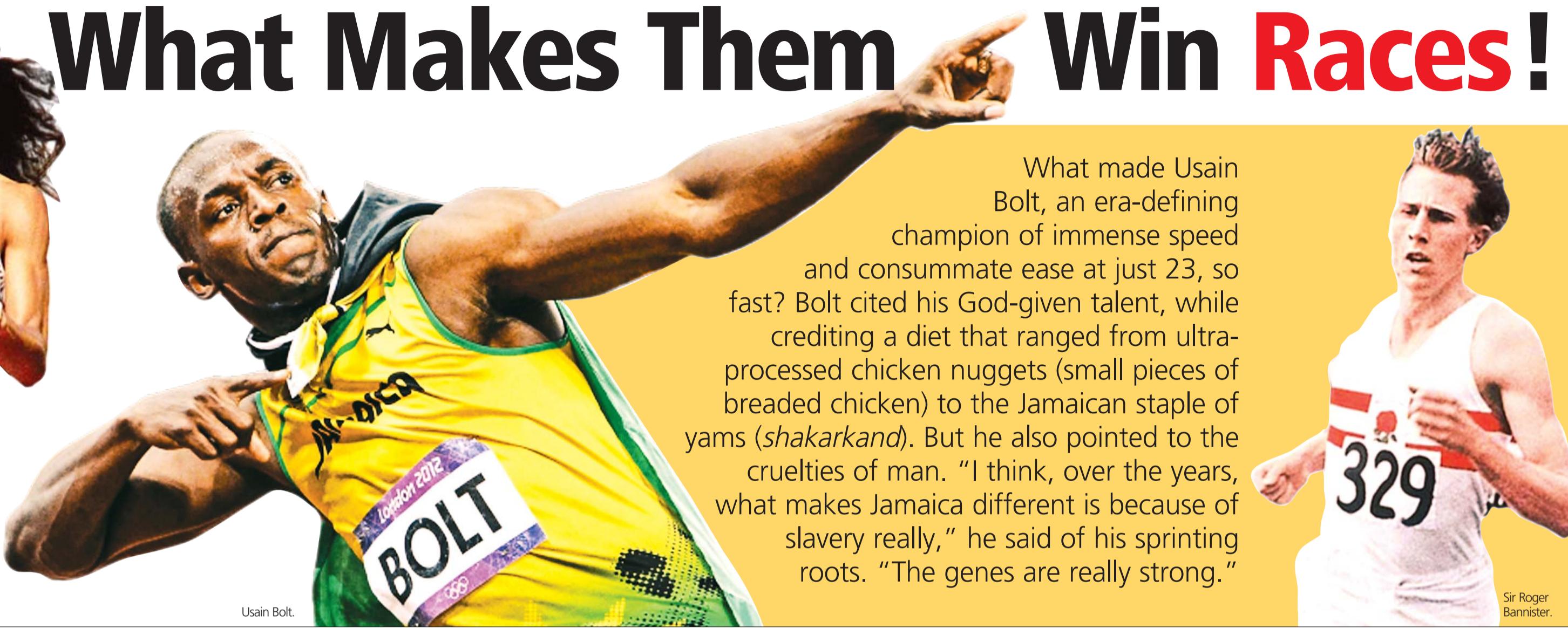
The technology builds on a previous prototype patch, which monitors volatile organic compounds (VOCs), emitted by plants to detect disease. Plants emit different combinations of VOCs under different circumstances. By targeting VOCs that are relevant to specific diseases or plant stress, the sensors can alert users to specific problems.

"The new patches incorporate additional sensors, allowing them to monitor temperature, environmental humidity, and the amount of moisture, as well as the plants via their leaves," says co-corresponding author Yong Zhu, professor of Mechanical and Aerospace engineering.

The patches themselves are small, only 30 millimetres long,



Florence Griffith-Joyner.



Usain Bolt.



Prakash Bhandari
The writer is a senior journalist

stadium at the first Olympic Games was Coroebus of Elis.

The stadium, named for the facility in which it took place, was simple, run the length of the arena, which was approximately 200 yards (180 meters). Since then, sprinting has evolved and grown immensely since the first barefoot and naked competitors ran the stadium on that exposed ground.

When the modern Olympic Games began in 1896, sprinters ran a 100-meter dash and 400-meter dash. A 200-meter dash was added in 1900, and relay races, with teams of four runners each were added for the 1912 Games. Women's sprint events were included in 1928.

Not only have the events changed, but the format has evolved as well.

Ropes were used to separate sprinting lanes. Sprinters first started races standing straight up before utilizing the crouched position. Synthetic tracks came into use in 1956.

Tracks have improved, apparel and shoes have gotten lighter and more streamlined, and as a result of these improvements coupled with new training techniques, sprinters have gotten faster.

Running is one of the simplest competitions in the history of mankind. No team is needed. No expensive equipment is required. It's one person against at least one other competitor. Running, especially sprinting, has been part of the Olympics since their inception.

Stadiums (or stadia) was an ancient running event that was part of the Olympic Games and other Panhellenic Games. From 776 to 724 BC, the "stadium" was the only event at the Olympic Games, the "victor" gave his name to the entire four-year Olympiad. The winner of the

track and field events during the Olympics, the 100m, 200m and 400m for both men and women.

The 100m sprint is currently the most anticipated and the highest viewed event in the Olympics. The men's event has been a part of the games since the first 1896 and the women's event was added in 1928. Historically, the Americans have dominated the event, but of late, the Jamaicans have a strong hold on the event, winning the men's and women's races in the last three Olympics (2008-2016).

Usain Bolt of Jamaica, who holds the men's 100m Olympic record at 9.63 seconds and *Carl Lewis* of the United States are the two most notable athletes for the event. Bolt won the gold, three times straight (2008-2016). The current women's Olympic record is 10.62 seconds, set by glamorous *Florence Griffith-Joyner* of the United States in 1988.

The event also has its fair share of controversies, where athletes like *Ben Johnson* and *Marion Jones* were tested positive for doping.

All important international races at 200 metres, as well as 400 metres, are run on an oval track. The starts are staggered as the lanes farther from the centre begin progressively farther forward on the track. Thus, each runner will cover an equal distance. As a result, the competitors, particularly in the 400 metres, have no exact knowledge of their respective positions until they have completed the final turn. Great stress is therefore, placed on an athlete's ability to judge his own pace, as well as upon his speed and endurance.

Remember the famous 1960 *Rome Olympic 400 meter final*, where *Milkha Singh* appeared and was doing well when he committed the mistake to look back and see other runners. This way, he became slower by split second and he lost the medal.

Technological advances have always improved sprint performances (i.e., starting blocks, synthetic track material, and shoe technology). In 1924, athletes used a small shovel to dig holes to start the race. The world record in the 100-meter dash in 1924 was 10.4 seconds, while in 1948, (the first use of starting blocks) it was 10.2 seconds, and was 10.1 seconds in 1956. The constant drive for faster athletes with better technology has brought man from 10.4 seconds to 9.8 seconds in less than 10 days.

Sprint events were measured with the metric system except for the United Kingdom and the United

#OLYMPICS



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From the Enlightenment, all the way through to the present day, there has been a science around racial typology and the belief in meaningful difference along the lines of skin colour," explains Dr. Paul Campbell, associate professor of Sociology at the University of Leicester.

stance and drive forwards, pushing off using both legs for maximum force production. Athletes remain in the same lane on the running track throughout all sprinting events, with the sole exception of the 400 meters indoors. Races up to 100 meters are largely focused upon acceleration to an athlete's maximum speed. All sprints beyond this distance, increasingly incorporate ease of endurance.

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Sprint events were measured with the metric system except for the United Kingdom and the United States until 1965 and 1974, respectively. The apex athletics body decided to switch track and field in the U.S. to the metric system to make track and field competitions internationally equivalent. What made Usain Bolt, an era-defining champion of immense speed and endurance at just 23, so fast?

Bolt cited his God-given talent,

while crediting a diet that ranged from ultra-processed chicken nuggets (small pieces of breaded chicken) to the Jamaican staple of yams (*shakarkand*). But he also pointed to the cruelties of man. "I think, over the years, what makes Jamaica different is because of slavery really," he said of his sprinting roots. "The genes are really strong."

other way. We don't look at the differences in eye colour or hair texture, despite the gap between people, in terms of basic DNA, being just as wide as skin colour."

Not since British sprinter, Allan Wells, triumphed at the boycott-hit Moscow 1980 Games, has a white man made an Olympic or world 100m podium.

In fact, it was more than four decades after Wells' triumph that China's Su Bingtian became the next man without black parentage to even compete in an Olympic 100m final.

During that time, black sprinters from North America and the Caribbean have claimed 24 of 30 medals in the men's 100m at the Olympics.

This was combined with a rigorous physical selection process, prior to boarding the ships, and selective breeding by slave owners at the other end.

The result, it has been argued, was to create a population of West African descendants in the United States and the Caribbean, that was predisposed to athletic performance. It was in 2003 that a group of Australian scientists first thought that they had struck genetic gold.

The gene in question was *Alpha-actinin-3* (ACTN3), and the academics identified that the more copies of the R variant a person possessed, and therefore, the less of the X variant, the more likely they would excel at sprint and power disciplines.

Another built on the high prevalence of sprint-aiding fast-twitch muscle fibres, which tire easily but contract quickly among black populations. Scientist Errol Morrison and author Patrick Cooper's controversial hypothesis was that the prevalence of sickle cell trait, a mutation that causes red, oxygen-carrying blood cells to curl up in a sickle shape, among people of West African origin, and the genes that code for it, are linked to the ACTN3 gene.

Primes among them was a higher percentage of fast-twitch muscle fibres, which are less dependent upon oxygen.

But Bannister was correct to note the apparent correlation between race and sprint medals, and seek to explain the underlying factors, that he believed, were behind it.

The response was mixed. Some disagreed with Bannister on principle suggesting that such an argument risked slipping into the territory of the eugenics movement.

Others argued that race is a social, rather than biological, construct, and to merge diverse populations from a range of continents into one homogenous group, based on skin colour, is nonsensical.

"From the Enlightenment, all the way through to the present day, there has been a science around racial typology and the belief in meaningful difference along the lines of skin colour," explains Dr. Paul Campbell, associate professor of Sociology at the University of Leicester.

"Yet, we don't look at this in any



Sir Roger Bannister.

#RESEARCH

Laugh more for your heart: Here's how it helps you live longer

From boosting heart health to improving relationships, here's how laughter can literally fix our lives.



Laughter has its own set of benefits. It helps in boosting mood and creating a sense of community among people. But did you know that you can dodge heart diseases by laughing more?

One disputed study by scientists Adrian Dejan and Edward Jones, suggested that people of West African origin benefit from a higher center of gravity than white people, providing them a 1.5% advantage over the course of a 100m race, as they were able to fall to the ground more quickly between strides.

Another alternative theory for an apparent racial sprinting divide have also arisen over the years. One disputed study by scientists Adrian Dejan and Edward Jones, suggested that people of West African origin benefit from a higher center of gravity than white people, providing them a 1.5% advantage over the course of a 100m race, as they were able to fall to the ground more quickly between strides.

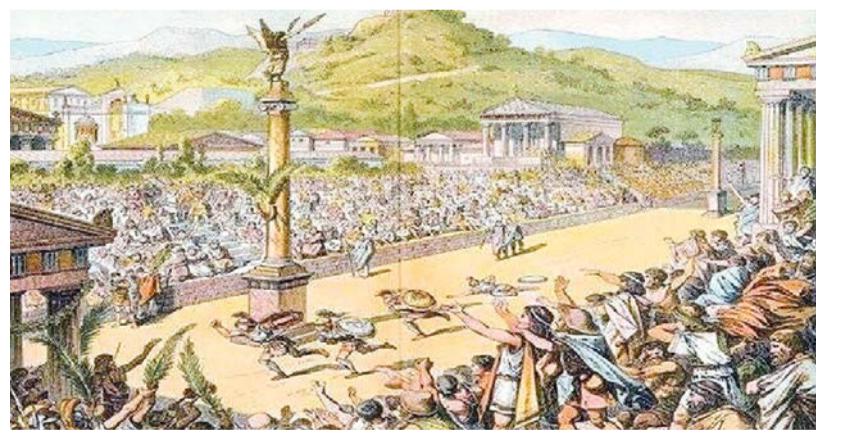
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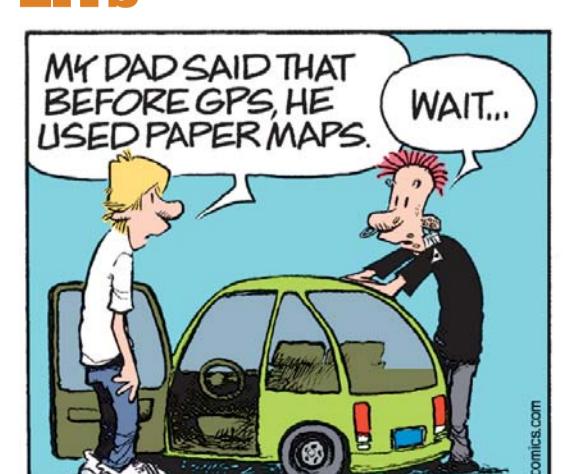
Yet, the theory was just that, a theory. No supporting data has ever been produced, and according to scientist, Yannis Pitsiladis, it is unlikely that it will ever.

There was a problem. Further testing found that virtually, all Olympic sprinters of every nationality and ethnicity also possessed it. So

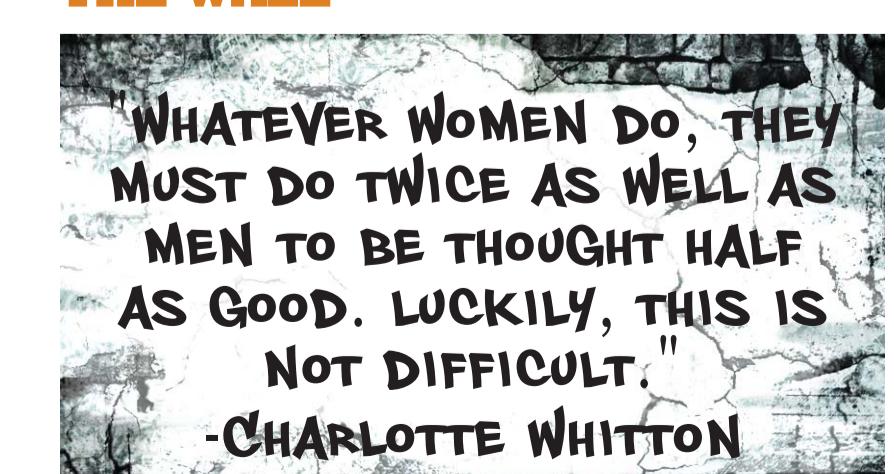
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ZITS



THE WALL

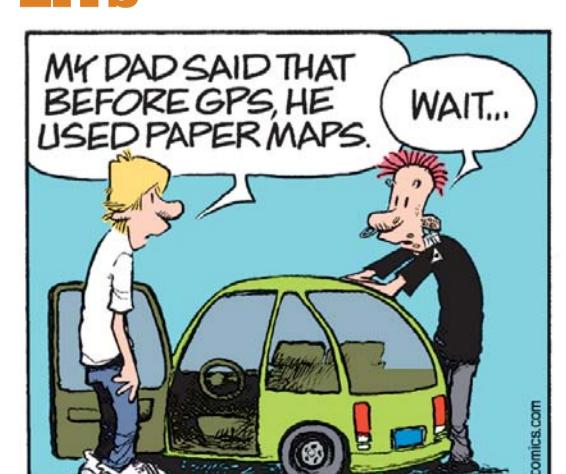


BABY BLUES



By Rick Kirkman & Jerry Scott

ZITS



By Jerry Scott & Jim Borgman

