Community

Sometimes weariness is inevitable, when you can’t hit snooze on life there are ways of getting through it.

Community

Philippe Bélaval discusses the significance of archaeological sites and their historical values.

Cover Story

Could Type 2 diabetes be managed with a simple outpatient procedure? P2-3

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Dern has always been worthy of celebrating.

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A ray of hope for diabetes relief?

An endoscopic procedure called DMR was seen to reduce A1C, a long-term measure of blood sugar; the need for insulin; and liver fat in people with nonalcoholic fatty liver disease, writes Stacey Burling.

This research is compelling because it harnesses the untapped potential of the luminal digestive tract in the management of health and disease — Gregory Ginsberg, medicine doctor

Gregory Ginsberg, a Penn Medicine doctor, is exploring a new frontier in the treatment of Type 2 diabetes. He’s co-leading a clinical trial at Penn that is testing whether killing cells on the inner surface of the duodenum — the first part of the small intestine immediately past the stomach — can lead to better control of blood sugar in people with diabetes.

Preliminary work done in South America and Europe has found that the outpatient, endoscopic procedure called duodenal mucosal resurfacing (DMR) reduced A1C, a long-term measure of blood sugar; reduced the need for insulin; and reduced liver fat in people with nonalcoholic fatty liver disease. While not a cure, the procedure could allow patients with diabetes to take fewer drugs and is another sign, Ginsberg said, that cells in the duodenum play an important role in the body’s metabolic communication system.

Penn is now one of five US institutions participating in a small pilot study of the procedure. Results are not yet available, but Ginsberg said the previous research has made him hopeful that he is studying a “transformative” procedure.

“This research is compelling because it harnesses the untapped potential of the luminal digestive tract in the management of health and disease,” Ginsberg said. “Moreover, it is provocative in its application of minimally invasive endoscopic therapy to treat a metabolic condition.”
The procedure had its genesis in observations about the impact of gastric bypass surgery, which creates a new path for partially digested food that bypasses the duodenum entirely. Obese patients who are diabetic and undergo the procedure often see big improvements in markers of diabetes even before they lose a lot of weight, Ginsberg said. That has triggered interest in whether the duodenum is involved in signalling other parts of the body about the need for insulin, a hormone involved in allowing your cells to use blood sugar for energy. It is part of a relatively new avenue of research into the role the gut plays in metabolism.

“The gut is really a frontier in diabetes research,” said Raymond Soccio, a Penn endocrinologist who studies fatty liver disease and is not involved in the study. In Type 2 diabetes, cells develop insulin resistance, which means they don’t respond properly to the hormone. (In the much less common Type 1, an autoimmune condition, the body stops making insulin.) Insulin resistance is an important factor in Type 2 diabetes, nonalcoholic fatty liver disease — most obese people with Type 2 have this — and polycystic ovary syndrome (PCOS).

Soccio said bile acids, which are involved in the absorption of fat and fat-soluble vitamins, cycle between the duodenum and the liver. “There also seem to have important signalling and other functions in the liver related to diabetes and insulin resistance that we don’t fully understand,” he said.

Ginsberg said that cells in the duodenum become enlarged and dysfunctional after years of exposure to unhealthy diets rich in fat and sugar. DMR uses a catheter to deliver a balloon filled with 176-degree water to the duodenum. During the 60-minute procedure, Ginsberg uses the balloon to ablate or burn cells in 3/4-inch segments over four inches of the duodenum. The hypothesis is that, when they grow back, the cells send more normal metabolic signals, Ginsberg said.

Patients in the study’s control group undergo a sham procedure that includes everything but the heated water.

The catheter was developed by Fractyl Laboratories Inc., in Lexington, Massachusetts. Its studies abroad are looking at the impact of the procedure on diabetes, fatty liver disease and PCOS. The company has approval to begin marketing its procedure in Europe, said Harith Rajagopalan, Fractyl’s co-founder and CEO. It announced January 28 that the procedure would first become commercially available in the United Kingdom as part of a partnership with HCA Healthcare UK. A cardiologist who earned a doctorate studying the genetics of colon cancer, Rajagopalan wondered why so many of his heart patients had diabetes. He also had a personal interest in the disease because his father had it. When he and his co-founder saw what bariatric surgery could do for diabetes, they thought that “insulin resistance may be a disease of the gut lining,” he said.

About 10 years ago, they began exploring the idea that the gut lining could be renewed in much the way that a chemical peel can make your skin look younger.

He sees Fractyl’s research as “starting to pull a thread” that connects diseases that have, until recently, largely been studied and treated separately.

Results released last year from studies abroad showed the procedure is not a cure. One study found that average A1C, a measure of average blood sugar over three months, dropped from 8.5% to 7.5% after two years. Another small study found that 13 of 16 patients were able to stop taking insulin.

While the reduction in A1C seems small, cardiologist Harith Rajagopalan said it is enough to avoid taking a third drug and to significantly reduce the risk of problems associated with diabetes-related damage to small blood vessels, and issues such as kidney failure, eye disease, and peripheral neuropathy. Studies also found reductions in liver fat of 32% to 45% after the procedure. There are currently no drugs approved for fatty liver disease, Rajagopalan said. The reduction from DMR is about what most medications currently being tested are shooting for and “very few are actually attaining.”

Rohit Soans, a bariatric surgeon at Temple University Hospital who is not involved in DMR research, said bypass surgery typically has much greater impact. The procedure cures diabetes in 83% of patients, he said, and reduces liver fat by almost 100%.

“The effect on diabetes is literally almost magical,” he said.

But he still found the Fractyl results “pretty promising.” Insurance companies make it hard for patients to qualify for bariatric surgery, he said, so some patients might welcome a less invasive alternative.

He wants to see longer-term data on results and safety. He pointed out that half of patients in a DMR study published last year had side effects, most considered mild.

Penn has so far attracted only three patients to the trial. The goal for all five centers is 18. To be eligible, patients must have poorly controlled diabetes despite being on metformin and one other drug. They can’t be taking insulin. Their body mass index needs to be between 28 and 40 and they must be under age 65. Anastasia Amaro, medical director of Penn Metabolic Medicine and principal investigator for the trial at Penn, said the “extremely strict” rules have slowed recruitment.

“There is huge interest from patients and people with diabetes,” she said. “We receive phone calls daily.” She is intrigued by the results from other countries and the “out-of-the-box thinking” of the investigators.

Soccio also said DMR is “promising” and he’d like to know more about how it works. As a clinician, he wonders which patients will benefit most from it. There are many medications for diabetes, he said, and most people can get it under control for a lot of drugs, though, and some may like the idea of a procedure that works for months or years. “That would appeal to some people,” he said.

— The Philadelphia Inquirer/TNS
Rules for the perpetually exhausted

Sometimes weariness is inevitable, when you can’t hit snooze on life there are ways of getting through it, writes Jo Walker

I’ve lived with chronic fatigue syndrome for a decade now, which means I’m practically a Professional Tired Person. I work tired. I travel tired. I go on dates tired. I mop the bathroom tired. Medical science still hasn’t worked out why this is (there are several boring competing theories), but I know I’m not alone. You don’t have to have a chronic illness to feel crappy in this modern life. Work, kids, existential dread – they all take energy. Which is why it pays to have some strategies for living a functional life when all you want to do is nap.

Lower your standards

I have a friend who threw a dinner party for her in-laws two weeks after having a baby. While applauding her ambition, I also secretly thought: “If that was me, they’d be lucky to get some ice-skating, or playing board games. And energy, which can be better used for helping to prepare and serve a meal. Who wants the magic panacea? “ – The Guardian

The hardest bit is doing all this and not feeling guilty. If it helps, remember that guilt requires time and energy, which can be better used on making yourself feel sad and ashamed.

Outsource strategically

When I’m in full power-saving mode, I sign up for the cheapest meal delivery service I can find and get a week’s worth of food in a box every Tuesday afternoon. This saves energy on trips to the supermarket, any meal prep more complex than opening a container, and also – blessedly – having to think about what’s for breakfast, lunch and dinner every day.

I don’t know! The box knows! If you single strategically, you’ll have an investment that outsources all the mental and physical energy I usually spend on feeding myself to a third party. Sometimes, this is essential.

With rideshare and food delivery apps you can outsource a lot of stuff to strangers these days (budget allowing, of course). Sometimes it’s worth fronting cash to do things like get home safely before you collapse, or have a hot meal on the table in 30 minutes or less. One day I aspire to pay someone to occasionally help me with the vacuuming and ironing. For the Tired Person, this is a worthy goal.

Outsourcing also means asking for help from the people closest to you. Delegate tasks. Get specific. Be honest about what you need. Also be grateful and repay kindness with hugs, or whatever else is to hand.

Why more than a week of keto may not be beneficial

If the start of the new year led you to go on the ketogenic diet in an effort to lose weight, a new study suggests you may have been on it a little too long.

Researchers at Yale University have conducted a mice study to review the effects of the keto diet. They discovered that beyond a week, the benefits begin to cease.

The study was recently published in *Nature Metabolism* and results indicate that over a limited time period, consuming a high-fat, low-carb diet can possibly offer health benefits to humans.

However, the same cells are also tied to negative effects of keto. Vishwa Deep Dixit, Ph.D., lead author of the study who is a professor of comparative medicine and immunology at the Yale School of Medicine, said keto tricks the body into burning fat. The body acts as if it’s in starvation mode when the low consumption of carbohydrates causes glucose levels to drop. Despite the body not actually being in starvation mode, it begins burning fat instead of carbohydrates. That leads to the release of ketone bodies, which are an alternative source of fuel. As ketone bodies burn in the body, gamma delta T-cells expand throughout.

Dixit said this process improves metabolism and reduces diabetes risk and inflammation. He said mice showed decreased blood sugar levels and inflammation after a week on keto.

However, when the body acts as if it’s in starvation mode, researchers found fat gets stored in the body at the same time that fat breakdown occurs. As mice continue the high-fat diet, Dixit said they start to store more fat than they can burn and obesity and diabetes begins to develop.

“They lose the protective gamma delta T-cells in the fat,” Dixit said.

“Our findings highlight the interplay between metabolism and the immune system, and how it coordinates maintenance of healthy tissue function,” said comparative medicine postdoctoral fellow Emily Goldberg, who discovered that the keto diet expands gamma–delta T cells in mice.

Despite the findings of the mice trial, however, Dixit said long-term human clinical trials are needed.

“Before such a diet can be prescribed, a large clinical trial in controlled conditions is necessary to understand the mechanism behind metabolic and immunological benefits or any potential harm to individuals who are overweight and pre-diabetic,” Dixit said.

The results come after Dr Donald Hensrud of the Mayo Clinic voiced opposition to the diet.

Eating too much of any diet is dangerous. “People want to believe,” he said.

“They want an easy way out, they want the magic panacea.” – *The Atlanta Journal-Constitution/TNS*
Should you drink eight glasses of water a day?

By Amy Fleming

Before you read this article, can I just check you’ve drunk enough water today? You might want to refill your bottle because, remember, if you wait until you feel thirsty, you may already be dehydrated. No one is sure where this advice came from, but it’s all over the Internet.

“Nowadays this is not considered sensible,” says Stuart Galloway, an associate professor in physiology, exercise and nutrition at the University of Stirling. “As humans, we have this homeostatic system, so when we need water, we feel thirsty.” Drinking when you are thirsty, he says, maintains your body’s water level within about 1-2% of its ideal state. “For most people, this is absolutely fine. Even for athletes, a loss of around 1% is considered to have negligible impact upon performance. So, although thirst may not kick in until you have lost some body water, this is not necessarily a bad thing.”

As we get older, our sense of thirst can get fuzzier and that is when dehydration can become a threat. It is a similar story for children, too. So perhaps the advice to drink water before you feel thirsty was originally aimed at parents and the elderly but now healthy adults are putting away gallons of water in a quest to be their best selves.

There is a dearth of facts when it comes to hydration. Pharmaceutical companies aren’t interested in researching the benefits of a free resource and dehydration isn’t a pressing public health issue requiring government funding. This leaves a profitable grey area for the drinks industry to exploit.

Water is, it would have us believe, a purifying fast-track to glowing skin, bright eyes and bags of energy. Galloway says detoxing with water is “a load of rubbish. Your kidneys do a very good job of sorting out what you need to retain and what you need to get rid of.”

Will water make your skin better? While dehydration isn’t good for your skin, says Hav Sheegll, a consultant dermatologist and honorary senior lecturer at the University of Manchester, “once you hit a certain level of fluid intake, providing you are healthy, any excess water will be peed out.”

That is, unless you drink more than you can pee. Amanda Burl, an emeritus professor of public health at City, University of London, warns that drinking too much water can kill. Water intoxication occurs when the amount of electrolytes in the body becomes imbalanced by excessive water intake, disrupting brain function.

Dehydration is said to be the most common cause of headaches and in 2015, Galloway tested the hydrating potential of a range of drinks and found a litre of soft drink was no less hydrating than a litre of water. Similarly, a litre of instant coffee, containing 212mg of caffeine, was as hydrating as water. Milk was even more hydrating, and effective as a hydration solution for people with diarrhoea. While not a green-light to binge on high-calorie drinks, it’s good to know that a cup of tea or half a lager still count as water intake.

How much you need to drink is governed by how active you are, the weather and your physiology. Tellingly, if you seek water-consumption advice from a quietly reputable US source such as Harvard Medical School, instead of the 8x8 rule, you get “four to six cups” a day for healthy adults and all beverages count, even diuretics such as coffee, tea and booze. Don’t they make us pee more so we end up dehydrated?

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How much of us are seriously dehydrated? No one knows but Galloway once studied fluid intake among workers in a Cardiff call centre and found that, to keep their ratings up, many would restrict their fluid intake to avoid loo breaks. “We imagine similar behaviour with long-distance lorry drivers,” he says. If we’re ingesting enough water, he adds, we should probably be going to the loo “somewhere between five and seven times a day.” — The Guardian
Chocolate lasagna, exotic, luxurious winter dessert

Our love for hot chocolate grows tenfold during the chilly winter days when the nights are cozy and everyone is snuggled into warm blankets. It acts as a perfect winter fix, whether you’re feeling low, or carve a great mug of happiness to share with a bunch of friends along with loads of memories.

Hot chocolate, for most of us, needs no season or occasion. Be it summer, winter, fall or spring, a warm cup of chocolate or a rich gooey chocolate cake is always welcomed, as it feels like a tight warm hug from inside.

Chocolate is one of the manmade simple gifts that make winter more enjoyable.

One exotic and luxurious chocolate winter dessert is chocolate lasagna. Perfect for parties to feed the crowd and it’s completely no bake recipe. Just make this easy recipe with Oreo crust, hot chocolate cheesecake mousse layer, chocolate pudding, whipped cream and marshmallows.

The first layer is no bake Oreo crust, the second layer is chocolate cheesecake mousse and it is melt in your mouth delicious.

Third layer is instant chocolate pudding with mini marshmallows. The top most layer is whipped cream with a bunch of mini marshmallows and chocolate sauce drizzle. This dessert is a perfect for cocoa loving crowd, thanks to the Oreo crust topped with hot chocolate cheesecake mousse, chocolate pudding and a creamy to layer complete with marshmallow. This dessert requires some time in the fridge or freezer to set, but as previously mentioned, there’s no actual baking involved.

So if you’re looking for something sweet and that’s also hassle free, well say hello to your new go to holiday recipe – Chocolate lasagna.

Along with all the calories contained in chocolate, there are numerous health benefits associated with moderate consumption of dark chocolate especially in cold weather. Iron rich – during colder months, it can be even harder for people with iron deficiency anaemia to meet their daily iron goal. If you are anaemic, it is easier to feel fatigued and cold. It may be good to add some chocolate to your diet. A serving of 45-60% of dark chocolate has 3.5 grams of iron, which is like 20% of your daily needs.

Rich in antioxidants – Antioxidants are important because they scavenge for free radicals in your body and terminate them before any cellular damage can be done. Basically they help keep our body healthy and functioning at its best. Fruits and vegetables are rich in antioxidants but they are more enjoyable when they are available in the form of melt in your mouth chocolate.

Feel good factor – Endorphins and serotonin are two hormones that are famously known as the “feel good hormones”. Eating chocolate increases the levels of these hormones in the brain and helps you get that cloud nine feeling. Another common neurotransmitter is serotonin, known as a serious mood booster.

The best part about these two brain chemicals is that eating chocolate boost levels of both of these in the brain. Chocolate is an excellent dessert option on a gloomy rainy day.

RAISES good cholesterol – Dark chocolate has been proven to raise HDL levels, which is the good cholesterol found in human body in every single cell. HDL cholesterol helps make up cell membranes and regulate hormone production. Thanks to the cocoa butter in dark chocolate. It contains oleic acid, a mono saturated fatty acid that is beneficial for the body.

Dark chocolate tastes awesome – Dark chocolate blends well with ideally almost everything. In ice cream, desserts, hot chocolate, dipping sauce for fruits, sundae and many more. No matter whatever may be the occasion, a square or two of dark chocolate is probably the answer.

Chef Tarun Kapoor, Culinary Mastermind, USA. He may be contacted at tarunkapoor83@gmail.com

Method:

To make the crust, place whole Oreo cookies with the filling in a food processor and ground in fine crumbs. Stir in soft unsalted butter and press the mixture in the bottom of 13 X 9 inches casserole dish. Place in the freezer or refrigerator to firm while making next layer.

To make the hot chocolate cheesecake mousse layer, beat softened butter and cream cheese until creamy and smooth. In another bowl, beat heavy cream and instant milk chocolate powder until stiff peaks are formed. Fold half of hot chocolate whipped cream in cheesecake mixture then fold in remaining half. Spread over the crust and set in refrigerator or freezer to firm.

For pudding layer in a bowl whisk instant chocolate pudding mix and milk until it starts thickening. Stir in soft unsalted butter and prepare whipped cream, beat heavy whipping cream and powdered sugar until stiff peaks form. Spread whipping cream on top of pudding layer and place in the fridge for a few hours or preferably overnight.

Before serving sprinkle two square or two of dark chocolate.

CHEF’S SPECIAL

For the Oreo crust

Oreo cookies 30 – 35 nos.
Unsalted butter ½ cup

For Hot Chocolate Cheesecake Mousse

Unsalted butter ½ cup
Cream cheese 250 gm
Powdered sugar 1 cup
Vanilla extract 1 tsp
Cocoa mix 30 gm
Whipping cream 1 ½ cup

For chocolate pudding layer

Chocolate pudding mix 220 gm
Milk 2 cups
Marshmallows 1 cup

Topping

Heavy whipping cream 1 ¼ cup
Powdered sugar 2 tbsp
Marshmallows 2 cups
Chocolate Nutella for garnish

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ISL Qatar supports Global Citizenship and Community Action

At the International School of London (ISL) Qatar, the service experience created by the Global Citizenship and Community Action programme (GCCA) encourages students to become caring, compassionate, responsible and knowledgeable global citizens, capable of making this a better world for all. This is an essential part of the ISL Qatar Mission Statement. As an organised part of the curriculum, GCCA activities offer opportunities to apply concepts, skills and knowledge, as students explore the complex global community, gain personal insight, develop existing and new skills, and grow in confidence and responsibility as they engage in the ‘real world’ beyond school. During the first term the students of International School of London (ISL) Qatar held several activities in support of the Global Citizenship and Community Action (GCCA). As an organised part of the curriculum, GCCA activities offer opportunities to apply concepts, skills and knowledge, as students explore the complex global community, gain personal insight, develop existing and new skills, and grow in confidence and responsibility as they engage in the ‘real world’ beyond school.

The activities included:

**Second Chance Animal Shelter**

The Second Chance Animal Shelter Extra Curricular Activity Group featuring students of Grade VI-XI worked on initiatives to support local shelter. They held a movie event and contributed to the ISL Qatar Market Day selling homemade sweet snacks. The students raised over QR 1,600. Alongside the fundraising, the students visited the shelter every two weeks to learn about animal welfare, walk the dogs and socialise the cats.

**Environmental Protection**

Students of Grade-IX initiated a GCCA assembly for students as part of their Service as Action Programme. The girls invited, Jose Saucedo, a representative from Doha Environmental Actions Project (DEAP), to give a talk and encourage the community to take action against pollution by recycling and composting their waste and becoming a role model to their peers. In addition, one of the Grade 10 students announced the launch of her ‘Greener Blue Personal Project’ for climate change awareness and asked the community to wear blue. A couple of Primary students also encouraged the school to dress up as an animal to help raise awareness of the Australian bush fires as part of their ‘Sharing the Planet’ movement.

**Market for Education Above All**

Six students of Grade-VIII organised flea market as they initiated this project as a part of their Service as Action programme required by the International Baccalaureate (IB) curriculum. The proceeds from the sale supported the charity Education Above All.

**Funds for Support Staff**

An ISL Qatar staff member initiated a community action programme for the ISL Qatar support staff with the help of some of students and parents. The team sold fatayers during break times to raise funds for valued community members. Using the money, they bought supplies, including rice, flour, oil, sugar, tea, and lentil.

VCUarts Qatar to host lecture and workshops on ‘Art as a Vehicle for Driving Technology’

Virginia Commonwealth University School of the Arts in Qatar (VCUarts Qatar) is all set to host a lecture and series of workshops on ‘Converging VR, AR and 3D Printing: Art as a Vehicle for Driving Technology’ from February 3 till February 5. Focusing on virtual reality (VR), augmented reality (AR), 3D printing and software development, Eden Labs, South Africa-based tech, develops immersive experiences with artists to push the limits of emerging technologies. Rick Treweek, Creative Technologist, and Gareth Steele, Art Director at Eden Labs, will talk about how mixed reality technology and other digital media can be used to tell captivating and interactive stories on February 3 at 12:30pm at VCUarts Qatar’s Atrium. Participants at the workshop for the general public on February 3, from 6 to 9pm at the Atrium at VCUarts Qatar will focus on basic content creation and multimedia skills for VR creation tools, 360-degree photography and videography, and 3D scanning and photogrammetry. The attendees will also be given an overview of the possibilities of 3D printing and mixed reality. The participants at the workshops for Education City students, faculty and alumni, on February 4 from 5pm till 8pm at the Atrium at VCUarts Qatar will focus on how to translate existing media into augmented reality or virtual reality content with Treweek. Filmmakers and performers who are interested in 360-degree cinematography and videography techniques will be given advice by Steele on their projects.
**Sunspots**

Sunspots are comparatively cool areas at up to 7,700° F and show the location of strong magnetic fields protruding through what we would see as the Sun’s surface. Large, complex sunspot groups are generally the source of significant space weather.

**Coronal Mass Ejections (CMEs)**

Large portions of the corona, or outer atmosphere of the Sun, can be explosively blown into space, sending billions of tons of plasma or superheated gas Earth’s direction. These CMEs have their own magnetic field and can slam into and interact with Earth’s magnetic field, resulting in geomagnetic storms. The fastest of these CMEs can reach Earth in under a day, with the slowest taking 4 or 5 days to reach Earth.

**Solar Wind**

The solar wind is a constant outflow of electrons and protons from the Sun, always present and buffeting Earth’s magnetic field. The background solar wind flows at approximately one million miles per hour.

**Solar Flares**

Reconnection of the magnetic fields on the surface of the Sun drive the biggest explosions in our solar system. These solar flares release immense amounts of energy and result in electromagnetic emissions spanning the spectrum from gamma rays to radio waves. Traveling at the speed of light, these emissions make the 93 million mile trip to Earth in just 8 minutes.

**Earth’s Magnetic Field**

Earth’s magnetic field is stretched on the Sun. During geomagnetic storms, it is buffeted by the atmosphere and charged particles.
Space Weather

Space weather refers to the variable conditions on the Sun and in the space environment that can influence the performance and reliability of space-based and ground-based technological systems, as well as endanger life or health. Just like weather on Earth, space weather has its seasons, with solar activity rising and falling over an approximate 11 year cycle.

Sun's Magnetic Field
Strong and ever-changing magnetic fields drive the life of the Sun and underlie sunspots. These strong magnetic fields are the energy source for space weather and their twisting, shearing, and reconnection lead to solar flares.

Solar Radiation Storms
Charged particles, including electrons and protons, can be accelerated by coronal mass ejections and solar flares. These particles bounce and gyrate their way through space, roughly following the magnetic field lines and ultimately bombarding Earth from every direction. The fastest of these particles can affect Earth tens of minutes after a solar flare.

Geomagnetic Storms
A geomagnetic storm is a temporary disturbance of Earth’s magnetic field typically associated with enhancements in the solar wind. These storms are created when the solar wind and its magnetic field interacts with Earth’s magnetic field. The primary source of geomagnetic storms is CMEs which stretch the magnetosphere on the nightside causing it to release energy through magnetic reconnection. Disturbances in the ionosphere (a region of Earth’s upper atmosphere) are usually associated with geomagnetic storms.

Magnetic Field
The magnetic field, largely like that of a bar magnet, gives the protection from the effects of the Sun. Earth’s field is constantly compressed on the day side and the night side by the ever-present solar wind. Magnetic storms, the disturbances to Earth’s field, can become extreme. In addition to some buffering in the magnetosphere, this field also offers some shielding from particles of a radiation storm.

Source images: NASA, NOAA.
The psychology of small plates

Two hundred years ago a group of aristocrats changed the way we eat – for the worse. If you ever worry you’ll still be hungry after dessert, writes Zoe Williams

I was confronted by a conundrum at the weekend. My sister had made chickpea curry for 14, and a lentil and mushroom curry, also for 14, and there were 22 of us, and if you’re wondering why there was no meat on this table, it’s because all the meat eaters of the older generation are dead. Take heed, carnivores. Oh, but also, there were sausages.

Anyway, hours in, when I was on my fourth or fifth helping, I noticed that there was no end to it. No, there was more of it than when we started. There was a lake of chickpeas. We had got to the “Would you like to take some more?” stage. And here’s what was truly bizarre: the quantities weren’t actually for 14; she had taken a recipe for two, and tripled it. So, it was basically two dishes for six, and it could have fed three generations of extended Williamses for a week. How is this possible? How do you explain this exponential thing that happens, when you scale up a recipe a few times and somehow end up with enough to feed 1,000 people?

There is food psychology at play: if you experience plenty on a table, you don’t panic that it’s a scarce resource, and you tailor your portion. I once read a detailed analysis of the feeding of the 5,000, which posited that everybody had brought a small amount of food with them, but was exasperated by the potential embarrassment of having to share it with more people than it would feed.

So the question is, why don’t we always eat like this? The Russian service has a lot to answer for.

This is the meal convention we have settled on: a series of dishes served one after the other, raising the prospect that you will never quite get enough, unless you are presented from the start with way too much. It began to displace the French service – a table groaning with everything at once – in the early 19th century, but didn’t catch on in Britain for another 60-odd years, although that’s nothing on how long it took us to wake up to garlic.

Its benefits were twofold: the food was hotter as you ate it, and it required a lot of servants, so it made you look rich, provided, of course, that you were rich. In its original form, it could range from six courses to 30. You can see the trace of it in the modern tasting menu, favoured by people who look at the lithographs in Charles Ranhofer’s The Epicurean and think: “I wish I could look as bored as that.” (That is monumentally unfair: most of the illustrations are of coffee pots.) Anyway, its bare bones were oysters, soup, fish, entree, roast, pudding. With their abundance and unimaginable poshness, the Russian aristocrats thus completely wiped the table with the French, whose only fightback was cheese. There was a simplified version for people who lacked the staff, known as the English service soup, starter, roast, served by the actual hosts, which was only one rung above being fed in a stable and you could argue the toss for ever about whether that caught on, since we have ended up with not 30 courses or even six, but three: a starter, a main course and a pudding.

Yet at the same time, the overall fandango is very much rooted in the Russian service, based on the discovery of tapas late last century – the freedom of having dishes small enough that you could order more if you wanted, the fellowship of being able to all eat from the whatever plate. You could just as well call it the Chinese service, based on dim sum. But this emphatically is not a return to the groaning tables of 18th-century France, since the dishes are deliberately small, which trend in turn created the Shoreditch service – a number of sharing plates that all cost as much as regular plates but aren’t as big. I suspect the 2020s will see a return to the original ways – huge platters, all on the table at once, creating such an aura of largesse that you feel full just looking at them.

The 2020s will see a return to the original ways – huge platters, all on the table at once, creating such an aura of largesse that you feel full just looking at them.
**LEISURE**

**Colour by choice**

1. **RED**
2. **BLUE**
3. **BLACK**
4. **YELLOW**
5. **GREEN**
6. **GRAY**

**Maze**

Help the gorilla find its way to the fruit basket.

**Connect the dots**

Join the dots in order to find out more!

**Picture crossword**

**KITCHEN**

USE THE PICTURES BELOW AS CLUES

**ACROSS**

1. **THERMOMETER**
2. **SALT**
3. **SPICE MILL**
4. **HEAT**

**DOWN**

1. **COOKER**
2. **UTENSILS**
3. **KTCH**
4. **ANSWER**
**Sudoku is a puzzle based on a 9x9 grid. The grid is also divided into nine (3x3) boxes. You are given a selection of values and to complete the puzzle, you must fill the grid so that every column, every row and every 3x3 box contains the digits 1 to 9 and none is repeated.**
Researchers have found that children who spend more time looking at tablets or television screens as infants are likely to be less physically active as they enter school age.

The study, published in the journal *The Lancet Child and Adolescent Health*, revealed that kids aged two to three who spend more than three hours a day viewing screens, such as tablets and televisions (TVs) grow up to be less physically active at age 5.5 years, compared to children who used screens for an hour or less each day.

The study, involving more than 500 children in Singapore, suggests that adhering to the World Health Organisation (WHO) guidelines to limit screen time to one hour per day or less among children aged two to five years may promote healthier behaviours in later life.

“We sought to determine whether screen viewing habits at the age two to three affected how children spent their time at age five. In particular we were interested in whether screen viewing affected sleep patterns and activity levels later in childhood,” said Falk Muller-Riemenschneider, from the National University of Singapore.

Screen viewing is increasingly prevalent but excessive screen time in childhood has been linked to a range of health problems, including increased risk of obesity and reduced cognitive development, the researchers said.

For the findings, parents were asked to report how much time the children spent on average either watching or playing video games on TV, using a computer, or using a handheld device, such as mobile phone or tablet.

These screen habits were recorded when the children were aged two and again at age three. An average of the two recordings were used in the analysis.

At age five, the children were an activity tracker continuously for seven days to monitor their sleep, sedentary behaviour, light physical activity, and moderate-to-vigorous physical activity. Children in the study spent an average of 2.5 hours a day watching screens at age two to three.

Television was the most commonly used device and was associated with the longest viewing time. Only a small proportion of children in the study met WHO recommendations of one hour per day or less.

The findings revealed that children who had used screens for three or more hours a day between the ages two to three spent an average of 40 minutes more time sitting down each day at age five than did those who had used screens for less than an hour a day at the same ages.

Such higher screen use in infancy was associated with around 30 minutes less light physical activity each day, and around 10 minutes less moderate to vigorous activity each day, the study said. – IANS

**LIBRA**

March 21 — July 22

Fascinating discussions could lead to insights and revelations that blend well with what you’re learning from outside sources. Your intuitive abilities aren’t lying fallow either. Insights and revelations could come to you that blend well with what you’re learning from outside sources.

**ARIES**

March 21 — April 19

Today you could be hit with some exciting news, Aries. It could involve new people and new equipment coming onto the scene. It could involve an entirely new project or course of action that you never would have imagined. This is likely to shape up to be a lucky break for you, as the new situation probably suits your skills and talents nearly perfectly. Make the most of this opportunity. It could make a big difference to you.

**TAURUS**

April 20 — May 20

Information that you receive from others and from within your own heart could compel you to participate in some ambitious projects, Taurus. They may be work related, connected with a group, or your own. Whatever they are, you’re likely to find them interesting, challenging, and personally gratifying. New opportunities for advancement and self-expression could be opening up for you.

**CANCER**

June 21 — July 22

Group activities or social events in your neighbourhood could put you in touch with new and exciting people who eventually become friends, Cancer. Shared goals and interests could give rise to plans for ambitious projects. Whatever enterprises you start today are likely to prove successful if everyone involved pitches in. In the evening, arrange for a quiet tête-à-tête with your partner.

**LEO**

July 23 — August 22

Have you been looking to branch out in a new direction, Leo? If so, this could be the day you get the lead of a lifetime. Or you might receive some unexpected information indicating possible new sources of income that you could pursue on your own. Whatever they are, new doors of opportunity are going to open for you that could make a big difference in your lifestyle.

**VIRGO**

August 23 — September 22

Unusual circumstances could arise that change the course of your creative orientation, Virgo. This could involve modern technology in some way, and it’s highly likely that it concerns the gathering, sharing, and use of information. You could find yourself considering some unusual options, which could involve changing jobs, your residence, or other factors important to your lifestyle.

**SCORPIO**

October 23 — November 21

New information could be coming at you from all sides today, Scorpio. Books, magazines, TV, the Internet, and conversations with friends are likely to bring exciting knowledge your way that reinforces some of your own convictions. Your intuitive abilities aren’t lying fallow either. Insights and revelations could come to you that blend well with what you’re learning from outside sources.

**LIBRA**

September 23 — October 22

Today you could decide to attend a class, workshop, or social event involving people in a spiritual, metaphysical, or intellectual field. Fascinating discussions could lead to insights and revelations of your own, Libra. You could explore ways to harness your natural healing ability, perhaps through Reiki, massage, or other hands-on disciplines.

**CAPRICORN**

December 22 — January 19

Some fascinating new information, possibly about spiritual or metaphysical matters, could come your way today via books, magazines, TV, or the Internet, Capricorn. This could set you off on a new course of study. Your own insights and revelations could prove invaluable in increasing your understanding of what you read. In the evening, expect a surprising letter or phone call.

**AQUARIUS**

January 20 — February 18

Dreams and meditation could lead to insights regarding how best to handle your finances and make your money grow, Aquarius. You could receive some surprising ideas from newspapers, TV, or the Internet. Your level of intuition is very high. No matter how outrageous an idea may seem, consider it carefully before making a decision. A written plan of action for anything you do would be helpful.

**SAGITTARIUS**

November 22 — December 21

Surprising news about your own finances and the world economy in general could cause you to feel confident and secure about your financial future, Sagittarius. An unexpected raise in salary could come your way soon, possibly because of sudden changes at your workplace. Some of the information that you receive could seem vague and uncertain at first, but whatever news follows should clear it up.

**PISCES**

February 19 — March 20

A social event or group rally could put you in touch with some new and exciting people in interesting fields, Pisces. You might even run into an old friend you haven’t seen for a long time. If you aren’t currently romantically involved, an attractive new person could come on the scene. This promises to be an exciting and stimulating day for you. Don’t be surprised if new doors to a great future open for you. Enjoy!
Dern has always been worthy of celebrating

By Mary McNamara

Laura Dern is everywhere these days, and that alone is proof that no matter what hill you occupy in the current culture wars, all is not lost. Emmys, Golden Globes, Oscars – for the last few years, virtually every project she touches turns to gold – Twin Peaks, Big Little Lies Seasons 1 and 2, The Tale, and this year, Little Women and Marriage Story, both of which are best picture nominees, with Dern nominated as supporting actress in Marriage Story.

She was even part of Ellen DeGeneres’ receipt of the Carol Burnett Award at this year’s Golden Globes; Dern played the woman to whom DeGeneres’ character Ellen came out during the famous boundary-breaking Puppy episode. The decision to play an openly bold woman on broadcast television in 1997 damaged Dern’s career, but we live in a day and age where everyone wants to look good and why not? For an actress, her make-up is essential since we can transform ourselves into various characters and avatars for our roles through cosmetics,” Aashka said.

“Hence, for me my passion for make-up led me towards entrepreneurship and of course, I have started with eyes as the eyes tell a story which none other can. The plan is to turn passion into business and business into passion,” she added.

The Khushum actress had launched brand Renee in May 2018 that was named after her mother-in-law and made eyelashes the must-have in every girl’s make-up kit. It is now set for a revamp, after which the brand will have its range of kohl eye pens to be followed by eye liners, colour range and an entire line of beauty products. – IANS

ENTREPRENEUR: Aashka Goradia's passion for make-up led her towards entrepreneurship

Aashka Goradia's passion for make-up led her towards entrepreneurship.

AHEAD OF TIME: For the last few years, virtually every project Laura Dern touches turns to gold

As a performer ahead of her time, and 35 years after she decided to turn down a Brat Pack lead for a small role and a chance to work with Peter Bogdanovich in Msk, the industry is finally beginning to catch up.

Dern is a character actor who also is a star, a very rare breed. She is also a character actor who never appears to be playing a character, a breed rarer still. No matter how radical the part (Enlightened’s Amy, the napalm-equipped helicopter parent Renata in Big Little Lies, the take-no-prisoners divorce attorney in Marriage Story), Dern humanises it. And no matter how human the part (the self-deluded documentarian in The Tale, Marmee in Little Women, ), Dern radicalises it.

It’s tough to think of another performer who fits so easily in, and is willing to do such a varied palette of projects. In 2017, she had roles in Star Wars: Episode VIII: The Last Jedi and The Last Man on Earth. Playing the woman’s best friend. Yes, it’s metaphorically but we live in a day and age where everyone wants to look good and why not? For an actress, her make-up is essential since we can transform ourselves into various characters and avatars for our roles through cosmetics,” Aashka said.

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‘Archaeological sites situate people both in space and time’

By Mudassir Raja

The annual Doha International Book Fair has established itself as one of the largest book fairs in the region. The recently concluded 30th edition of the fair proved this fact with an increasing number of publishers, writers, collectors and avid readers taking part in the event.

The book fair is literally international at its core as publishers and writers from around the world simply love to attend the event. Every year, there are writers and publishers coming from France to attend the book fair. Their participation became much more important this time as 2020 is being celebrated as the Year of Culture between Qatar and France.

Among all the visitors coming from France, Philippe Bélaval, Director of Centre des Monuments Nationaux (Center of National Monuments), was the most prominent. The centre is a French government body, which conserves, restores, and manages historic buildings and sites which are the property of the French state.

Community recently sat with Philippe Bélaval, Director of Centre des Monuments Nationaux, and discussed the significance of archaeological sites and their historical values.

Being head of the Centre des Monuments Nationaux, which holds around 100 monuments around France, could you tell us more about your role and what are the future plans of the centre?

My role is to enhance the legacy of the past, and to show how useful it is to increase economic and social welfare all over the country. Every monument should be regarded as an opportunity to support sustainable development.

What technology and techniques the centre uses to conserve, preserve and restore the originality of historical sites?

As far as restoration is concerned, we use both old methods and contemporary techniques. Our duty is to remain as close as possible from what the builders of the past have left for us, without neglecting all the added-value of modern technologies.

How would you define the importance of historical and archaeological sites for future generations?

Monuments and archaeological sites are landmarks for the population, they help to situate men and women of today both in space and time. They help people to recognise themselves as members of a community. They create both pride and confidence.

Is there still a trend in modern French architecture to follow and take inspiration from old monuments?

Contemporary architecture in France follows different paths. Architects certainly take inspiration from the past when they look for greater sustainability. However, their language is quite diverse.

What role can the centre play in improving cultural ties between France and Qatar?

In France, the Centre des Monuments Nationaux promotes a heritage policy aimed at economic and social development, with a deep attention paid to values. Such an approach might meet the expectations of Qatar in the field of culture.

How important is the participation of the centre in Doha International Book Fair?

Thanks to the invitation of the French Embassy and FNAC, it is the first time that the centre takes part to the book fair. It is a splendid opportunity to present the books published by the Editions du Patrimoine, the publishing company of the centre, and to invite the visitors of the fair to come to France and visit the French monuments.

What is your impression on the Doha International Book Fair in comparison to other book fairs in the world?

I have been strongly impressed by the number of students visiting the fair with their teachers. Such visits are a good way to transmit the taste of reading and of culture.