# mensa world journal

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**MENSA INTERNATIONAL** 

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https://bit.ly/MI welcome

## from the editor..



Hi All,

- have a look at p3 to find out how Mensa Germany accommodates its members
- news of the 2024 MI Poetry Competition is on p4
- on p5, Taryn Dryfhout reports on recent research into how the brain stores information, while on p6, Chris Leek, former International Chairman and Chairman of British Mensa, reflects on his time on both Boards
- our Member Profile is on p7, and on p8, Theodore Manthovani reports on the Asia-Pacific Mensa Gathering in Bali in November last year
- on p9 we learn from recent studies that "Zoom appears to be an impoverished social communication system relative to in-person conditions."
- Supplementally is on p10, the Officer Directory is on p11 and Therese's Teasers are on p12

### Kate

Log in to <u>www.mensa.org</u> to read or download the MWJ in full colour

Cover: the winning entry in the Mensa International PhotoCup Competition 2023 by Steve Huth (USA)

# CALL FOR NOMINATIONS FOR THE POST OF INTERNATIONAL DIRECTOR – SMALLER NATIONAL MENSAS

### **Duties:**

- a. To advocate the interests of all smaller national Mensas. A "Smaller National Mensa" is defined as a Full National Mensa that has three or fewer IBD votes.
- b. To assist smaller Full National Mensas at their request.
- c. To ensure in the ExComm's discussions that ExComm members are aware of the multiple national cultures, multiple national traditions, and multiple nations in Mensa; also, to raise awareness of possible sensitive national issues.
- d. To ensure in the ExComm's discussions that ExComm members are aware that there are many Full National Mensas operating under different legal systems, with different prerequisites.
- e. And other duties as may be assigned to them by the Board.

The successful candidate will become an International Elected Officer, a member of the IBD, ExComm, and a Director of MIL, for a three (3) year term beginning July 1st, 2024 and ending on June 30th, 2027.

### **Eligibility:**

Only members of a Full National Mensa with three or fewer votes as of March 1st, 2024 are eligible for this position (i.e., members of Germany, American and British Mensas are not eligible).

### **Nominations:**

All members of the IBD, other than members of the Election Committee SNM and International Elected Officers, are eligible to nominate candidates.

### **Closing date:**

Nominations must be received by 23:59 UTC on March 1st, 2024 and all candidate materials must be submitted by 23:59 UTC March 22nd, 2024. There is no specific form for the nomination and nominations should be sent by email to Michael Feenan at executive directormil@mensa.org

For any further enquiries, please contact the Executive Director, Michael Feenan (<u>executivedirector-mil@mensa.org</u>) or the Chair of the Election Committee SNM, Rachael Twumasi-Corson (<u>rachael@mensaboard.co.uk</u>)

**Election Committee; Smaller National Mensas** 

# from your Executive Committee

## from Mensa Germany's Peter Fröhler

8 to 80+ Mensa Germany's specific offers for different age groups

Apart from regular get-togethers, offers such as English chat, *parlons Français* and a very large variety of special interest groups, the volunteers of Mensa Germany have also deployed extra efforts to provide interesting programs and activities for different age groups. These start from kids and juniors (and their parents), going on to young adults, to under forty, over fifty, and seniors. Most of the age limits are not strictly enforced.

### Kids and juniors

In many locations, Mensa Germany has various offers for kids and juniors, such as museum visits and excursions, open games meetings and regulars' tables where children and parents can exchange views and experiences. We offer family camps for gifted children aged 6 to 12 with their parents and siblings, clever children camps for 9 to 12 year olds, junior camps for the age group 12 to 17 and junior seminars for 14 to 19 year olds. These one-week camps and multi-day seminars are very popular and fully booked soon after they are announced. There was also one international Juniors Camp that was a big success. We support

teachers in all school types with advice to identify and specifically support highly gifted children. We have put together a colourful range of general books and specialist literature, and games and puzzles, as well as a list with a selection of further support recommendations in our giftedness case, which can be made available and individually tailored to kindergartens, schools or other interested institutions.

### Young adults

In 2017 a small group of volunteers started to build a support structure for the organisation of events. Mensa Youth (MY) has trained and nominated MYSecs in most of Mensa Germany's regions to manage and organise local and regional events including weekend and multi-day events in self-catering locations in order to keep the costs to affordable levels. Here they can get to know other gifted people, talk to them, eat, play, party and do whatever else they like. In some cities, MY organises regular meetings, and in others occasional pub quizzes or cultural and nature excursions. At the national level we have MY-Weekend Organising Teams and MY-Event-Organisers prepare international events in cooperation



with the international MY-SIG. We provide support for all of our young members. Even for gifted students, mastering the challenges of a degree course is not an obvious matter of course. For many, choosing the right subject is not easy due to their wide range of interests. And while some still find it easy to learn at school, the personal responsibility and high degree of self-organisation that studying requires, may cause them difficulties.

#### **Under 40**

For those who would like to discuss topics that are specifically relevant to their age group in a convivial atmosphere there has been a first U-40 meeting in one region, which claims to be the ultimate gettogether for all young minds under 40. Whether you have just entered the labyrinth of university or have bravely plunged into the world

Continued on p4

Continued from p3

of work, here you will meet likeminded people who are overcoming similar challenges. They chat about the highs and lows of education, the joys and stumbling blocks of studying and the trials and whirlwinds of starting a career. There are sure to be stories that will get your brain spinning and leave you with a smile on your face.

### Over 50

In some German areas we have monthly meetings of older Ms with the same logic as the under 40 group. This usually leads to interesting discussions of issues that that age group is typically facing with a large variety of views which generate an even larger variety of arguments. These evenings are quite popular and usually well-attended.

### Seniors

In April 2024, volunteers of Mensa Germany offer the first weekend for seniors (50+) in a nice location with a varied themed and leisure program with lectures and discussions, fun and games, food and drink.

In summary, Mensa Germany's age group specific offers are well-received. The Mensa Youth initiative of 2017 has turned into a resounding success and I am convinced that the activities for seniors will also turn out to be very popular. The credit for this goes totally to our resourceful volunteers who prove the wisdom that Mensa is what YOU make of it.

Peter Fröhler Mensa Germany

# MWJ INTERNATIONAL POETRY COMPETITION 2024

Members are invited to submit their original poems to the editor, <u>mwjeditor@mensa.org</u>, by August 1, 2024.

Poems are to be previously unpublished and no longer than 30 lines in length.

The theme for the competition is "Memories". All entries must be in English and following the judges' decision, no correspondence will be entered into.

Entries generated by AI will be immediately disqualified.

By submitting an entry (maximum of one entry) into the competition, members understand that their poem may be published in the Mensa World Journal or in any other National Mensa journal at the editor's discretion. The author will, of course, be acknowledged.

Please include your National Mensa and membership number with your entry.

### AMG in Bali



Read Theodore Manthovani's report on the AMG from the organising committee's point of view on p8.

### **How Does the Brain Store Information?**

### **Engram Cells and Memory Formation**

As we go about our lives, continuous changes occur in our brains. As we are always in a state of learning, and experiencing, our brain constantly renews and adapts in response to that. Our engagement with the world, with one another, and with media content contribute to the assimilation of fresh information that our brain takes in, and the way that it deals with the formation of memories.

Any time we listen to a podcast, talk to a friend, or eat something, our brains store that information for later recall, in a kind of library. But how does the brain actually store these new memories?

A fresh study undertaken at Dublin's Trinity College has uncovered new information about how memories form within the brain, and has pinpointed the exact mechanism that facilitates memory formation. The study, which was published in *Current Biology*, discovered that memory is formed within connections between certain cells across various regions of the brain.

The research was led by Dr Tomas Ryan and a team of neuroscientists who wanted to know more about how experiences change the cells in our brains to form new memories.

While our brains are made up of dynamic networks of cells that are always evolving with age, sensory experience, and learning, scientists wanted to identify the exact part of the brain which makes a difference for our memory. The results of the study challenge previously held ideas about how and

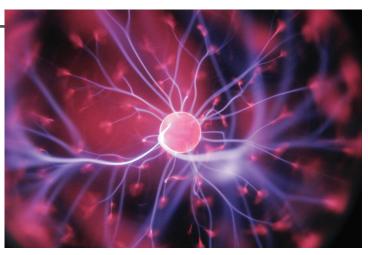
where memories are stored, revealing that the secret to the brain's memory storage is in the formation of the connectivity patterns between specific cells in different parts of the brain, rather than in the cells themselves.

These specific cells are known as engrams, and are known as the building blocks of memories. Engram cells are groups of brain cells that are activated by experiences, and which transform themselves to hold information.

The cells (neurons) act as a kind of glue, binding themselves to experiences. When we remember an experience, these building blocks are reactivated, bringing the information to the forefront of our mind.

Previously, engram cells were thought to hold the memories, but the new findings have revealed that it is the connections between engram cells that store the memories.

"In 21st century neuroscience, many of us like to think memories are being stored in engram cells, or their sub-components," Ryan said. "This study argues that rather than



looking for information within or at cells, we should search for information between cells". These connections, or episode-specific neurons, hold the key to memory formation. If the brain's memory is a library, then these neurons are the librarians that retrieve the book and bring it to the borrower.

Not only does the research challenge previously-held ideas about how memory is formed, but the findings have the potential to revolutionise current understandings of memory-related disorders such as Alzheimers and Vascular Dementia, and could even lead to the development of neuroprosthetic devices to treat these conditions.

The researchers believe that by stimulating the newly-discovered connections, there may be a way to enhance memory recall for those that struggle with memory disorders. The research also paves the way for new insights into the brain's complex processes and for future studies.

### **Taryn Dryfhout**

Photo by Hal Gatewood on Unsplash.com

# Chris Leek Steps Down

It has been one of the privileges of my life to have served both Mensa International and British Mensa for a quarter of a century, from 1998 until I stepped down from both Boards of Directors late in October. My service included 4 years as Chairman of Mensa International and 12 years as Chairman of British Mensa.

I'm delighted to witness the appointment of new directors who will carry the torch forward, and I have full confidence in their abilities and dedication to Mensa's future path. On standing down, I have been appointed as Honorary President of British Mensa, and am also committed to continuing my contributions as a volunteer for Mensa International, particularly focusing on the introduction of Adaptive testing, and working on MIL CRM. Mensa's continuing growth is a testament to its resilience as an organisation, with International membership soaring by more than 50% since 1998, and the number of full National Mensa groups increasing from 21 to 40. Co-operation between national groups is flourishing, and as well as each country's events we now have vibrant annual gatherings in Europe (EMAG), and Asia-Pacific (AMAG), and an international event for Latin America Mensas (to be known as GLAM) proposed to take place in Brazil in 2024.

I take great pride in my role, during my time as MIL chairman, in bringing Michael Feenan on board as the Executive Director of Mensa International. Michael's exceptional energy and professionalism have contributed significantly to Mensa's progress, and I trust that you all appreciate his patience and expertise as much as I do.

My journey with Mensa holds a special place in my heart, particularly for introducing me to my life partner, Kirsty. We first met at an Irish Mensa Annual Gathering in 1982, celebrated our 40th wedding anniversary earlier this year, and have three bright youngsters, all Mensans.

I like the tolerance found within Mensa, the willingness to consider new ideas, and the friendships developed. I enjoy the strong, active, social side of Mensa, combined with the intellectual aspects. Then there is also the sense of belonging, of being part of an international family one truly without borders.

I want to take a moment to express my heartfelt appreciation for the 25 incredible years I've had the honour of attending Mensa International Board meetings, and working with so many national groups. These gatherings have been a source of inspiration and growth for me, allowing me to engage with remarkable individuals from diverse coun-



A helping paw in the park!

tries and backgrounds. My warmest regards extend to all the IBD attendees, MIL volunteers, organisers, and MIL staff. I wholeheartedly believe in the breadth of Mensa's mission and the unwavering dedication of everyone involved in these meetings, which is a testament to the organisation's strength and global impact.

Thank you, my fellow Mensans, for the cherished memories, the exchange of knowledge, the endless ideas, and the lasting friendships that have shaped my remarkable journey.

Floreat Mensa! With warm regards, Chris Leek

# member profile

### by Susan Jensen

Alison Brown was born in Indiana, USA in the early 1950s; an only child of older parents who had the capacity to inspire and nurture her multifaceted genius. This was especially unusual given she grew up before it was common for women to have the same academic and career opportunities as men.

without music. So Alison moved to Manhattan to continue voice training, a to learn German with the goal of becoming an oper singer in Central Europe.

They filled Alison's childhood with books, music, theatre, nature and vegetable gardening! without music. So Alison moved to Manhattan to continue voice training, a to learn German with the goal of becoming an oper singer in Central Europe.

During the summer of attended the American In Musical Studies in Graz for the summer of attended the American In Musical Studies in Graz for the summer of attended the American In Musical Studies in Graz for the summer of attended the American In Musical Studies in Graz for the summer of attended the American In Musical Studies in Graz for the summer of attended the American In Musical Studies in Graz for the summer of attended the American In Musical Studies in Graz for the summer of attended the American In Musical Studies in Graz for the summer of attended the American In Musical Studies in Graz for the summer of attended the American In Musical Studies in Graz for the summer of attended the American In Musical Studies in Graz for the summer of attended the American In Musical Studies in Graz for the summer of attended the American In Musical Studies in Graz for the summer of attended the American In Musical Studies in Graz for the summer of attended the American In Musical Studies in Graz for the summer of attended the American In Musical Studies in Graz for the summer of attended the American In Musical Studies in Graz for the summer of attended the American In Musical Studies in Graz for the summer of attended the American In Musical Studies in Graz for the summer of attended the American In Musical Studies in Graz for the summer of attended the American In Musical Studies in Graz for the summer of attended the American In Musical Studies in Graz for the summer of attended the American In Musical Studies in Graz for the summer of attended the American In Musical Studies in Graz for the summer of attended the American In

She started to read at age three and was sent to kindergarten early. She got along well with her teachers but as a "brain", was less well accepted by her peers. Alison has been an independent thinker all her life, not a "follower" nor a "leader." Overall, she was happy at Orchard School, and tested in the top 2% with her first standardised test.

Her parents supported Alison's interest in music and theatre, providing dance and voice lessons. Singing became her abiding passion.

After high school, Alison spent a semester on the World Campus Afloat (now Semester at Sea), where students of all ages studied on a ship as it travelled around the world. Alison studied world history, comparative religion, theatre and, at each port, experienced first hand what she'd been learning in the classroom.

Next, she attended Sarah Lawrence College, graduating with a concentration in Social Sciences. She briefly considered a career in the Foreign Service, but decided she could not live without music. So Alison moved to Manhattan to continue voice training, and to learn German with the goal of becoming an opera singer in Central Europe.

During the summer of 1975 she attended the American Institute of Musical Studies in Graz followed by the Opera Studio in Zurich until 1976. In 1979 she took an engagement as Soubrette at the Landestheater Linz and stayed in Austria for thirty years.

Alison met her husband Siegmund Haider (who had an acting degree) in the early 1980s at the Labour Office in Linz while applying for unemployment benefits. During her time in Austria with Siegmund she became active in feminist issues, co-authoring women's history books, holding various offices in the Autonomous Women's Center in Linz, in the women's division of her artists' union and in International Alliance of Women (where she served as Secretary General for two triennia).

In the 1990s, Alison spent months at a time in the U.S.A. car-



ing for her ill mother and joined Mensa to find friends her own age. After her mother died in 1998, she returned to Austria full time, becoming active in Mensa as LocSec in Upper Austria in 2000.

Alison lived with Siegmund in Austria until 2009, when they moved to her home in Indiana. She then worked for ten years as a Senior Home Companion, was active in Central Indiana Mensa (SIGHT coordinator and proctor) and as treasurer of the Reformed Congregation of the Goddess-Crossroads.

Widowed in 2016, she retired in 2021. She remains very active, including participating in 5k walks/ runs and local Mensa events. She is currently President of the International Alliance of Women, the oldest extant feminist organisation, founded in 1904.

Alison's motto reflects her life: Living Well is the Best Revenge.

07

# Big Success in Little Kuta

When I joined Mensa, Indonesia had already hosted our first AMG. I was thinking, "Yeah, I'll wait for the next one then." That was 11 years ago. Then I heard Indonesia would host another AMG in 2023. The initial plan was Jogja because the last one had been held in Bali, but it was decided Bali would be the most feasible after all.

The appointed AMG Chairman, Budi Handoko did amazingly well to lead a team of just 11 committee members to facilitate 186 people coming from 22 countries. A good number of us already had responsibilities in the Mensa Indonesia Board and Committee, plus most of us were having our first AMG experience to boot. I think we did really well!

The event opened with Registration to confirm attendance, and to receive goodie bags filled with things to survive the tropical island (cue instant noodle and raincoat). That day was also the first time all the attendees hung out together, with sea food dinner and ice-breaking activities on Jimbaran Beach. I witnessed how people started to connect to each other. Many left their belongings unguarded, but don't worry; the committee and some fast-thinking attendees took action and secured them.

On the next day, AMG 2023 Bali officially started with the Opening Ceremony, various speakers, and attractions in the Main Conference

Hall. My duty was to stay in the Breakout Rooms, so I missed many of them. Fortunately, some people were interested in the Breakout Rooms and I got to know them. We provided activities such as painting,

Lontar leaf drawing, boardgames, traditional game Congklak, Tarot reading, and painting gallery. In the evening, people gathered in smaller groups and hung out somewhere until late.

We had speakers followed by a Pendet dance workshop at the Main Conference Hall on the last day. Afterwards, we got a few hours of free time to prepare for the Gala Dinner on Atlas Beach club, the ladies wearing Kamen (Sarong for women) and the gents wearing Udeng (head scarf for men).

The dinner gathering was a blast! Some people stayed at the pool until midnight.

Although officially the AMG had ended, there were exclusive postevent activities. Some went to the winery, some went for ATV and Rafting, some went to Nusa Penida, and those who didn't go participated in Amazing Race game. There was also the extended Solo Jogja tour, where they visited temples, dined at a palace, and tried traditional culinary.

I can't speak for my fellow committee for each of us experienced



Theo Manthovani

the event differently. But here's what I gathered from the AMG. Firstly, we should provide more slots for the workshops. Secondly, there's always something that can be out of

our control. Thirdly, the show must go on!

Many attendees and speakers are helpful beyond their responsibility and I'm so grateful for this. Lastly, we can't please everyone. But we can certainly try!

It's said that the AMG is the fountain of youth; the sense of community that brings us together. It's where we meet old acquaintances and new people, experience things together, create emotional bonding, and have the chance to communicate with people from other cultures around the world. Hopefully, the feelings are mutual.

Mensa Taiwan Chairman Jizhen said we raised the standard higher, and AMG 2023 Bali was the biggest AMG so far. But I'm sure they'll do even better for the AMG 2024 in Taiwan. I'm also amazed that Mensa Japan has already started their AMG 2025 Japan preparations. I hope we all meet again!

Live long, and prosper,
Theodore Manthovani
Mensa Indonesia Development
Committee

# Zoom Conversations vs In-Person: Brain Activity Tells a Different Tale

When Yale neuroscientist Joy Hirsch used sophisticated imaging tools to track in real time the brain activity of two people engaged in conversation, she discovered an intricate choreography of neural activity in areas of the brain that govern social interactions.

When she performed similar experiments with two people talking on Zoom, the ubiquitous video conferencing platform, she observed a much different neurological landscape.

Neural signalling during online exchanges was substantially suppressed compared to activity observed in those having face-to-face conversations, researchers found. The findings were published on October 25 in the journal *Imaging Neuroscience*.

"In this study we find that the social systems of the human brain are more active during real live inperson encounters than on Zoom," said Hirsch, the Elizabeth Mears and House Jameson Professor of Psychiatry, professor of comparative medicine and neuroscience, and senior author of the study.

"Zoom appears to be an impoverished social communication system relative to in-person conditions."

Social interactions are the cornerstone of all human societies, and our brains are finely tuned to process dynamic facial cues (a primary source of social information) during real in-person encounters,

researchers say. While most previous research using imaging tools to track brain activity during these interactions has involved single individuals, Hirsch's lab developed a unique suite of neuroimaging technologies that allows them to study, in real time, interactions between two people in natural settings.

For the new study,

Hirsch's team recorded the neural system responses in individuals engaged in live, two-person interactions, and in those involved in two-person conversations on Zoom, now used by millions of Americans daily.

They found that the strength of neural signalling was dramatically reduced on Zoom relative to "inperson" conversations. Increased activity among those participating in face-to-face conversations were associated with increased gaze time and increased pupil diameters, suggestive of increased arousal in the two brains. Increased EEG activity during in-person interactions was characteristic of enhanced face processing ability, researchers said.

In addition, the researchers found more coordinated neural activity between the brains of individuals conversing in person, which suggests an increase in reciprocal exchanges of social cues between the interacting partners.

"Overall, the dynamic and natural social interactions that occur spontaneously during in-person interactions appear to be less apparent or absent during Zoom encounters," Hirsch said. "This is a really robust effect."

These findings illustrate how important live, face-to-face interactions are to our natural social behaviors, Hirsch said.

"Online representations of faces, at least with current technology, do not have the same 'privileged access' to social neural circuitry in the brain that is typical of the real thing," she said.

Other co-authors, all from Yale, are Nan Zhao, Xian Zhang, J. Adam Noah, and Mark Tiede.

neurosciencenews.com October 26, 2023



# supplementally... by John Blinke

### **Dusty**

Youtube: Curious Droid. "Apollo, the Lunar Dust and NASA's Dirty Problem." https://youtu.be/EFqpgmZA Zgo?si=GnkG7200DGgiaWZe Moon dust is a serious problem for Moon settlers. It is finer than talc and as sharp as razors. When Apollo Twelve set down near the robotic Surveyor 3 lander in 1969, dust propelled by its rocket exhaust sandblasted paint from the robot lander 180 metres away. The supposedly pristine moon rock samples were compromised by the air in the lunar landers because dust had destroyed the seals on sample containers. The Apollo 17 crew complained of "moon hayfever" because the dust from their suits irritated their airways. Helmet visors were scratched badly when crew tried to wipe abrasive dust from them. Space suits leaked air because their seals were compromised. With small problems like this, who needs big ones?

### The High Road

Popular Mechanics, April 4, 2023. "How We'll Build the First Roads on the Moon."

Apollo astronauts found out that moon dust gets into every joint and damages every rubber seal, as well as human lungs. The best thing for the future is to have paved roads on the Moon so vehicles will not stir up too much dust and astronauts will not bring it into living quarters. They can't really use the kind of concrete or asphalt we have on Earth. They need to make roads and buildings out of native moon materials. One possibility is sintering moon dust with microwaves or solar collectors to

create bricks that can be assembled into anything astronauts need.

#### Pharaoh's Wind

Smithsonian, November 10, 2023. "Wind May Have Helped Sculpt Egypt's Famous Sphinx." (Physical Review Fluids) Contributed by Stephen Darnell.

Why did ancient Egyptians choose to carve a sphinx from a limestone hill near the Giza pyramids, instead of some other thing? It might have already resembled a sphinx before they started working on it. Experiments have shown that wind sculpting can produce crude shapes of that sort without any outside help. The king's sculptors could have completed the statue with a minimum of extra work.

#### **Dino Dust**

Nature, October 30, 2023.

"Did Dust From The Chicxulub
Asteroid Impact Kill The Dinosaurs?"
(Nature Geoscience)

We are pretty sure that a giant meteor killed off the dinosaurs 66 million years ago. But what aspect made the event so deadly? Upon re-examining rocks in North Dakota, scientists from the Royal Observatory of Belgium in Brussels have put this scenario forward: the impact caused global darkness that stopped photosynthesis for a couple of years, killing off much vegetation. Then fine silicate particles from the impact continued to block enough sunlight to lower global temperatures by 15 degrees C for up to 15 years. Creatures that didn't starve were likely to freeze.



#### **Bionic Bugs**

ScienceDaily, November 8. 2023. "Yeast With An Over Half Synthetic Genome Is Created In The Lab." A global consortium of genetic scientists aims to create a fully synthetic eukaryote cell - and they are half way done. They created simplified versions of the genes in a yeast cell, discarded some so-called junk DNA, and moved genes around to more logical places. Then they set to work debugging their creations. The half finished robo-yeast cell works fine, except for some minor growth issues. The team is confident they will complete their new organism successfully given that the first part of the task has gone so well. The purpose of the work is to learn new things about cell biology through the redesign and debugging of yeast.

### **Fungal Funk**

Science, November 8, 2023. "New Antifungal Kills Without Toxic Side Effects." (Nature One) In evolutionary terms, fungi are closely related to humans. That is a problem when fungi invade our bodies because drugs that kill them might also harm us. What to do? Scientists at University of Illinois Urbana-Champaign found they could tweak an existing drug, Amphotericin B, one atom at a time. This was possible because of a new understanding of the way the drug works. It interferes with ergosterol, which fungi use to build their cell walls. Ergosterol is similar to cholesterol which human cells need and Amphotericin B can interfere with

that, too, often damaging human kidney cells. But, by intentionally making small changes to the drug molecule, the researchers rendered it safe for people and even more effective on fungi than the original. This advance arrives just in time because fungal infections are becoming more common.

### **Trilobite Anatomy**

Nature Briefing, September 27, 2023. "Uniquely Preserved Gut Contents Illuminate Trilobite Paleophysiology." Trilobites might be the most popular prehistoric arthropods, having survived for 270 million years. They remain mysterious, but now their anatomy is understood a lot better

because of a lucky discovery in the Prague Basin, Czech Republic. A mostly intact, articulated trilobite fossil of Bohemolichas incola was found inside a siliceous nodule that preserved the creature in 3D, along with the contents of its gut. Synchrotron microtomography done at the European Synchrotron Radiation Facility (ESRF) in Grenoble, France, shows it is full of small shelled animals. This particular specimen was a binge eater, thoroughly filling its digestive tract with small prey. The creature had organs resembling a crop to store food and a gizzard to grind it, like a modern chicken.

John Blinke

Photo by Alex Azabache on unsplash.com

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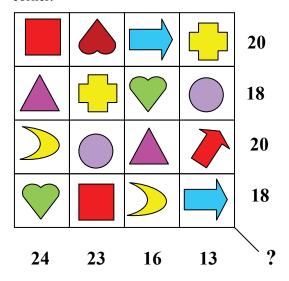
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# Therese's BRAIN TEASERS

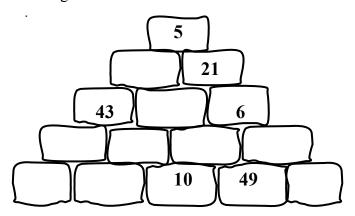
### **Cryptosum**

Each symbol represents a different digit from 1 to 9. The sum of the digits in each row and column is shown. Find the sum of the numbers along the diagonal line starting from the top left-hand corner.

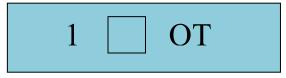


### Cairn

The number on each stone represents the difference between the numbers in the two stones on which it sits. There is a two-digit number in each of the bottom stones, using the digits 0-9 once each.



### Rebus



### Cryptoculture

The God of Darkness is before the Coach.

### **Anagram Riddle**

Five letters have I, you can change them around

To spell words which vary by more than a sound:

- A monetary unit, in parts of the globe
- A pipe or a leakage, for wastage, by Jove
- The place at the bottom, as low as can go

Now that you've solved me, which words have you found?

### Wordsquare

Each of the following clues has a five-letter solution. Arrange your answers in a five by five grid so that 1 Across = 1 Down, 2A = 2D etc.

- Shouts
- Dominating
- Slow, shelled crawler
- Sheeplike
- Strong fibre

#### Answers

**Cryptosum:** 19 (9 + 2 + 7 + 1) **Cairn:** 53 76 10 49 82 **Rebus:** Back to square one. **Anagram Riddle:** Dinar Drain Nadir **Wordsquare:** Bossy Ovine Sisal Snail Yells **Crypto-culture:** 

Erebus

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