MENSA INTERNATIONAL

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WHAT'S IN THE MWJ ...

- There's important news from our Treasurer on p3 and also the MIL 2021 Budget is on p16. The abbreviated Financial Statements for 2019-2020 are on pp 12 - 16.
- On pp4 and 5, you'll find the poems given Honourable Mentions in the 2020 MWJ International Poetry competition. Congratulations to USA Mensan Mary Ann Parise and Marianne Kendall from the UK.
- Also on p5, there's news of recent scientific research into what can control the brain's size, while on p6, we learn of how an automated SpaceX Falcon 9 rocket delivered four astronauts to the International Space Station recently.
- On p6, too, an exciting new project linking twin towns across the Mensa world is outlined. Well done to all involved!
- Our member profile for this month (p7) is young NZ member, Ethan Ng, a maths genius who graduated from High School at the age of 15. There's also a short column on the collective nouns of animals by yours truly on p7.
- Our Features Editor brings us an article centred on the creative use of objects, while on p9, there's a new slant on the art of Leonardo da Vinci.
- Our science guru, John Blinke is, as usual, on p10 and Therese's Teasers will be back next month.

Kate Nacard, Editor

Read/download the full MWJ each month on www.mensa.org

SCENT AND SOUNDS COULD CHANGE THE WAY YOU FEEL...

Previously, researchers have shown that visual and tactile stimulation can change a person's perception of their own body weight. Research being presented by Giada Brianza, of the University of Sussex, has found our hearing and sense of smell can also change how we feel about our self-image, which could help improve healthy behaviours.

The presentation, "Understanding the impact of sound and smell on body image perception," was a part of the 179th Meeting of the Acoustical Society of America. This session was presented on December 11. The meeting was held virtually on December 7-10.

To see if sounds could change body image perceptions, the researchers used headphones to alter in real time how patients heard their own footsteps. Heavier bodies produce lower frequency footsteps than lighter bodies, so the researchers thought that changing the sound could alter how a person perceives their own image.

When the researchers played higher-pitch footsteps that sounded like stilettos, the test subjects were walking faster compared with when they heard lower pitch sounds, such as the sound boots make.

The researchers also tested how scents could change one's perceived body image. They found exposure to lemon-scented essential oils in combination with high-pitched sounds during the experiments made participants feel lighter than vanilla scents.

These first results in sound-scent body image association are still being studied, but already the power of audio on body image has promising applications. Since negative body image can lead to increased risks for eating disorders, isolation, and emotional distress, finding ways to manipulate self-image could enhance health through promoting better self-image.

The researchers believe that multisensory stimuli - sound and smell, in particular - should play a greater role in treating body image diseases, such as eating disorders.

Neuroscience November 11, 2020

WRITING FOR THE MWJ

The *Mensa World Journal* is your magazine and it would be wonderful if you were to share your thoughts with the rest of the Mensa world.

By and large, most of the articles are written by Mensans - for Mensans - and the opportunity is there for you to be one of these authors.

Topics can cover reports of Mensa events you've attended, your achievements, unusual hobbies and interests, or your successes.

Please limit your article length to 600 words and send it to me at mwjeditor@mensa.org. Please also include a hi-res photo to accompany the article, your National Mensa and your membership number.

Kate

Jacek Cywinski, Treasurer

FROM OUR TREASURER

Kia ora! It is again time to talk about finance. I want to focus on two pieces of information: the approved financial statements for the year ended 31 December 2019 and the approved budget for 2021.

To provide you with some background for the 2021 budget, I would like to share with you a brief assessment of 2020 as well.

2019 Financial statements

As you may remember, I shared with you previously information coming from a draft of the financial statements. Now, the financial statements have been finalised and approved. Income statement for the year ended 31 December 2019 shows a healthy surplus of 53,605 GBP, with revenue sitting at 456,287 GBP and costs at 402,682 GBP. The highest cost is running the Mensa International Office (25%), followed by the organisation of the IBD meeting (20%) and name protection (19%). As of 31 December 2019, Mensa International had 557,985 GBP on bank accounts, and the reserves are reported as 577,891 GBP.

2020 – the year in progress

Revenue level is similar to the previous year based on 2Q2019 vs 2Q2020 analysis, which shows that our turnover side is not significantly affected due to COVID-19 at present (just no growth). Due to the cancellation of the IBD in Montenegro, we saved 70,000 GBP. Additionally, as the planned expenses for Adaptive Testing did not occur, we saved 65,000 GBP this year. Moreover, we saved 10,000 GBP on Development travel due to COVID-19 and 5,000 GBP on the Gathering of Latin American Mensas (GLAM).

2021 Budget
(see also p16)

The budget assumes that the component income will be similar to 2019, which considers the impact of COVID-19, as no growth is predicted in 2020 and 2021. That was the best approach at the time based on information held. As you may know, 7% of your membership fees goes to Mensa International. Please renew your membership in 2021!

The 2021 budget assumes a significant loss due to the variety of factors. Firstly, we safely assumed the turnover (potentially underestimated) and assumed higher costs (especially travel to the World Gathering in Houston). Therefore, the costs are potentially overestimated due to the uncertainty caused by COVID-19 – it is assumed that the cost of international travel might be potentially higher rather than lower. Secondly, we have included 65,000 GBP for Adaptive Testing, assuming that the project will be back on track. Thirdly, we included 37,000 GBP for Marketing, which is related to actively pursuing licensing opportunities.

Nevertheless, as you can see, the 2021 projected loss is funded by 2020 savings. Therefore, we will go through 2021 pretty smoothly. That is the plan, but you need to help us by building our organisation and encouraging others to join us!

I would like to thank you for your attention. If you have any questions do not hesitate to contact me.
Mā te wā.

Jacek Cywinski, Treasurer
Treasurer

THE MWJ POETRY COMPETITION 2020

Congratulations to poets, Mary Ann Parise (USA) - who was the only entrant to have two poems included in the top six entries - and Marianne Kendall (UK), who each received Honourable Mentions from the International Judging Panel. All the winning poems will be published on the Mensa website.

Of Words

What shall I write that I have not penned before?
Something more of hope perhaps and less of fears –
Tears brined and burnished into word
Trills of arias and peasant song
Bold words pushed and prodded into bold vistas
Senses deeply stirred, indebted to the beginning
Words on waking as my vessel embarks
Tiding to shore of new encounter
Crafted of creation, ballast for the journey
Tomes hewn to one epiphany
Moored on the far drafts of longing
Wonder of being, joy of becoming
Poured out upon mysteried spaces
Traces of a place long gone, reappearing
Cradled within maternal melody
Heart indwelling each thought of home and hinterland
Begetting seedling quarks and sire comets,
Rendered from alpha-to-omega dreams
Everlasting wineglass, eternal vine –
What shall I tell the yearning within
Where “nay” or “yea” engage now as angry kin?
What more can I proclaim by one line
Than I have mused before in many pensive calls?
What, then, shall I write?
Or shall I write at all?

Mary Ann Parise

Walking in the Woods at Sunset

With tugs upon the leash they go
Slowly on familiar trails
Each visit brings them new delights
Of sound and smell, of tender sights
Tiny blooms, the croon of woods
Storms of wintertime withstood
Another pulling off the path
Crackling and crunching things
A sudden hush, the rustling wings
Of fledglings sheltered in the brush.
The Sun is low, the day has flown
Haltingly they turn for home
As always with a quiet yen
For scenes they might not see again.
The dog could not share words with him
Or pat his head or back or chin
But as the master stopped to view
Such beauty in this place they knew
The dog stood still, his senses frilled
With love for the old man.

Mary Ann Parise

(See p5 for Marianne Kendall’s poem)

MWJ INTERNATIONAL POETRY COMPETITION 2021

Members are invited to submit their original poems to the editor, mwjeditor@mensa.org, by August 1, 2021. Poems are to be previously unpublished and no longer than 30 lines in length. The theme for the competition is ***Reflection.*** All entries must be in English and following the judges’ decision, no correspondence will be entered into. 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 editors’ discretion. The author will, of course, be acknowledged.

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

Memory Loss

I gather from the corners of my mind -
The glances, laughter, kisses, soft embraces,
Your voice, your touch, the smile you left behind -
And prise the memories from their hiding places;

Those times you stood in reach, my fearing whether
Self-uncontrolled arms might my heart reveal.
None will escape. I bring them all together
And, brushing off the tears, a parcel seal.

Exulting, I consign it to the past,
Go forth to meet the world, now reason frees
To face the future's challenge. Then at last,
I travel home, astonished at the ease

New cares obliterate a love so tender,
To find a parcel marked: "RETURN TO SENDER".

Marianne Kendall

SCIENTISTS DISCOVER NEW MECHANISM CONTROLLING BRAIN SIZE

Under the leadership of Professor Lars Allan Larsen and Professor Søren Tvorup Christensen at University of Copenhagen (UCPH), Denmark, an international research team has taken an important step forward in understanding the complex mechanisms that control development of the so-called cerebral cortex, which is the part of the brain that plays a key role in attention, perception, awareness, thought, memory, language, and consciousness. The results have just been published in the internationally recognized journal Nature Communications.

The scientists started with genetic analyses of a large family in which children were born with primary microcephaly; a rare congenital brain disorder characterized by a reduction in the size of the cerebral cortex and varying degrees of cognitive dysfunction. The scientists found that the children were carriers of a mutation in both copies of the gene, RRP7A, and by the use of stem cell cultures as well as zebrafish as model organism, RRP7A was shown to play a critical role for brain stem cells to proliferate and form new neurons. This process is extremely complex and slight disturbances may have serious consequences, which may explain why the mutation affects the brain and no other tissues and organs.

"Our discovery is surprising, because it reveals hitherto unknown mechanisms involved in the development of the brain. In addition, it highlights the value of research in rare disorders, which is important both for the patients and family affected by the disease but also beneficial for society in the form of new knowledge about human biology," states Lars Allan Larsen, Department of Cellular and Molecular Medicine.

The researchers further discovered that the mutation in RRP7A affects the function of the so-called primary cilia, which project in a single copy as antenna-like structures on the surface of cells to register environmental cues and control the formation of new neurons in the developing brain.

"Our results open a new avenue for understanding how primary cilia control developmental processes, and how certain mutations at these antenna-like structures compromise the formation of tissues and organs during development. To this end, we have already initiated a series of investigations to understand the mechanisms by which RRP7A regulates ciliary signalling to control formation and organization of neurons in the brain, and how defects in this signaling may lead to brain malformation and cognitive disorders," says Søren Tvorup Christensen at Department of Biology.

ScienceDaily November 16, 2020

EXCITING MENSA TWIN TOWNS PROJECT NEWS!

A pilot project is going ahead to choose some twin towns for Mensa members to get to know each other better. We are an international organisation, after all!

Many cities and towns around the world have sister city arrangements of their own. It was suggested in the International Facebook group recently and a few of us have decided to run with it. We have had an initial meeting online. So far we have a few different countries interested: Finland, USA, Serbia, Taiwan, Australia and France.

When selecting towns or cities to pair with, the time difference is something which needs to be taken into consideration. When we chatted online on a Sunday in November, it was 11.30 pm for me, 8.30 am in the US and 1 pm in Europe. We've discussed the possible scope of this project and have decided on a pilot project with four test groups:

- **Taiwan & Australia: Taipei & Adelaide**
- **France & USA: Paris & New York**
- **Finland & Serbia: Mikkeli & Belgrade**
- **Finland & France: Tampere & Lille**

It is proposed that a small group of say, 5-10 interested members from each country can meet via Zoom or another online platform and introduce ourselves. We can choose one person to do a short presentation about ourselves and our city and then see if we have common interests. It's like having a virtual penfriend. Often, lifelong friendships or even business partnerships can be formed in this way.

Our goal is to test the concept and provide feedback in the next few months. Feel free to get involved if you want to! The objective is to let people get to know each other informally without too many rules and regulations. The concept is to have fun and make new friends around the world.

2020 has been a difficult year, full of challenges. One positive that has emerged is that we have been communicating online, more than face to face. The Twin Towns Project will build on this growing trend. The first sessions have already been booked and have taken place in early December. Our pilot project organizers are all excited to see how this new initiative will develop and how it can benefit Mensa as an international organization. We all hope that it will provide new travel opportunities and culture exchanges between members.

The project's actual governance is assumed by a group of French people, and the Netherlands host is International SIGHT Officer Henk Broekhuizen who is also on board and keen to get involved. That may be re-organized depending on the number of participants and requirements. The idea is for the groups to meet online, but who knows when things improve, members may even be able to meet one day face to face via SIGHT! Check out https://discord.gg/jZVAcVh for more info.

Laura Parsons
South Australian StateSec

SPACE FOR RENT

The age of commercial space flight is here! An automated SpaceX Falcon 9 rocket delivered four astronauts to the International Space Station on Monday, November 16, 2020 after a 27 hour flight from Cape Canaveral.

The reusable booster landed safely on its barge and was taken back to Florida for refitting. The Crew Dragon orbiter will remain attached to the International Space Station during the crew's six month stay. A second Dragon capsule will bring supplies in December.

This flight is part of NASA's Commercial Crew program which helps several companies develop hardware and space missions. SpaceX is the farthest ahead, but Boeing, Blue Origin, Paragon Space Development Corporation, Sierra Nevada Corporation, and United Launch Alliance are developing competing systems to move astronauts and supplies to low Earth orbit.

Docking with the space station seems straightforward, but it isn't. There are several different incompatible styles of docking ports because several different kinds of orbiters have serviced ISS over its 20 year life. According to Scott Manley, the Russian Zarya module was the first component of the station, so it had docking ports

(continued on p11)

MEMBER PROFILE
by Susan Jensen

Ethan Ng is a fifteen year old Mensa member and math genius who was born in Singapore and emigrated to New Zealand when he was eight.

His mom and dad, Win and Tommy, were in their early thirties when they had Ethan. He is their only child. Both parents are bright (Mom, an electrical engineer, and Dad last worked for Hewlett Packard as an e-Sourcing Manager) but neither they nor anyone in their families were as bright as Ethan demonstrated himself to be as a baby. He hardly crawled before learning to walk at age five months. He conversed in full sentences by age one and was reading by age two.

Win realized his sharp and restless mind needed much stimulation, so she decided to introduce simple, first grade maths books when Ethan was two. To her great surprise, Ethan loved the maths and was quite adept at it. Mom and Dad awakened later on weekends, but Ethan, always up 7 am, would do maths until his parents awoke. He taught himself to read analogue clocks and by age two would rouse his parents at 9 am if they weren't yet out of bed..

Ethan was a bouncy, active young child who began doing Tae Kwon Do and gymnastics at an early age. His other interests include music, tennis, and robotics. Ethan's parents made the move to New Zealand in the hope the more laid-back culture would allow him to enjoy academia without pressure. After two weeks in New Zealand, Ethan loved it so much he said, "I never want to move away!"

Ethan just graduated from high school at age fifteen. He did online extra coursework in primary and middle school, enabling him to skip three grades in high school. In his senior year of high school, he was placed first in calculus, economics, chemistry and accounting, earning him the Dux award as top student of the year. He also won a premier scholarship, given to the top twelve students in the country. Ethan received a Bronze Medal in the 2020 International Mathemathics Olympiad. He intends to do a double degree in maths and mechatronics at the University of Canterbury in Christchurch.

Ethan looks forward to meeting more young Mensans and other young gifted people as he gets older and travels more. We expect to hear a lot about Ethan in the future—both within Mensa and the world at large.

WORDS...

I came across a fabulous reference book by Jennifer Cossins recently: *101 Collective Nouns*.

Some of them were familiar such as a Murder of Crows, a Swarm of Bees, and a Pride of Lions, but for the most part, I was both delighted and excited at finding a whole new clutch of words (and no, that isn't one!).

The collective nouns all pertain to animals; here are some of them:

An Armoury of Aardvarks
A Rabble of Butterflies
A Crackle of Cockatoos
A Leash of Deer
A Cete of Badgers
A Badling of Ducks
A Mob of Emus
A Business of Ferrets
A Flamboyance of Flamingos
A Knot of Frogs
A Journey of Giraffes
A Smack of Jellyfish
An Amalgamation of Pandas
A Sounder of Pigs
A Loomery of Puffins
A Shiver of Sharks
A Turn of Turtles
A Squabble of Seagulls
A Fever of Stingrays
A Rout of Wolves
A Trip of Goats
A Tribe of Kiwis
A Gulp of Swallows
An Ambush of Tigers

And perhaps my favourite of all,

A Dazzle of Zebras

Kate Nacard

CREATIVE USE OF OBJECTS...

by Inham Hassen

A soap factory had a problem. Occasionally, an empty box passed through the whole production line and sneaked into the cartons that were eventually delivered to stores, causing embarrassment and loss to the business.

The top brass of the company were scratching their heads over this seemingly trivial but serious problem. They hired an external engineering company and spent millions to devise a high-tech precision scale that would sound a bell and flash lights whenever a soap box weighed less than it should. The line would stop, someone would walk over, remove the defective box, and then press another button to restart the line.

As a result of the new process, no empty boxes were being shipped out of the factory. The CEO received a weekly report of the number of empty boxes picked and discarded. After a few weeks, the report indicated that zero boxes were picked up by the scale. The CEO asked the engineers and the marketing team to check whether the system had broken down and empty boxes were getting shipped again. The answer was negative, so the puzzled CEO made a surprise visit to the factory. Just as he entered the production area, he observed a $20 desk fan, just ahead of the new million-dollar precision scale, blowing the empty boxes off the belt and into a bin. He asked the line supervisor what that was about.

"Oh, that," the supervisor replied, "The kid from maintenance put it there because we were all tired of walking over to restart the line every time the bell rang. We don't actually need the scale anymore."

This all-too-familiar story is all about ingenuity. Humans are naturally creative with tools. We know how to steady a wobbly table using a folded piece of cardboard. Most of us would confess, at least once during our lives, of using a hammer in place of a screwdriver or using a rock in place of a hammer. One important observation was that this level of ingenuity was a result of great intelligence that humans possess. Most species use objects only for the intended purpose and nothing else. For example, food will only be food. But humans are different. To understand the cognitive factors behind the creative use and the ability for machines to learn non-standard usage of tools, scientists at the Centre for Brains, Minds and Machines at the Massachusetts Institute of Technology recently embarked on a new research project.

To achieve this, a Virtual Tools mobile game app was created. Players of the game had to select objects from a set of tools – which were anything but the exact tool – to accomplish a goal such as getting a ball into a container. Naturally, this would be hard without the right tool, but achievable, if the player correctly used a number of physical principles, including launching, blocking, or supporting objects.

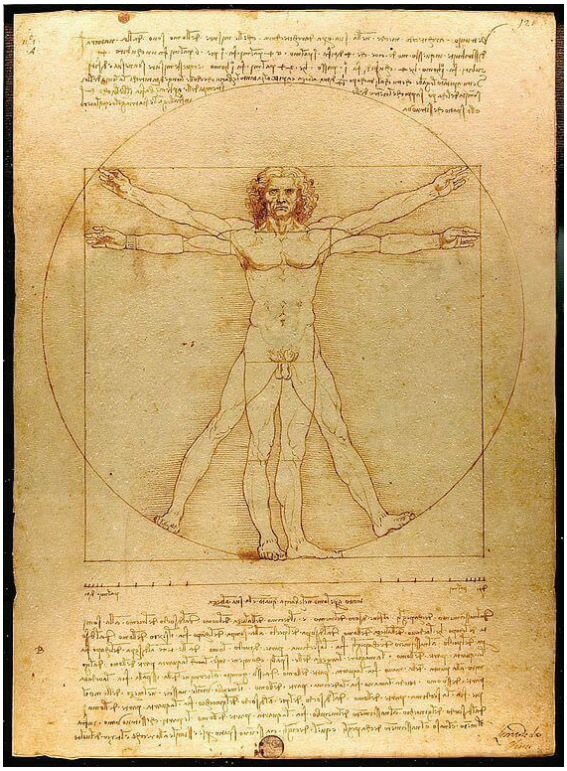
Based on the researchers' hypotheses - a prior belief that guides people's actions toward those that will make a difference in the scene, the ability to imagine the effect of their actions, and a mechanism to quickly update their beliefs about what actions are likely to provide a solution – they built a model called Sample, Simulate, Update (SSUP).

The model was an artificial intelligence (AI)-based system which learned from human players and proceeded to play the game on its own. The AI engine solved each puzzle at similar rates and in similar ways as people did, but with one catch – the AI bot could not solve any new puzzles that it was not trained in, whereas humans could.

The findings would have been stunning if the machines were able to solve new problems and the research team is optimistic of the fact that this may pave the way to further work that will eventually achieve this aim. In the meantime, an interesting outcome of this research is the fact that human intelligence has the capability to condense general physical knowledge into actionable, task-specific plans to achieve flexible and efficient physical problem solving, which most other species or machines cannot achieve.

THE MICROBIOME OF DA VINCI'S DRAWINGS

The work of Leonardo Da Vinci is an invaluable heritage of the 15th century. From engineering to anatomy, the master paved the way for many scientific disciplines. But what else could the drawings of Da Vinci teach us? Could molecular studies reveal interesting data from the past?



These questions led an interdisciplinary team of researchers, curators and bioinformaticians, from both the University of Natural Resources and Life Science and the University of Applied Science of Wien in Austria, as well as the Central Institute for the Pathology of Archives and Books (ICPAL) in Italy, to collaborate and study the microbiome of seven different drawings of Leonardo Da Vinci.

The molecular study of art pieces has already proved to be a valuable approach, and Dr. Piñar, first author of the study, is not at her first try. In 2019, her team was able to investigate the storage conditions and even the possible geographical origin of three statues requisitioned from smugglers through the study of their microbiome and, earlier this year, the microbiome of ancient parchments allowed the elucidation of the animal origin of the skins used for their manufacture 1,000 years ago. In the study presented here, the Austrian team is using an innovative genomic approach called Nanopore, considered as third-generation sequencing, to reveal for the first time the complete microbiome composition of several of Da Vinci's drawings. The study was published recently in *Frontiers in Microbiology*.

Overall, the results show a surprising dominance of bacteria over fungi. Until now, fungi were thought to be a dominant community in paper-supported art and tended to be the main focus of microbial analysis due to their biodeterioration potential. Here, a high proportion of these bacteria are either typical of the human microbiome, certainly introduced by intensive handling of the drawings during restoration works, or correspond to insects' microbiomes, which could have been introduced, a long time ago, through flies and their excrements.

A second interesting observation is the presence of a lot of human DNA. Unfortunately, we cannot assume that this DNA comes from the master himself but it might rather have been introduced by the restoration workers over the years. Finally, for both bacterial and fungal communities, correlation with the geographical location of the drawings can be observed.

Altogether, the insects, the restoration workers, and the geographic localization seem to all have left a trace invisible to the eye on these drawings. While it is difficult to say if any of these contaminants originate from the time when Leonardo Da Vinci was sketching its drawings, Dr. Piñar highlights the importance that tracking these data could have: "The sensitivity of the Nanopore sequencing method offers a great tool for the monitoring of objects of art. It allows the assessment of the microbiomes and the visualization of their variations due to detrimental situations. This can be used as a bio-archive of the objects' history, providing a kind of fingerprint for current and future comparisons." Thus, scientists could develop new methods to not only conserve the visual appearance of art but also to document the invisible journey of our artistic and cultural heritage.

https://phys.org/news/2020-11

supplementally...

by john blinke

Martian Farms

Science News, November 1, 2020. "Farming on Mars Will be a Lot Harder Than 'The Martian' Made it Seem."

How will settlers survive on Mars? You might think they could grow stuff if they had the right fertilizer. But Martian soil is very alkaline and it contains poisonous substances like calcium perchlorate. Most plants can't tolerate such stuff, but some bacteria can, and they even create oxygen in the process. Maybe settlers could use those tough bugs to clean up the soil and then plant seeds. But there is no organic material with resident fungi and bacteria to make the kind of soil we have on Earth. In lab experiments with simulated Martian soil, plants died more quickly as the synthetic soil was made more like real Martian soil. But all is not necessarily lost because many plants can be grown hydroponically with no soil at all. You just need the right lights, air, and fertilizer.

Martian Megafloods

ScienceDaily, November 20, 2020. "Field Geology at Mars' Equator Points to Ancient Megaflood." (November 5, Scientific Reports.)

The Curiosity Rover continues to trundle around Mt. Sharp in Gale Crater on its search for Martian geology. Among other things, it has found flood ripples so big they resemble sand dunes. These are proof that megafloods happened on Mars billions of years ago. You would think such huge formations would be recognizable by the Mars Reconnaissance Orbiter (MRO), but they are not. Only Curiosity's close-up view was sharp enough to identify sedimentary deposits in the ripples that prove they are flood features. It is possible that a large meteor strike melted enough surface ice to cause such vast flooding. And carbon dioxide released by the impact would have given Mars a balmy climate for a while — possibly long enough to get life started.

Moon Glow

Smithsonian, November 10, 2020. "Radiation Might Make Jupiter's Salty, Icy Moon Europa Glow." Contributed by Steven Darnell.

NASA scientists performed an experiment to see what effect Jupiter's murderous radiation would have on organic compounds they might some day find on Jupiter's frozen moons. They irradiated frozen water spiked with a variety of salts. Then they found that ice glows green or blue under that kind of radiation, and the glow differed with the type of salt: Epsom salt glows brightly, while table salt glows dimly. This gave them a way to map minerals in the night side terrain of Europa from an orbiting craft. Regions would show up differently depending on the kind of salts that had coated the surface when water oozed up through cracks in the crust. Although nobody has seen Europa under those conditions, the scientists think there would be about as much light on the shadowed side as Earth's moon casts on a night landscape.

Whither Water

ScienceDaily, October 26, 2020. "Nasa's Sofia Discovers Water On Sunlit Surface Of Moon."

There is more water on Earth's moon than anyone had thought from studying the moon rocks the Apollo astronauts brought back. Not lakes. Not puddles. In fact, scientists aren't sure what form the water is in. But NASA's SOFIA telescope definitely sees $H2_{O}$ molecules on the sunlit side of the moon. Maybe small amounts are hiding in shadows cast by landscape features. The amount is said to be about a soda bottle full for every cubic metre of lunar soil.

Dueling Dinosaurs

National Geographic, November 17, 2020. "Dueling Dinosaurs Fossil, Hidden From Science for 14 Years, Could Finally Reveal its Secrets."

The "I Know Dino" podcast #313 for November 25, 2020 highlighted the story of an amazing fossil discovery in the Hell Creek formation of Montana known as the "Dueling Dinosaurs." This is different from an earlier find called "The Fighting Dinosaurs" which was a velociraptor entangled with a protoceratops. This new one includes a very well preserved triceratops along with a 98% complete juvenile T-Rex. The

(from p06)

bones are still partly embedded in rock, so it is not certain that the pair died fighting each other. But one of the predator's teeth is stuck in the triceratops skeleton. The fossil find has been stuck in litigation while courts decided whether fossils are legally minerals and therefore subject to mineral rights. The final verdict is that they are not minerals. We should be able to see the fossil pair at The North Carolina Museum of Natural Sciences (NCMNS) some time in 2022.

John Blinke
Johnb44221@cs.com

that matched Russian orbiters. The American Space Shuttle brought up many crews, of course, and it had its own special docking arrangement. Now, the Crew Dragon orbiter has yet another style. These docks are located on different parts of ISS, which is as long as an American football field. There was no need to remove one dock to make room for another.

Two more ISS facts:
Four different spacecraft currently deliver cargo and supplies: Northrop Grumman's Cygnus, SpaceX's Dragon, JAXA's HTV, and the Russian Progress.

Eight orbiters can dock to the space station at once.

John Blinke

Resignation of Director

The Director of Development, Bibiana Balanyi, recently announced her resignation to the IBD, to take effect on January 11.

We would like to thank Bibiana for her long and dedicated service to Mensa. A new Director of Development will be elected in the regular elections in the coming months, and will take office on July 1.

The IBD has not decided on a replacement in the interim and it is possible that the position will be temporarily vacant until after the election.

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MENSA INTERNATIONAL LIMITED (REGISTERED NUMBER: 00848100)

STATEMENT OF FINANCIAL POSITION
31ST DECEMBER 2019

	Notes	2019 £	2019 £	2018 £	2018 £
FIXED ASSETS					
Intangible assets	4		1		1
Tangible assets	5		1,553		1,661
Investments	6		1,641		1,378
			3,195		3,040
CURRENT ASSETS					
Debtors	7	71,249		106,278	
Cash at bank and in hand		557,985		475,420	
		629,234		581,698	
CREDITORS					
Amounts falling due within one year	8	54,538		60,452	
NET CURRENT ASSETS			574,696		521,246
TOTAL ASSETS LESS CURRENT LIABILITIES			577,891		524,286
RESERVES					
Income and expenditure account			577,891		524,286
			577,891		524,286

The financial statements have been prepared and delivered in accordance with the provisions applicable to companies subject to the small companies regime.

In accordance with Section 444 of the Companies Act 2006, the Income Statement has not been delivered.

The financial statements were approved and authorised for issue by the Board of Directors and authorised for issue on ..... and were signed on its behalf by:

.....
J Cywinski - Director

Please note that the accounts are signed electronically, which is why there is no printed signature. Also, the first page of notes (paras 1-3) is deliberately omitted, since that page simply contains information such as the statement of UK accounting practices.

4. INTANGIBLE FIXED ASSETS

	Patents and licences £
COST	
At 1st January 2019 and 31st December 2019	10,270
AMORTISATION	
At 1st January 2019 and 31st December 2019	10,269
NET BOOK VALUE	
At 31st December 2019	1
At 31st December 2018	1

5. TANGIBLE FIXED ASSETS

	Plant and machinery etc £
COST	
At 1st January 2019	3,406
Additions	166
At 31st December 2019	3,572
DEPRECIATION	
At 1st January 2019	1,745
Charge for year	274
At 31st December 2019	2,019
NET BOOK VALUE	
At 31st December 2019	1,553
At 31st December 2018	1,661

6. FIXED ASSET INVESTMENTS

The shares in group undertakings present a 100% holding of the ordinary share capital of Intermensa Limited, a dormant non trading company.

7. DEBTORS: AMOUNTS FALLING DUE WITHIN ONE YEAR

	2019 £	2018 £
Trade debtors	67,784	84,437
Other debtors	3,465	21,841
	71,249	106,278

8. **CREDITORS: AMOUNTS FALLING DUE WITHIN ONE YEAR**

	2019	2018
	£	£
Trade creditors	27,107	35,650
Taxation and social security	-	4,232
Other creditors	27,431	20,570
	54,538	60,452

9. **DISCLOSURE UNDER SECTION 444(5B) OF THE COMPANIES ACT 2006**

The Report of the Auditors was unqualified.

Simon Syddall BFP FCA (Senior Statutory Auditor)
for and on behalf of Duncan & Toplis Limited, Statutory Auditor

INCOME STATEMENT
FOR THE YEAR ENDED 31ST DECEMBER 2019

	Notes	2019 £	2018 £
TURNOVER	3	456,287	427,456
Cost of sales		-	1,087
GROSS SURPLUS		456,287	426,369
Administrative expenses		402,682	302,811
OPERATING SURPLUS and SURPLUS BEFORE TAXATION		53,605	123,558
Tax on surplus		-	-
SURPLUS FOR THE FINANCIAL YEAR		53,605	123,558

The notes form part of these financial statements

MIL BUDGET 2021

MIL budget 2021	2021		2022	2023	2024
	Details	Totals			
IBD		**130 000**	**80 000**	**85 000**	**90 000**
American Mensa bid	72 000				
Travel	58 000				
Excomm		**23 000**	**18 000**	**19 000**	**24 000**
Publications		**500**	**500**	**500**	**500**
Development		**7 000**	**10 000**	**10 000**	**10 000**
OFFICE		**137 000**	**142 500**	**148 000**	**153 500**
Office Salaries	130 000		135 000	140 000	145 000
Office other costs	7 000		7 500	8 000	8 500
SERVICES		**48 000**	**11 000**	**12 000**	**12 000**
Bookkeeping	3 000		3 000	3 500	3 500
Accountancy & Audit	8 000		8 000	8 500	8 500
Marketing	37 000		-	-	-
Website, IT & hosting		**15 000**	**15 000**	**15 500**	**15 500**
Legal expenses		**80 000**	**80 000**	**80 000**	**80 000**
Election expenses		**7 000**	-	-	**7 500**
OTHER EXPENSES		**93 000**	**83 500**	**20 500**	**20 500**
Mensa Foundation - International Scholarships	-		4 500	6 500	6 500
Marketing/PR budget 75th Anniversary	10 000				
IVN	5 000		5 000	5 000	5 000
GLAM *(Conditional)**	5 000		-	-	-
Adaptive testing *(Conditional)**	65 000		65 000	-	-
Supervisor Psychologist Honorarium	2 000		2 000	2 000	2 000
Archives	4 000		4 500	4 500	4 500
Other fees	2 000		2 500	2 500	2 500
Total cost		**540 500**	**440 500**	**390 500**	**406 000**
Revenue					
Component		420 000	440 000	465 000	480 000
Other income		10 000	10 000	10 000	10 000
DIM		10 000	11 000	11 500	12 000
Total revenue		**440 000**	**461 000**	**486 500**	**502 000**
Planned Profit (+) / loss (-)		**-100 500**	**20 500**	**96 000**	**96 000**
2020 savings:					
IBD		75 000			
GLAM		5 000			
Adaptive testing		65 000			
Component		7%	7%	7%	7%

*) subject to the approval by the IBD of detailed budget plan