

1. North Carolina shooting: High school student shot dead with another pupil charged with murder

Victim was named as 16-year-old Bobby McKeithen

[Andrew Buncombe](#) Washington DC

A student has been killed and another taken into custody and charged with murder, after a shooting at a high school in North Carolina, an incident apparently triggered by a dispute over bullying by two 16-year-old youths.

Police in the town of Matthews, 10 miles southeast of Charlotte, confirmed that a lockdown had been ordered at Butler High School after reports were received of shots being fired at around 7.15am. The lockdown was subsequently lifted and parents were able to collect their children

“We have responded to a shooting at Butler High School this morning. There is one student that has been shot that was transported to the hospital with unknown injuries at this time,” the city’s police force said in a post on Facebook.

“Another student has been taken into custody. This is believed to be an isolated incident and the scene has now been secured by police. Information on releasing students to their parents will be coming soon.”

Local news channel WDBO said the victim had been taken to the Carolinas Medical Centre. It was later reported the victim had died from his injuries.

Television images showed groups of anxious parents standing close to the school, waiting for more information as to who had been hurt.

Police Supt Clayton Wilcox said during a press conference outside the school, that the suspected shooter, himself a student had been wounded, and was at that time undergoing surgery.

Mr. Wilcox said the shooting occurred after a disagreement between two students. The disagreement occurred in a hallway and there were “many kids in the hallways when it took place”, he said, according to the *Charlotte Observer*.

Later, the victim was named as 16-year-old Bobby McKeithen.

Matthews Police Department Capt Stason Tyrrell said that another 16-year-old, Jatwan Craig Cuffie, had been detained and charged with first-degree murder. He was charged as an adult and is being held in the Mecklenburg County jail.

Charlotte-Mecklenburg Schools Superintendent Clayton Wilcox said the shooting appeared to have stemmed from a case of bullying “that escalated out of control”. Neither Mr Wilcox nor Mr Tyrrell said which student was being bullied, the Associated Press said.

Earlier on Monday, the local education agency, Charlotte-Mecklenburg Schools, which is headquartered in Charlotte, said the single shooter had been apprehended and the weapon was in the possession of police.

"The single shooter has been apprehended and the weapon is in the possession of law enforcement," it said in a Facebook post. "Law enforcement has advised that there is no further immediate danger at this time and initial investigation shows this to be an isolated incident/"

2. Angela Merkel: As German chancellor prepares to step down, who could replace her?

Angela Merkel will not stand again in 2021

[Jon Stone](#) Europe Correspondent

Angela Merkel has announced the end of her political career: she won't be standing in the next federal elections, slated for 2021. She'll be stepping down as leader of her party even earlier, too, in December. Already, a crowded field is building up to replace her as **CDU** leader, a decision that will take place at the party's congress in December. Whoever replaces her at the helm of Germany's conservative party will inevitably also be favourite to become the next chancellor of Europe's largest economy. Here are some of the main runners and riders to replace her as chancellor in 2021, from her own party and outside it:

Annegret Kramp-Karrenbauer

Known to German political insiders as **AKK**, Kramp-Karrenbauer is the favourite to replace Merkel as leader of the CDU.

A moderate within the Christian democrats, she broadly shares her boss's politics and is currently the party's general secretary, having previously run the state of Saarland.

Merkel has specifically said she won't endorse a candidate in the coming CDU leadership election, but if she had most observers would have expected it to be **AKK**.

Jens Spahn

Germany's health minister has publicly spoken out against Merkel's welcoming refugee policy, arguing that the CDU had "perhaps put too much emphasis on the humanitarian approach".

An economic liberal who supports tax cuts and a smaller state, the minister has also proved a social liberal on some issues, such as same-sex marriage.

Friedrich Merz

Merz hasn't been a member of the Bundestag since 2009, but that hasn't stopped speculation that he might show an interest in coming back to replace Merkel.

A former leader of the CDU's parliamentary group, Merz was Merkel's rival in the earlier years of her premiership, but was ruthlessly sidelined as her power became unassailable.

To come back he would probably have to stand as an MP again in the 2021 elections.

Ralph Brinkhaus

The leader of the CDU group in the Bundestag, Brinkhaus inflicted a political wound on Merkel when he got his current job in September – ousting one of her allies.

The MP voted against the introduction of same-sex marriage last year, putting him firmly on the social conservative side of the party; he is also seen as a small-state liberal.

Andrea Nahles

The new leader of the centre-left SPD hasn't managed to reverse her party's slide yet, but there are still a few years to go before the next election.

Merkel is a fearsome opponent and if the CDU picks the wrong candidate, the SPD may well make a comeback. Or not

Alice Weidel

Weidel was lead candidate for the far-right AfD in the 2017 elections. She's unlikely to get near the top job because other parties refuse to deal with the AfD in coalition talks and they're unlikely to win enough support to given alone.

It's also unclear whether she will be in the candidate spot next time, given the AfD's fractious internal politics. But given what's happened with the extreme right other European countries, she's worth keeping an eye on.

3. US Military to send more than 5,000 troops to border ahead of migrant caravan arrival Scores of refugees and migrants are leaving the caravan each day as Donald Trump ramps up his attacks

[Chris Riotta](#) New York

The **US military** is preparing to send as many as 5,200 troops to the nation's southern border ahead of a **migrant caravan** travelling towards the region.

The latest reports arrived as an estimated 800 troops were sent to the US-Mexico border Monday, the US Department of Defence said Monday afternoon. By the end of the week, the department confirmed nearly 5,200 active duty troops would be assisting along the border with daily operations.

Meanwhile, the number of migrants continuing their collective journey has decreased each day, as is typical with the 15-year tradition that normally ends with a much smaller number of asylum-seekers arriving to US ports of entry along the border.

Earlier this year around 2,000 National Guard troops to the region, where about 15,000 US customs officials **oversee** the processing of trade, migrants and pedestrian travel daily.

The migrant group planned to set out early Monday for Niltepec, 43 miles, (70 kilometres) to the northwest in Oaxaca state.

Several hundred migrants tried to cross the Suchiate River from Guatemala to Mexico en masse on Monday, but were met by ranks of Mexican federal police who blocked them from entering.

The standoff on the riverbank follow a more violent confrontation that occurred on the nearby bridge over the river the night before, when migrants tossed rocks and used sticks against Mexico police. One migrant was killed Sunday night by a head wound, but the cause was unclear.

The caravan still must travel just under 1,000 miles (1,600 kilometres) to reach the nearest US border crossing at McAllen, Texas. The trip could be twice as long if the 4,000 or so migrants head for the Tijuana-San Diego frontier, as another caravan did earlier this year. Only about 200 in that group made it to the border.

Donald Trump tweeted on Monday, "Many Gang Members and some very bad people are mixed into the Caravan heading to our Southern Border. Please go back, you will not be admitted into the United States unless you go through the legal process."

He added, "This is an invasion of our Country and our Military is waiting for you!"

Most of the migrants in the caravan appeared determined to reach the US, according to the *Associated Press*, despite an offer of refuge in Mexico.

Mexican President Enrique Pena Nieto launched a program Friday dubbed "You are home," which promises shelter, medical attention, schooling and jobs to Central Americans who agree to stay in the southern Mexico states of Chiapas or Oaxaca, far from the US border.

Mexico's Interior Ministry said Saturday that temporary identity numbers had been issued to 111 migrants, which would allow them to stay and work in Mexico. The ministry said pregnant women, children and the elderly were among those who had joined the program and were now being attended at shelters.

The president has repeatedly vowed to stop the caravan before any of its migrants arrive to the country, tweeting, "The migrant 'caravan' that is openly defying our border shows how weak & ineffective U.S. immigration laws are."

"The big Caravan of People from Honduras, now coming across Mexico and heading to our "Weak Laws" Border, had better be stopped before it gets there," he wrote in an additional tweet. "Congress MUST ACT NOW!"

The Pentagon declined to immediately comment on the latest reports. The White House also did not immediately respond to enquiries.

Additional reporting by AP

4. Pittsburgh synagogue shooting: Why was synagogue attack suspect Robert Bowers apparently obsessed with HIAS?

The Hebrew Immigrant Aid Society (HIAS) is a non-profit organisation providing relief and support to refugees around the world

[Sarah Harvard](#) New York

Pittsburgh resident **Robert Bowers** is facing court having been charged with a number of crimes over the deaths of 11 people during a shooting at a synagogue in the city.

It is alleged that the suspect wrote a series of antisemitic comments about Jews and refugees on Gab, a social media site.

It is one such message, written by a user with the name Robert Bowers, which has garnered much of the focus.

“HIAS likes to bring invaders in that kill our people,” he wrote. “I can’t sit by and watch my people get slaughtered. Screw your optics, I’m going in.”

What is HIAS?

The Hebrew Immigrant Aid Society is a non-profit organisation providing relief and support to refugees around the world. It was established in 1881 to help Jewish refugees flee the antisemitic pogroms of 19th and 20th century Russia. Since then, the organisation has helped resettle approximately 4.5 million refugees fleeing persecution.

What does HIAS do for refugees?

Initially, the organisation—originally based out of New York City’s Lower East Side neighbourhood—provided hot meals, job training, legal aid, resettlement relief and language programs for Jewish refugees arriving in to the United States.

Since then, HIAS expanded its aid and legal work by offering additional resources to refugees including mental health services, food security programmes and legal representation. The organisation also works on advocacy work fighting for refugee protection and assistance in the US and abroad.

Does HIAS only work with Jewish refugees?

Although it started as an organisation to help Jewish refugees flee imperial Russia, HIAS evolved over time to help refugees from all different religions, ethnicities and nationalities.

For example, in 1975, the U.S. government asked HIAS to help resettle 3,600 Vietnamese refugees in the US. Since the 2000s, the organisation officially expanded their refugee resettlement work to include non-Jewish refugees. According to its website, HIAS helped refugees from Afghanistan, Bosnia, Bulgaria, Czechoslovakia, Ethiopia, Haiti, Hungary, Iran, Morocco, Poland, Romania, Tunisia, Vietnam and states that formerly made up the Soviet Union.

Why did Mr Bowers, the alleged synagogue shooter, seemingly hate HIAS?

Mr Bowers is said to have written hate-filled comments and posts on social media targeting the Jewish and refugee community. Mr Bowers is alleged to have written that he believed HIAS was a part of the greater conspiracy of Jewish global domination bringing refugees, whom he considered to be “invaders,” into the country.

5. Lion Air crash: Investigation under way in Indonesia after 189 people killed as plane plunges into sea

Movements of new aircraft were erratic after take-off - just as on earlier flight

[Jane Dalton](#)

World leaders and the Pope sent their condolences to bereaved families in **Indonesia** after a passenger plane plunged into the sea off Indonesia soon after take-off, killing all 189 people on board.

An investigation has been launched after the budget-airline jet, which was new but had experienced a “technical issue” on its previous flight, came down near **Jakarta**.

By nightfall, rescuers in inflatable boats had retrieved six bodies, various body parts, pieces of **aircraft** and personal belongings from the ocean.

Search and rescue chiefs **said they were not expecting to find any survivors** from the accident, which is the country’s second-worst plane crash.

The disaster renewed questions about the safety of Indonesia’s airline industry.

Data from the plane showed erratic speed, altitude and direction in the minutes after takeoff. The same thing happened on the plane’s previous flight, according to Aviation Safety Network.

The new-generation **Boeing** jet took off at around 6.20am Indonesian time and was on a short-haul flight to Pangkal Pinang near Sumatra. But just two minutes into the flight it dropped more than 500ft and veered to one side.

It began climbing again but the pilots asked to turn back to base shortly before losing contact with air-traffic control, said a spokesman for Indonesia’s air-navigation authorities.

Contact was then lost and it crashed just 13 minutes into the flight.

Low-cost airline **Lion Air** said the plane was carrying 181 passengers, including one child and two babies, and eight crew members. At least 23 Indonesian government officials, an Indian pilot and an Italian man were also on board.

About 300 people including police officers, divers and soldiers spent the day working against strong currents in waters up to 35 metres deep, using underwater robots to search for survivors, officials said.

Distraught family members waiting for news at airports struggled to comprehend the sudden loss of loved ones in the crash of the two-month-old plane flown by experienced pilots in fine weather.

The operations director of Indonesia’s search and rescue agency, Bambang Suryo Aji, said he no longer expected to find any survivors.

After the search teams halted their work for the night, sonar vessels continued hunting for the fuselage, where many of the victims were believed to be trapped.

Joko Widodo, Indonesia’s president, said he had ordered the National Commission for Transportation Safety to begin an investigation immediately.

EU president Jean-Claude Juncker has written to President Widodo on behalf of the EU Commission, offering European help.

His letter to Mr Widodo read: “I commend the efforts of your emergency services, and assure you that the relevant European authorities are ready to provide any necessary assistance, should you request it.”

Russia’s Vladimir Putin was among the world leaders who sent messages of sympathy.

6. Democrats hold 17-point lead against Republicans ahead of November midterms in latest poll Donald Trump is attacking Democrats via Twitter and campaigning for conservatives across the country

[Chris Riotta](#) New York

Democrats hold a 17-point edge against Republicans ahead of the November **midterm elections**, according to a new poll.

The generic ballot **survey**, conducted by USC Dornsife and *The Los Angeles Times*, showed an apparent surge in energy among Democratic voters amid several contentious news cycles.

According to the survey, 57 per cent of likely voters said they plan to support Democrats in the upcoming elections, compared to 40 per cent of respondents who said they will vote for **Republicans**. With just eight days until the historic elections, Democrats appear to hold a significant lead over the Republican party, which currently maintains a majority of power in both the House and US Senate. The poll of just under 4,000 people was conducted from 21 October to 27 October. Just last week, a separate *Los Angeles Times* poll showed Democrats with a 13-point edge over Republicans.

It has been a chaotic two weeks for national news, however, including a string of explosive devices stirring **international headlines** after being sent to former first families, prominent Democrats and a major news network, as well as a mass shooting at a Pittsburgh synagogue that left 11 victims killed. Meanwhile, Donald Trump has caused controversy by his response to the developments, refusing to call the targeted recipients of the bombs, including the Obamas and the Clintons.

He also suggested the **killings** of numerous Jewish worshippers at the Tree of Life synagogue on Saturday may not have occurred had there been an armed security guard present.

“If there were an armed guard inside the temple, they would have been able to stop them,” the president suggested. “Maybe there would have been nobody killed except for him, frankly.”

Mr Trump has repeatedly suggested he is on the ballot come November, and embarked on a nationwide campaign tour supporting conservative Republicans in apparent battleground state

Support free-thinking journalism and subscribe to Independent Mindss, including Texas, where he stumped for his former opponent Ted Cruz.

FiveThirtyEight showed Democrats leading Republicans on the generic ballot by over eight per cent, with more than 50 per cent of respondents in an average of polls saying they will support Democratic candidates, compared to 42 per cent who plan to vote for Republicans.

However, with eight days left until the historic elections — and an infinite number of news cycles that may occur until then — the November midterms could still be anyone’s game.

7. Does low-skilled immigration really hurt the UK economy?

[Ben Chu](#) [Caitlin Morrison](#) Tuesday 2 October 2018 11:30

The UK government has announced plans to bring down “low-skilled” migration to the UK post-Brexit. “It is going to bring [European Union] free movement to an end once and for all,” the Prime Minister Theresa May **informed** the BBC on Tuesday.

“We will be deciding who comes here. That decision will be based not on where somebody comes from but on the contribution they will make to our economy. And so it will be a skills-based system.”

But businesses groups have sounded the alarm about the plan. So what does the evidence suggest about the economic impact of low-skilled migration? What will the likely impact of cutting it off be? And could there be exemptions for certain business sectors?

What did the MAC propose?

It said that after Brexit the government should be looking to essentially end low-skilled immigration to the UK, but to make it easier than it is currently for high-skilled migrants to work here.

What is the definition of “skilled” here?

There’s an official grading scheme called the [Regulated Qualifications Framework](#) (RQF).

To be eligible for one of the UK’s “skilled” Tier 2 general visas foreigners need at least an RQF level 6 grade. This means the equivalent of an undergraduate degree or a graduate diploma or a degree apprenticeship.

However, the MAC suggests that the definition of “skilled” should be lowered to RQF level 3. This means the equivalent of A-levels. The MAC says this would cover about 5 million UK workers, or about a third of the full-time employee workforce. Yet the current visa system restricts Tier 2 visas to people who will command an annual salary of at least £30,000. And the MAC said this salary minimum should remain.

This is well above the UK’s median full-time wage of about £28,000.

“This wouldn’t just hit fruit-pickers and baristas but butchers, primary school teachers, radiographers and so on,” [says](#) Jonathan Portes of King’s College London.

Doesn’t low-skill immigration discourage employer training and depress wages?

This argument is frequently made. But studies presented by the MAC suggest otherwise.

“The research we commissioned showed that overall there is no evidence that migration has had a negative impact on the training of the UK-born workforce,” it said.

“Moreover, there is some evidence to suggest that skilled migrants have a positive impact on the quantity of training available to the UK-born workforce.”

So why did the MAC advise restricting low-skilled migration?

It found that skilled migrants make a higher economic contribution.

“Higher-skilled workers tend to have higher earnings so make a more positive contribution to the public finances. The estimated labour market impacts, though small, also suggest that higher-skilled workers are of greater benefit as do any impacts on productivity and innovation,” it said.

Yet, despite its recommendations, the MAC didn’t find that low-skilled immigrations were an economic drain either in terms of national productivity or the public finances.

“Post-Brexit immigration policy cannot ignore the needs of employers in key, low-skilled sectors and workable options need to be put in place.”

Official figures emphasise those needs. More than 30 per cent of all employees in the food production sector are EU nationals. In domestic personnel the figure is 27 per cent and 16 per cent in warehousing.

8. Syria reopens national museum in recently-shelled Damascus after six years

'Opening of the museum is a genuine message that Syria is still here and her heritage will not be affected by terrorism'

Staff Reporter

Syria's National Museum in the heart of **Damascus** has reopened, more than six years after the prominent institution was shut down and emptied as the country's civil war encroached on the capital. The reopening of the museum was hailed as a return to normal life by Syrian officials, eager to cash in on the **Syrian armed forces'** military victories against armed groups.

These groups had only recently shelled Damascus and threatened the seat of the government in the capital, coming only miles from the presidential palace.

Over successive military advances, and with the backing of allies Russia and Iran, Syrian troops moved in on rebel holdouts on the outskirts of Damascus expelling the armed groups to the north and restoring calm.

"The opening of the museum is a genuine message that Syria is still here and her heritage will not be affected by terrorism," Syrian Minister of Culture Mohamed al-Ahmad told reporters and visitors.

"Today, Damascus has recovered."

Among the antiquities on display are murals from the 2nd century Dura-Europos in Syria's east, textiles from central **Palmyra** and statues of the Greek goddess of victory from the south.

Syria's conflict, raging since early 2011, has been detrimental for the country's rich heritage.

Authorities shut down museums and safely stored away over 300,000 artefacts, but some sites were still destroyed by the Islamic State group, damaged by the fighting or looted.

Head of the General Directorate for Antiquities and Museums, Mahmoud Hammoud, said four of the five sections of the museum will be opened to showcase hundreds of archaeological findings that date back to the prehistoric, historical, classical and Islamic eras.

He said some artefacts restored or seized by Syrian authorities will also be on display.

More than 9,000 artefacts were restored and reclaimed since the **war** began, he said, noting that the museum needs renovation and funds. He said hundreds of thousands of important artefacts and sculptures were smuggled abroad during the crisis.

Visitors will be able to watch as specialists restore hundreds of artefacts reclaimed from Palmyra, which Islamic State militants overtook for months destroying some of the world's most famous monuments.

Bartosz Markowski, a Polish specialist in conservation of stone sculpture and architectural detail, said he had been working in Palmyra before the war broke out.

"I am saving heritage, mostly in Palmyra, where I have been working before the crisis," he told *The Associated Press*. "I came right after liberation and helped with urgent conservation and protection of destroyed objects in Palmyra... There is still a lot of damage in Palmyra."

For Mr Markowski, reopening the Damascus museum was "symbolic".

"When life is coming back, we are opening the museums," he said.

9. Turkey to open 'world's largest airport' in Istanbul

Transport hub aims to serve double the number of passengers who travel through current busiest airport in Atlanta, after completion in ten years

[Zeynep Bilginsoy](#), [Neyran Elden](#)

Turkish president **Recep Tayyip Erdogan** is opening what he claims will eventually become the world's largest **airport** on the 95th anniversary of **Turkey's** establishment as a republic.

Tens of thousands of workers have been scrambling to finish the airport to meet Mr Erdogan's 29 October deadline.

However, its launch on Monday is symbolic with only limited flights beginning days later and a full move expected at the end of the year.

The project has been dogged by **concerns** about labour rights, environmental issues and Turkey's weakening economy with protests held in September over poor working conditions and dozens of construction deaths.

Istanbul New Airport, on the shores of the Black Sea, will serve 90 million passengers annually in its first phase.

At its completion in ten years, it will occupy nearly 19,000 acres and serve up to 200 million travellers a year with six runways. That's almost double the traffic at world's biggest airport currently, Atlanta's **Hartsfield-Jackson**.

“This airport is going to be the most important hub between Asia and Europe,” Kadri Samsunlu, head of the 5-company consortium Istanbul Grand Airport, told reporters on Thursday.

The airport's interiors nod to Turkish and Islamic designs and its tulip-shaped air traffic control tower won the 2016 International Architecture Award.

It also uses mobile applications and artificial intelligence for customers, is energy efficient and boasts a high-tech security system.

All aviation operations will move there at the end of December when Istanbul's main international airport, named after Turkey's founder **Mustafa Kemal Ataturk**, is closed down. Ataturk Airport now handles 64 million people a year.

Mr Erdogan is expected to announce the official name of the new airport, part of his plan to transform Turkey into a global player.

Turkish Airlines will launch its first flights out of the new airport to three local destinations: Ankara, Antalya and Izmir. It will also fly to Baku and Ercan in northern Cyprus.

“Istanbul New Airport will remain ambitious for growth and we will carry on mastering the challenge to be the biggest and the best. That's our motto,” Mr Samsunlu said.

10. Budget 2018: Jeremy Corbyn accuses government of 'broken promise budget' as he dismisses claim austerity is over

Labour leader says investment announced by Philip Hammond is 'half measures and quick fixes'

[Benjamin Kentish](#) Political Correspondent

Jeremy Corbyn has accused Philip Hammond of delivering a "broken promise budget" and dismissed ministers' claims that austerity is over.

The **Labour** leader said billions of pounds of new government spending amounted to "half measures and quick fixes while austerity grinds on".

He was responding to a Budget in which Mr Hammond brought forward an income tax for 32 million workers, announced a new tech tax on global giants such as Google and Facebook, and promised increased investment in mental health services, roads, the armed forces and the roll-out of universal credit.

The chancellor vowed that, during the next spending period, Whitehall budgets will increase by an average of 1.2 per cent per year as he promised austerity is "coming to an end".

But, responding, Mr Corbyn said: "The reality is that whatever the chancellor claims today, austerity is not over."

He added: "What we've heard today are half measures and quick fixes while austerity grinds on.

"And far from people's hard work and sacrifices having paid off, as the chancellor claims, this government has frittered it away in ideological tax cuts to the richest in our society."

Pointing out that the Conservatives had previously promised to get rid of the UK's budget deficit by 2015, he said: "Today the chancellor has confirmed it will still be there nine years later, in 2024."

He also hit back at ministers' criticism of Labour's economic record, saying: "For too long the party opposite peddled the myth that the last Labour government crashed the economy by overspending on public services, as if investing to bring health spending up to European levels had caused the global financial crash."

As a result of austerity, he said, life expectancy in the UK is stalling "for the first time in modern history" while in poorer areas life expectancy has fallen and child mortality increased.

Turning to Brexit, Mr Corbyn said the £500m in extra funding announced by Mr Hammond for preparing for Britain's departure from the EU was a sign of "panic not planning".

He claimed the lack of an agreement with the EU was because Tory ministers "cannot agree a deal amongst themselves" and accused the government of pursuing the "fantasy" of a Singapore-style "race to the bottom on rights and protections".

Welcoming new investment in educational programmes to teach people about the Holocaust, Mr Corbyn condemned the "horrific and vile antisemitic and racist attack" on a synagogue in Pittsburgh on Saturday, which killed 11 people dead.

11. Leonardo da Vinci may have had an eye disorder that helped him paint masterpieces Measurements of self-inspired works show a tendency for the left eye to turn outward, suggesting the artist might have had a mild strabismus that helped him translate three- dimensional scenes to canvas

[Alex Matthews-King](#) Health Correspondent

The painter, inventor and polymath **Leonardo da Vinci** may have had a squint that helped him capture the Mona Lisa's smile and create his masterpieces, according to researchers.

Doctors from the Optometry and Vision Sciences School at City University of London have diagnosed the Renaissance master with strabismus after analysing the eye alignment of works believed to have been modelled, in part, on himself.

Strabismus is a common vision disorder where one of the eyes looks inward, outward, up or down when the other eye is focused on an object.

The condition is thought to be beneficial to painters as it lets them better focus on close-up flat surfaces and has been identified in a number of famous artists, including **Rembrandt**.

There are notoriously few validated images of da Vinci and historians can only speculate on the extent he put himself into his work. However, Leonardo's own text the *Codex Atlanticus* says that artists can't help but be self inspired, stating: "[The soul] guides the painter's arm and makes him reproduce himself, since it appears to the soul that this is the best way to represent a human being."

"A number of famous artists have been identified as having strabismus on the basis of the eye alignment evident from their self-portraits, including Rembrandt Harmenszoon van Rijn, Albrecht Dürer, Giovanni Francesco Barbieri (who was also known as Il Guercino, Italian for 'the squinter'), **Edgar Degas**, and Pablo **Picasso**," the study's author, neuroscientist Professor Christopher Tyler, said.

"Some forms of strabismus are thought to facilitate artistic work by suppressing the deviating eye, which creates two-dimensional monocular vision advantageous to painting and drawing"

While having two eyes focused on an object (stereoscopic vision) is integral to our depth perception, it can make translating three-dimensional scenes to canvas more tricky, as each eye will be seeing objects slightly to the right or left.

This can be illustrated by holding a finger in front of your nose and shutting your eyes alternately causing the digit to jump side to side.

If one eye deviates, the brain will deprioritise signals from the unfocused eye, preventing this effect and giving a more static image to work from.

For the study published in *JAMA Ophthalmology*, Professor Tyler measured the alignment in six art works believed to be partly self-inspired by fitting circles to the irises of each eye and measuring the average deviation from alignment.

Works included two drawings, two oil paintings and two sculptures. Among them his world famous *Vitruvian Man* sketch, the bronze sculpture *David* – reputedly a depiction of the young Leonardo – and *Salvator Mundi*, his painting of Jesus Christ which recently [became the most expensive in history](#).

In all cases, the eye misalignment was measurable, though not severe and averaged a -10.3° deviation from the focussed eye across the six pieces.

This negative number means the eye would tend to look outwards (exotropia) and Professor Tyler argues that da Vinci's strabismus may have been non-existent when focusing intently on an object, but would come in when he relaxed into painting. This would give him the best of both worlds.

The professor said: "The weight of converging evidence suggests that Leonardo had intermittent exotropia, with a resulting ability to switch to monocular vision.

"This would perhaps explain his great facility for depicting the three-dimensional solidity of faces and objects in the world and the distant depth recession of mountainous scenes."

12. Stephen King novel *Joyland* to be turned into TV series

The novel, published in 2013, tells the story of a college student working at a North Carolina amusement park in 1973

[Clémence Michallon](#)

Another one of **Stephen King**'s books is getting the small screen treatment.

The author's 2013 **novel** *Joyland* is being adapted into a **TV series** put in development by Freeform, *Deadline* reported on Wednesday.

Joyland, set in 1973, tells the story of Devin Jones, a college student who takes a summer job at an amusement park in North Carolina – and is of course left dealing with an unsolved murder.

Writer Chris Peña, who has worked on the acclaimed satirical comedy drama *Jane The Virgin*, is attached to the project, along with Cyrus Nowrasteh, the screenwriter behind the 2006 miniseries *The Path to 9/11* and the 2008 drama *The Stoning of Soraya M.* Peña and Nowrasteh will write the script for the pilot and act as producers.

Producer Bill Haber will executive-produce through Ostar Productions, which was responsible for the 2006 Emmy-nominated miniseries *Nightmares & Dreamscapes: From the Stories of Stephen King*, based on King's short stories.

"We are honoured to be working with Stephen King – a master storyteller who understands the importance of culturally embedded tales that resonate with audiences on a deeply personal level," Karey Burke, the executive vice president of programming and development at Freeform, told *Deadline*.

Dozens of King's works have been adapted on the small and big screens over the past decades, including *Carrie*, *The Shining*, *Cujo*, and of course *It*. The latter, which was first published in 1986, was first turned into a miniseries in 1990, with Tim Curry as Pennywise the Dancing Clown. A movie version of *It* came out in September last year, grossing more than \$700m (£548) worldwide. A sequel titled *It: Chapter Two* is set to be released in September 2019. Bill Skarsgård will return as Pennywise, while Finn Wolfhard, Jaeden Lieberher, Sophia Lillis, Chosen Jacobs, Jack Dylan Grazer, Wyatt Olef, and Jeremy Ray Taylor will reprise their original roles.

13. Oscars 2019: Everything we know so far about the 91st Academy Awards ceremony **Jimmy Kimmel tipped to return as host for next year's celebration of cinema** **[Joe Sommerlad](#)**

Although **next year's Oscars** might feel like a long way off, speculation has already begun as to which films might be in contention for the top awards.

Always an eventful evening, the Academy Awards never fails to provide talking points, and **2017's Best Picture mix-up** between *Moonlight* and *La La Land* remains the high-water mark for soap opera controversy. Here's everything we know about the upcoming ceremony.

When is the 2019 Academy Awards and how can I watch it?

The 91st Academy Awards will be held on 24 February 2019 at the Dolby Theatre in Hollywood, Los Angeles.

The evening will be broadcast live on ABC in the US and on Sky in the UK.

Producer Donna Gigliotti and director Glenn Weiss have been tasked with bringing off a leaner show this time around, running at no more than three hours for the first time since 1973. To achieve this, some of the lower-profile awards will be handed out while the broadcast is in commercial breaks, saving almost an hour after 2018's telecast ran to a bloated three hours and 53 minutes.

There is no word yet on who will be hosting but late night's **Jimmy Kimmel** has done so for the past two years. He though reportedly found the workload too demanding in addition to his daily chat show duties and so is unlikely to make a repeat appearance.

Previous hosts like Neil Patrick Harris and Chris Rock have proven themselves too politically divisive or politically incorrect for the Academy's taste, which would appear to rule out the likes of Stephen Colbert, Samantha Bee, John Oliver or Ricky Gervais.

Others like Tina Fey, Amy Poehler, Justin Timberlake, Julia Louis-Dreyfus, Melissa McCarthy and Jerry Seinfeld have all ruled themselves out, **according to *The Hollywood Reporter***, prompting suggestions of a return to the multiple presenter format used in the past.

Which films will be in contention for the top prizes?

While it is too early to say which films are likely to be in line for the gold statuettes, betting has already begun and we've had a go at **naming the early front runners** ourselves.

Bradley Cooper's directorial debut *A Star is Born* and Damien Chazelle's Neil Armstrong biopic *First Man* have both been widely praised and their respective leads, **Lady Gaga** and **Ryan Gosling**, are widely expected to be among the nominees.

A lot could happen in the coming months, however, and the imminent arrival of new films from Barry Jenkins, Steve McQueen, Alfonso Cuarón, Adam McKay, Yorgos Lanthimos, Mike Leigh and Karyn Kusama suggests the standard of entries will be high.

The nominations will finally be announced on Tuesday 22 January.

Will there be a Best Popular Film category?

No. The new award was announced in August but withdrawn a month later on the strength of the hostile reception it received.

Critics and fans argued the category would be used as a means of sidelining crowd-pleasing blockbusters like Ryan Coogler's *Black Panther*, keeping Best Film free for the "prestige" pictures that usually dominate.

The Academy of Motion Picture Arts and Sciences has said it "will examine and seek additional input regarding the new category" and has not ruled out its future revival.

How has Academy membership changed?

The Academy announced in June it had invited 928 new members of the filmmaking profession to join its ranks.

Part of a new initiative commenced under former Academy president Cheryl Boone Isaacs, the measure is intended to address the shocking revelation in 2016 that 92 per cent of membership was white and 75 per cent male.

Invitations were extended to actors including Amy Schumer, Kumail Nanjiani, Dave Chappelle, Sarah Silverman and Jada Pinkett Smith as well as a host technicians, directors and executives in a bid to improve diversity and offer a broader representation of opinion.

14. Budget 2018: Did Philip Hammond really impose a National Insurance stealth tax?

[Ben Chu](#) Economics Editor

The Chancellor has been accused of imposing “a stealth tax on middle England”.

The *Daily Telegraph* [reported](#) on Wednesday that half the income tax cuts in his Budget will be wiped out by a rise in National Insurance (NI) taxes.

So what’s happened here? And was there really a hidden NI hike in Philip Hammond’s Budget?

What did the Budget announce on income tax?

The Chancellor raised the higher rate threshold – the earnings level at which people will start paying the 40p rate of tax – to £50,000 from 2019-20.

This was a Tory manifesto pledge and Mr Hammond was able to introduce it a year earlier than previously expected.

Along with an increase in the personal allowance (the amount people can earn before paying any income tax) to £12,500, the Chancellor said this package would benefit 32 million people.

And what happened to National Insurance?

Nothing was announced by the Chancellor and there’s nothing about it on the [Red Book](#) “scorecard” produced by the Treasury listing all tax changes that raise or giveaway money relative to the previous baseline.

Yet some noted that the threshold at which NI payments are reduced from 12 per cent to 2 per cent had also risen to £50,000.

This means, according to *The Telegraph*, that higher-rate taxpayers will gain by £495, rather than the £860 boost they would have received if the NI threshold had been left alone.

Steven Cameron, pensions director at Aegon, was quoted as saying that: “The Chancellor was quick to showcase income tax savings in his budget speech but buried linked changes to National Insurance deep in the budget papers.”

And Sir Steve Webb, a former pensions minister, and currently director of policy at Royal London, said: “The Chancellor was keen to get plaudits for taking people out of higher rate income tax, but conveniently forgot to mention he was increasing National Insurance contributions. This can only be described as a stealth tax rise.”

So is this really a stealth tax?

This seems a bit of a stretch, given how the 2 per cent NI threshold has traditionally been linked to the higher rate income tax threshold.

Stuart Adam of the Institute for Fiscal Studies (IFS) described the increase in the NI reduction rate on Monday in line with its income tax counterpart as “completely normal practice”.

He said: “Of course, the government could always choose to decouple the two thresholds, but my normal expectation would be that they’d move in lock-step.”

The [distributional analyses](#) that the IFS produced on Tuesday, showing that the biggest cash gainers from the income tax changes were in the top 10 per cent of earners, took full account of the automatic NI threshold shift.

The IFS also has lower figures for the typical higher rate taxpayer gain than *The Telegraph*. It estimates that a typical higher rate taxpayer will benefit by £156 a year from the income tax threshold increase, while this would have been £291 without the NI offset.

The Resolution Foundation also separately [calculated](#) this week that, even with the NI offset, 84 per cent of the gains of the income tax cut next year will flow to the top half of the income distribution and 37 per cent to the top decile alone.

15. Antibiotics and stomach acid medicine in childhood increase obesity risk, study says Treatments could interfere with metabolism by wiping out microbes in the gut, scientists suggest [Alex Matthews-King](#) Health Correspondent

Children treated with **antibiotics** before their second birthday are more likely to become obese later in their childhood, according to a new study.

US researchers looking at the impact of the common treatment for infections suggested that disruption of **bacteria** in the gut could have a longer term effect on children's metabolism and increase weight gain.

The group of American toddlers they followed were 26 per cent more likely to be diagnosed with childhood **obesity** if they had been prescribed an antibiotic, they found.

This weight gain risk increased with multiple treatments and researchers found a smaller impact from drugs taken to curb excessive stomach acid – which are rarely used in children in the UK.

Independent experts stressed there were limitations to the study which cannot rule out that other factors are affecting both weight and illnesses - unrelated to gut bacteria. For example, children from less well off backgrounds are more likely to be obese and to be exposed to cigarette smoke which can increase risks of infection.

But with childhood obesity and antibiotic overuse reaching crisis point in many developed nations they say the findings are worth further investigation.

The study, published in the journal *Gut*, set out to assess the use of antibiotics and antacid prescriptions in early childhood among those with a diagnosis of obesity.

Using the health records of more than 333,000 infants recorded into the US Military Health System database between 2006 and 2013 they found nearly three-quarters (72.4 per cent) had been prescribed an antibiotic.

By age three 46,993 (14.1 per cent) children became obese, of whom 9,628 had not been prescribed any antibiotics or acid suppressants.

Because the study is observational it cannot establish cause but the authors wrote: “We found that outpatient prescriptions for antibiotics and acid-suppressing medications within the first two years of life are associated with the development of early childhood obesity.

“This association became stronger with prescriptions for more than one type of microbiota-altering medication.”

However children whose parents were below officer rank – a proxy for wealth and socioeconomic status – were also more likely to be obese and this could account for some of the risk.

Dr Max Davie, officer for health promotion for the Royal College of Paediatrics and Child Health, said: “Although this is reported as the largest study of its kind, it has got its limitations – it is observational and so you can’t establish cause, information about the mother’s weight, whether they smoked or had other underlying conditions aren’t available and there are complex links between the environment and obesity that need to be taken into account.

“That said, childhood obesity levels in the UK are at crisis point with one in three children overweight or obese by the time they leave primary school. We are also battling **antibiotic resistance** so any avoidable doses throughout the life-course would be beneficial to the cause. We therefore need to acknowledge these findings and would welcome further review.”

16. Eating organic food lowers risk of certain cancers, study suggests

Less exposure to chemical pesticides may be key to reduced rates, research indicates

Eating **organic food** could cut the risk of **cancer**, a new study has found.

Non-Hodgkin's lymphoma and breast cancer rates were lower among those who more frequently eschewed conventional food, according to researchers from the Centre of Research in Epidemiology and Statistics in Paris who examined data from nearly 70,000 **French** adults.

The reduced risk may be because those who eat organic are not exposed to the chemical pesticides and medicines which are generally used to treat regular fruit, veg, meat and fish, they suggested.

"Because of their lower exposure to pesticide residues, it can be hypothesised that high organic food consumers may have a lower risk of developing cancer," said lead author Julia Baudry. "If the findings are confirmed, promoting organic food consumption in the general population could be a promising preventive strategy against cancer."

But Dr Baudry admitted that such a diet appeared to have no effect on the risk of contracting bowel or prostate cancer.

The finding – published in the *JAMA Internal Medicine* journal – comes amid rising concern about the health risks of pesticides.

In August American groundsmans **DeWayne Johnson**, was awarded \$250m (£195m) in compensation after a jury found his terminal cancer was probably caused by frequent use of Roundup weed killer.

The new researchers followed 68,946 participants from 2009 to 2016, asking them to report if they got cancer.

Authors divided the subjects up into four groups dependent on how often they ate organic. After factoring in other known potential causes of cancer – including lifestyle factors and family history – they found that those who in the top group were 25 per cent less likely to develop the illness.

Significantly, they were 73 per cent less likely to develop non-Hodgkin lymphoma and 21 per cent less likely to develop post-menopausal breast cancer.

Even participants who only ate organic as part of an otherwise low-to-medium quality diet were found to experience a reduced risk of cancer, the study indicated.

But Dr Baudry warned of the limitations of the survey.

She said more detailed research would now need to be done with a wider base of subjects from a wider range of social backgrounds.