

**Bijlage HAVO**  
**2022**

tijdvak 2

**Engels**

Tekstboekje

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### Water, water everywhere...

I am unsure why tap water in restaurants has become an issue (*i weekend*, 1 June). I ask for tap water in restaurants because water is my preferred drink and I do not see the need to have my water bottled with the attendant environmental implications.

If this incurs a cost for restaurateurs then they should charge for the service, either directly or in their overall costings. I cannot imagine it is much and it is certainly hard to see how it would put a healthy and well managed restaurant out of business.

**Helen Kendall**

Harbury,  
Warwickshire

*i newspaper, 2019*



### Glowing strings in New Zealand caves

adapted from an article by Joanna Klein

- 1 In the Waitomo caves in New Zealand, thousands of blue lights dangle from the ceilings, twinkling like stars in a night sky. Tourists flock to the caves, awe-struck by the starry night illusions all around them. But the truth about this natural wonder may be hard to fathom — unless you're one of the glowing maggot masterminds behind it.



- 2 Along cave walls and ceilings, a fungus gnat egg hatches. The larva constructs a tube of mucus that can be up to a foot long. It coughs up dozens of silk strings — about a sixth the width of a human hair, and up to nearly two feet long — and dangles them from the bottom of the tube. To attract its victim, the glow worm illuminates these threads with sticky reflective drops by turning on its bioluminescent tail. Each thread can hold about three mayflies before it breaks. This keeps the whole nest from falling.
- 3 Scientists collected thousands of these threads and tested them with about 400 pounds of equipment they carried in and out the caves. They had to do the tests inside, because when the strings were removed from the cave, the droplets disappeared. They evaporate when humidity drops below 80 percent. Without the sticky nets, the glow worms starve.
- 4 The comings and goings of tourists can alter conditions. In fact, tourists once caused the climate in a cave to change so much that the glow worms vanished and didn't return for half a century.

*The New York Times, 2016*

### If you are plagued by rats, think twice about getting a cat

adapted from an article by Michael Le Page



- 1 A team led by Michael Parsons of Fordham University, New York, has been studying a rat colony at a recycling plant in New York City. They use infrared cameras to monitor the area. When feral cats moved into the plant last year, the researchers were 3. They thought the colony would be decimated. However, over five months, they saw just three attempts by cats to catch rats, only two of which succeeded. "Luckily for us, the rat population is still thriving," says Parsons.
- 2 Cats have good reasons to be cautious. The common rat (*rattus norvegicus*) has large incisors that can inflict a painful bite and carry lots of diseases. 4, cats find it easier to digest smaller prey: rats weigh 340 grams on average — compared with 25 grams for a mouse. Therefore, Parsons thinks that only starving cats will attempt to tackle rats, unless the rats are sick or injured.
- 3 However, cats do have a big influence on rat behavior. "Rats 5 the risk posed by cats," says Parsons. His team found that when cats are in the area, rats creep around more cautiously. They are still there, but hide from view. Most people, however, assume they see fewer rats because cats are good at killing rats.
- 4 Some cat owners may be convinced their pets are excellent ratters. But Parsons found that many people mistake mice for rats. That said, it is possible there are a few exceptional moggies that do take on healthy, adult rats, he says.

*NewScientist, 2018*

### For Cybersecurity, listen to this 11-year-old

- 1 When he's not obsessing over cybersecurity, giving a keynote speech in The Hague or New Delhi, or working on the next degree of his black belt in Kung Fu, 11-year-old Reuben Paul can usually be found doing his homework. Reserved and humble, the thoughtful lad with quiet eyes would seem like any other Texas pre-teen if it wasn't for his preoccupation with cybersecurity.
- 2 Reuben got his start in network security at the age of eight, thanks to his father, Mano, who also works in the field. Years of listening in on dad's business calls taught him the basics, and when Reuben helped his father out by reminding him of a key security term he'd forgotten, Mano figured the kid might have a knack for the industry. His immersion into computer and network security came faster than anyone could have expected: Within months Reuben had hacked a smartphone, designing a fake app that looked like a game. "If you tap on it, I immediately have full root access to the device and can turn on the camera," he says. "I did that when I was nine."
- 3 But Reuben found himself in the limelight — and on security conference stages across the world — when he set his mind to hacking his own seemingly innocuous toy: a teddy bear embedded with a voice recording system. The idea of the bear — Reuben calls him "Bob" — is that parents can use a smartphone app to record a message for their child, then upload it to the toy. After the child hears the message from the bear's mouth, he can record his own response and send it back to mom or dad's phone. In Reuben's mind it represented a risk in the so-called smart home.  
"Eventually we reverse-engineered the software and figured out how to turn the microphone on at will. I can stand outside anyone's house and connect to the toy bear," he says.
- 4 The good news is that there is no cause for 9, because Reuben's mission is to educate both kids and adults about the risks of these kinds of devices, all part of the emerging Internet of Things. He's even started a nonprofit company, which makes use of Kung Fu symbology to train children in cybersecurity basics. New students in the program begin as a



white belt. As they progress through the online lessons, eventually they earn their digital black belt in cybersecurity.

- 5 Reuben's counsel is in high demand and he travels so much that he's on his third passport. But the bright young boy has eyes firmly on the future. "I want to use my cybersecurity skills for the good of humanity. I want to be a businessman by day and a cyberspy by night and also an Olympic gymnast," he says. "But first I have to pass the sixth grade."

adapted from *Wired.com*, 2017

### Stone-stacking: cool or cruel?

adapted from an article by Patrick Barkham



- 1 On a trip to visit his father in Orkney, John Hourston, the founder of marine campaigners the *Blue Planet Society*, was dismayed to find wild beaches dotted with stacks of stones. His tweets have triggered an unexpectedly heated debate during which he's been belittled as a killjoy, a pedant, and even a misanthropist. "If stone stacks infuriate you, just knock them down. Plenty of people do. Besides, what next? Ban sandcastles? Let's focus on plastic in the oceans, people!"
- 2 Of course, stone-stacking is an ancient and sometimes religious impulse. A cairn in Scotland is a memorial to someone lost, but also a pile of stones that marks a way through wild country: invaluable when the cloud comes down. Cairns keep us safe. More recently, stone-stacking has become an art form and a competitive sport. Artists say the absorbing process of handling and balancing cool stones is meditative and good for our mental health. Children love it.
- 3 But what Hourston's critics don't seem to grasp is the almost industrial scale of this new age of stone-stacking. Adventure tourism and social media have created a perfect storm of stones. Cruise ships decant visitors on to once remote islands such as Orkney, the Faroes or Iceland, each passenger burning with a creative desire to memorialise their sightseeing on Instagram.



"Where do you draw the line?" wonders Hourston. "Orkney, Shetland, Iceland, Svalbard, or the Antarctic peninsula? We should start drawing the line now."

- 4 Our personal monuments turn empty landscapes into peopled places. When we reach a remote summit or deserted beach, we know people have stepped there before, but for a moment we can enjoy a place where humans do not predominate. No longer. Stacks are an intrusion, an offence against the first and most important rule of wild adventuring: leave no trace.
- 5 Stone-stacking can also harm wildlife. Birds such as oystercatchers make their nests on stony shores. These superbly camouflaged scrapes are almost impossible to see, and stone-stackers can unwittingly destroy a nest in the breeding season. On other sites the moving of stones exposes soil and exacerbates erosion, destroying the cool undersides of stones that are sanctuaries for millions of invertebrates.
- 6 Hourston was particularly struck by stacked stones on Skail beach, immediately below the neolithic village of Skara Brae. It's not fanciful to fear that ancient ruins may be disturbed. Historic England last year warned that stone-stacking was putting at risk historic monuments such as neolithic Stowe's Pound in Cornwall. We can be prosecuted for stone-stacking — destroying an ancient monument — in the wrong place.
- 7 Is there ever a right place? I'd say yes. A stack of stones below the high-tide line on a well-visited beach is as harmless and ephemeral as a sandcastle. Just as there are graffiti walls, we could designate certain beaches or moors as permitted places for stone-stacking. Stone-stacking contests are obviously fun too.
- 8 Some will rail against more rules, or more self-restraint; 17, particularly when there are more than 7 billion of us. Sheer quantities of people turn inconsequential behaviour into acts with consequences. If we want to enjoy what's left of our wild world, we have to be more aware than ever of our impact upon this Earth.

*theguardian.com, 2018*

# Fact-checking website's role brings new attacks

adapted from an article by David Streitfeld

- 1 The last line of defense against the torrent of half-truths, untruths and outright fakery that make up so much of the modern internet is in a shabby building that on the inside looks like a dot-com on the way to nowhere. Snopes, the fact-checking website, does not have an office designed to inspire awe, or even be noticed.




- 2 18. This is where the muddled masses come by the virtual millions to establish just what on earth is really going on in a world turned upside down. For 20 years, Snopes was dedicated to urban legends, like the supposed existence of alligators in New York City sewers, and other benign misinformation. But its range and readership increased significantly during a prolonged presidential election campaign in which facts became irrelevant and reality itself seemed up for grabs. Did Donald J Trump say on Twitter that he planned to arrest the "Saturday Night Live" star Alec Baldwin for sedition? Has Hillary Clinton quietly filed for divorce? And was Alan Thicke, the star of "Growing Pains," really dead? All untrue, except for the demise of Mr. Thicke, 20-1.
- 3 One way to chart Snopes's increasing prominence is by measuring the rise in fake news about the site itself. If you believe the internet, the founder of Snopes, David Mikkelson, has a longer rap sheet than legendary American gangster Al Capone. He was supposedly arrested for committing fraud and corruption and running a pit bull ring. The underlying message of these vicious and false attacks is that the movement to fact-check the internet is a left-wing conspiracy that must be resisted at all costs. Smearing people because you do not like what they're saying often works to shut them up, 20-2.
- 4 Mikkelson seems more amused than outraged by the spectacle that is the internet, even when it takes aim at him. But he conceded that something had gone wrong with the early utopian dreams for the internet. "Making everyone equal as an information source doesn't work very well in practice," he said. "It used to be that if you got too far from the mainstream, you were shunned for being a little nutty," Kim LaCapria who writes many of the Snopes political posts, adds. "Now there is so much nutty going around that it's socially acceptable to embrace wild accusations. People aren't necessarily getting the media literacy they need, 20-3." Mr. Thicke's death underlined this. "People think the death of a 69-year-old from a heart attack must be a hoax. That is how

muddy the waters are now," LaCapria said. "They are afraid to trust anyone."

- 5 But there are also those who trust too much, and they are a much larger group. The personal profiles at the end of posts on Snopes are often 21, so LaCapria wrote that she got her job "due to an executive order unilaterally passed by President Obama during a secret, late-night session." A joke — but her own mother took it at face value. "You've known me for 36 years. Of course it's not true!" LaCapria told her. "It's very easy for us to be tricked, all of us."

*The New York Times, 2016*

### Plastic fantastic?

- 1 At 73, Dr Rajagopalan Vasudevan is roughly as old as the mass production of plastic. But that is not the reason why the chemistry professor has a soft spot for the much-maligned material. "Plastic isn't the problem," the venerable scientist says in his office in the southern Indian city of Madurai, "we are. Plastic wouldn't clog our oceans or our landfills if we didn't throw it there in the first place. And there is so much we can do with it instead."
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- 2 He should know. In January this year, Dr Vasudevan was honoured with one of India's highest civilian awards, the Padma Shri, for his groundbreaking research on re-using waste plastic – in a very unusual way. The idea emerged from his workshop at the Thiagarajar College of Engineering in Madurai as far back as 2001. Disturbed by calls to ban plastic, a material which he believed was crucial to poor people, he wanted to find a solution to the growing environmental challenges it raised. "Ban plastic and it can severely affect the quality of life for a low-income family," he says. "But if you burn it or bury it, it's bound to affect the environment."
  - 3 25, he began a series of experiments in his workshop to discover effective disposal techniques. In a molten condition, he found that plastic had the property of an excellent binder. Acting on the principle that like attracts like, Dr Vasudevan looked at another chemical of similar nature: bitumen, a black tarry substance that was being combined with gravel to lay roads. When molten plastic was added to stone and bitumen mix, he found that, true to its nature, plastic stuck fast and bound both materials together.
  - 4 The bitumen-modified plastic improved the strength of the road by making it more durable and flexible. Plastic also prevented pothole formation. When the layer of molten plastic filled the space between the gravel and bitumen it thwarted rain water from seeping in and causing structural defects. Dr Vasudevan received a patent for the process in 2006. Since then, almost 10,000km of Indian roads have been paved using his technique.
  - 5 "Our planet is drowning in snack-food packaging that is non-recyclable," says Almitra Patel, a member of India's supreme court committee for solid waste management. "If (this technology is) seriously adopted in all cities for all multi-film laminates, it has the potential to achieve near-zero

landfill, leaving almost nothing for final disposal." The real challenge lies, she says, in collecting all of the voluminous post-consumer packaging.

- 6 Dr Noreen Thomas, a polymer science expert at Loughborough University, said the process appeared to be an imaginative solution, but cautioned that plastic waste is often a complex mix of materials not all of which would work well with Dr Vasudevan's operations. Some might burn up in the heat, and others, she said, might prove unsatisfactorily soft as a road surface. "There is always a risk when heating or burning mixed plastic waste in an open environment when the composition of the plastic waste is unknown," she said. "It is important to find more applications for mixed plastic waste but even more important to ensure that more environmental pollution is not created in doing so."
- 7 Today, self-help groups from various states across India, local citizens and schools are engaged in helping Dr Vasudevan collect waste plastic. "It's time to stop seeing plastic as the enemy and turn it into our biggest resource," says Dr Vasudevan.

adapted from *guardian.com*, 2018

### Parents and teen drinking

- 1 Parents who serve their teenagers a glass of wine at dinner often argue that they are encouraging a more civilised drinking culture as practised on European mainland. Now the first major study has concluded that they are wrong: teenagers given alcohol by their parents are twice as likely to become heavier drinkers. However, the study also found that it was worse for teenagers to get alcohol from peers, as they were then five times as likely to progress to heavier drinking as those who had none.
- 2 Richard Mattick, of the University of New South Wales, said: "Our study is the first to analyse parental supply of alcohol and its effects in detail in the long term, and finds that it is, in fact, associated with risks when compared to teenagers not given alcohol. This 30 the conclusion that alcohol consumption leads to harm, no matter how it is supplied."
- 3 He recruited children from the age of 12, following them through adolescence and questioning them every year. At the start, 15 per cent had been given alcohol by their parents, rising to 57 per cent at the end. Teenagers given alcohol only by their parents one year were twice as likely as those who did not drink to get alcohol from other sources the next, according to results published in *The Lancet Public Health*. They were twice as likely to have more than half a bottle of wine in one go.
- 4 Professor Mattick said that "parents go largely unnoticed" in alcohol policy. He said that the bigger risks of getting alcohol from elsewhere were not a reason for parents to step in, arguing: "Although other supply was associated with more problems than was parental supply, our study shows that there is no rationale for parents to give alcohol to adolescents younger than the legal purchase age."
- 5 Professor Mattick said that although it was possible his results were not applicable to different cultures, "there remains no evidence from other countries that parental supply reduces risk".
- 6 James Nicholls, of Alcohol Research UK, said that the study "provides yet more evidence that the continental approach to introducing children to alcohol, at least in high-consuming countries, does little to prevent heavier drinking later on. Indeed, it may do the reverse."
- 7 A survey earlier this month by the Alcohol Health Alliance found six in ten people agreed that giving children alcohol at home would make them better able to handle their drink. Sir Ian Gilmore, chairman of the alliance, said: "Many parents believe that letting their children try alcohol reduces the chances that they will seek out alcohol from other sources, or experience alcohol-related harm. Though an understandable belief, this study is a clear indication that the opposite is in fact true."

adapted from *The Times*, 2018

### £36k therapy igloos...for young offenders

adapted from an article by Ian Drury, Home Affairs Editor

- 1 PRISON bosses have spent £36,000 of taxpayers' money on two therapy igloos. The white egg-shaped igloos, known as Seed Pods, have been introduced at Feltham Young Offenders Institute in West London. They have ambient lighting that changes colour, mood music and touch screens. The sound-proof pods, which are eight feet in diameter and 10ft tall, also have a table and can be used for one-on-one discussions or group meetings of up to four people. They allow inmates, many of whom are locked up for serious violence or sex attacks, to talk to staff privately and quietly.
- 2 The igloos 36 who believe jails in England and Wales are becoming too cushy. Tory MP Andrew Rosindell said: 'Prisons should be for punishment. Law-abiding people don't have access to this type of facility on the outside.'
- 3 Some prison workers say the money would be better spent on extra staff. 'Budgets are tight but it seems governors are happy to splurge so a handful of violent thugs have a "special place" but not on the basics that make the staff's job easier,' one told *The Sun*.
- 4 A Prison Service spokesman said: 'Many young people in custody have suffered abuse or trauma and need mental health support. Feltham is following an approach that police and mental health services have found successful to help young offenders change their behaviour and to prevent further victims.'

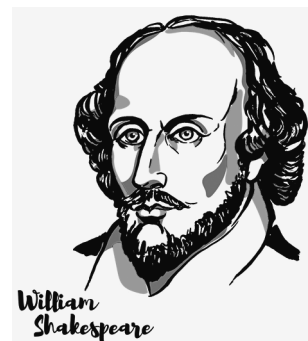
*Daily Mail, 2018*

### The timeless beauty in Shakespeare's language

In his Sept. 8 Free for All letter, "The critic doth protest too much, he thinks," Ed Rader claimed that the "400-year-old language is the problem" for today's audiences in attending William Shakespeare's plays. Many of the plays have obscure allusions that need footnotes for comprehension. But there is no equal to the poetry that may also be found therein.

What could equal Romeo's reaction at his first sight of Juliet: "O, she doth teach the torches to burn bright! It seems she hangs upon the cheek of night / Like a rich jewel in an Ethiop's ear — Beauty too rich for use, for earth too dear!"

I would say the problem for today's audiences is insensitive editing of the text and presuming the plays have to be rewritten and re-imagined for people in a hurry.



**Carol Morgan, Washington**

adapted from *Washington Post*, 2018



**letter**

### **Fried Chicken Heaven**

**To the Editor:**

Re "A Chicken Picnic Just in Time for Summer" and "Show Dad You Love Him With a Short-Rib Box Set" (Food section, May 22):

These articles celebrating fried chicken and short ribs may arouse the ire of vegetarians and nutritionists. But I bet that I'm hardly alone in finding them a refreshing antidote to the rampant dietary puritanism that is blighting our times.

Felicia Nimue Ackerman  
Providence, R.I.

*nytimes.com, 2019*

## Tekst 12

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### How air conditioning changed the world



- 1 Ways of cooling buildings have existed for millennia. The ancient Egyptians hung damp reeds over their windows and placed water-filled pots in hallways. The Romans collected snow in donkey carts and stored it in pits for the summer. In the mid-19th century, New York theatres used big fans to blow air over New England ice through ducts towards their audiences.
- 2 But the birth of air conditioning machines like the ones we use nowadays is usually dated to 1902, when a young engineer named Willis Carrier discovered that if you circulated air over coils chilled by compressing ammonia it would reduce humidity by condensing water vapour; it also, incidentally, made the air much cooler. Carrier sold his technology to manufacturers that wanted their air drier, such as flour mills and razor manufacturers. However, he soon realized that "comfort" applications were even more promising.
- 3 An early commission was to cool Philadelphia's masonic Temple. And from the 1920s on, he sold his "Weathermaker" to cinemas, department stores and restaurants and offices across America. In the past, cinemas had closed in hot summer weather. But from the 1920s on, the cool air became part of the attraction: the tradition of the Hollywood summer blockbuster dates back to this era; so, too, does the rise of the shopping mall.
- 4 Air conditioning changed architecture profoundly. Very high buildings — previously difficult to ventilate because wind increases with altitude — were suddenly a viable option, as were glass-fronted skyscrapers. And in the postwar period, smaller domestic air con units became available: houses no longer needed thick walls, high ceilings and sun porches.

Between 1962 and 1992 the proportion of US houses with air con rose from 12% to 64%.

- 5 Air con also changed the country's demographics. The Sun Belt — from Southern California to Florida — boomed from the 1960s; people and industry moved there as hot summers became more bearable; its share of the population rose from 28% in 1950 to 40% in 2000.
- 6 The economist William Nordhaus found in 2006 that the hotter the climate, the less productive its people; a study of US government typists in the 1950s found that typists do 24% more work if temperatures are kept low. The world economic system depends on it. Factories, offices and the server farms that power the internet all rely on air conditioning.
- 7 Its effects on our health are indisputable: recent decades have seen a dramatic decrease in the number of deaths during heatwaves in the US, and the strongest protective factor, as one study found, was "a working air conditioner". By filtering and dehumidifying the air, it also improves many respiratory and skin conditions.
- 8 Air con emits some half a billion tonnes of CO<sub>2</sub> annually. And the coolants used are even more polluting than CO<sub>2</sub>. Air conditioners fuel a vicious cycle: they pump out heat, making the outside world hotter still.
- 9 Also, an air conditioned society has fewer free communal spaces, and more commercialized indoor venues, such as shopping malls. It has also ended traditions such as the siesta, and condemned its users to thermal monotony — a global standard of 22C°.
- 10 The evidence suggests the market will continue to grow inexorably. However, the hope is architects and designers will become less wasteful in their use of air con: "passive cooling", for instance, keeps temperatures low by non-mechanical means such as using insulation, natural ventilation and reflective surfaces. Japan's Cool Biz campaign, meanwhile, encourages businesses to raise workplace temperatures from 22C° to 28C°, and to allow staff to wear shorts and polo shirts.

adapted from *THE WEEK*, 2018