Aphantasia: A life without mental images

Close your eyes and imagine walking along a sandy beach and then gazing over the horizon as the Sun rises. How clear is the image that springs to mind?

Most people can readily conjure images inside their head – known as their mind’s eye. But this year scientists have described a condition, Aphantasia, in which some people are unable to visualise mental images. Niel Kenmuir, from Lancaster, has always had a blind mind’s eye. He knew he was different even in childhood. “My stepfather, when I couldn’t sleep, told me to count sheep, and he explained what he meant, I tried to do it and I couldn’t,” he says. “I couldn’t see any sheep jumping over fences, there was nothing to count.”

Our memories are often tied up in images, think back to a wedding or first day at school. As a result, Niel admits, some aspects of his memory are “terrible”, but he is very good at remembering facts. And, like others with Aphantasia, he struggles to recognise faces. Yet he does not see Aphantasia as a disability, but simply a different way of experiencing life.

Mind’s eye blind

Ironically, Niel now works in a bookshop, although he largely sticks to the non-fiction aisles. His condition begs the question of what is going on inside his picture-less mind. I asked him what happens when he tries to picture his fiancee. “This is the hardest thing to describe, what happens in my head when I think about things,” he says. “When I think about my fiancee there is no image, but I am definitely thinking about her, I know today she has her hair up at the back, she’s brunette. But I’m not describing an image I am looking at, I’m remembering features about her, that’s the strangest thing and maybe that is a source of some regret.”

The response from his mates is very sympathetic: “You’re weird.” But while Niel is very relaxed about his inability to picture things, it is often a cause of distress for others. One person who took
part in a study into Aphantasia said he had started to feel “isolated” and “alone” after discovering
that other people could see images in their heads. Being unable to reminisce about his mother years
after her death led to him being “extremely distraught”.

The super-visualiser

At the other end of the spectrum is children’s book illustrator, Lauren Beard, whose work
on the Fairytale Hairdresser series will be familiar to many six-year-olds. Her career relies
on the vivid images that leap into her mind’s eye when she reads text from her author.
When I met her in her box-room studio in Manchester, she was working on a dramatic
scene in the next book. The text describes a baby perilously climbing onto a chandelier.

“Straightaway I can visualise this grand glass chandelier in some sort of French kind of
ballroom, and the little baby just swinging off it and really heavy thick curtains,” she says.
“I think I have a strong imagination, so I can create the world and then keep adding to it so
it gets sort of bigger and bigger in my mind and the characters too they sort of evolving. I
couldn’t really imagine what it’s like to not imagine, I think it must be a bit of a shame
really.”

Not many people have mental imagery as vibrant as Lauren or as blank as Niel. They are
the two extremes of visualisation. Adam Zeman, a professor of cognitive and behavioural
neurology, wants to compare the lives and experiences of people with Aphantasia and its
polar-opposite Hyperphantasia. His team, based at the University of Exeter, coined the
term Aphantasia this year in a study in the journal Cortex.

Prof Zeman tells the BBC: “People who have contacted us say they are really delighted that
this has been recognised and has been given a name because they have been trying to
explain to people for years that there is this oddity that they find hard to convey to others.”
How we imagine is clearly very subjective – one person’s vivid scene could be another’s a
grainy picture. But Prof Zeman is certain that Aphantasia is real. People often report being
able to dream in pictures, and there have been reported cases of people losing the ability to
think in images after a brain injury.

He is adamant that Aphantasia is “not a disorder” and says it may affect up to one in 50
people. But he adds: “I think it makes quite an important difference to their experience of
life because many of us spend our lives with imagery hovering somewhere in the mind’s eye
which we inspect from time to time, it’s the variability of human experience.”
Questions 1–8

Do the following statements agree with the information in the IELTS reading text?

In boxes 1-8 on your answer sheet, write

TRUE, if the statement agrees with the information
FALSE, if the statement contradicts the information
NOT GIVEN, if there is no information on this

1. Aphantasia is a condition, which describes people, for whom it is hard to visualise mental images.
2. Niel Kenmuir was unable to count sheep in his head.
3. People with Aphantasia struggle to remember personal traits and clothes of different people.
4. Niel regrets that he cannot portray an image of his fiancee in his mind.
5. Inability to picture things in someone’s head is often a cause of distress for a person.
6. All people with Aphantasia start to feel ‘isolated’ or ‘alone’ at some point in their lives.
7. Lauren Beard’s career depends on her imagination.
8. The author met Lauren Beard when she was working on a comedy scene in her next book.

Questions 9–13

Complete the sentences below.

Write NO MORE THAN TWO WORDS from the passage for each answer.

Write your answers in boxes 9-13 on your answer sheet.

9. Only a small fraction of people have imagination as_________ as Lauren does.
10. Hyperphantasia is __________ to Aphantasia.
11. There are lots of subjectivity in comparing people’s imagination – somebody’s vivid scene could be another person’s __________.
12. Prof Zeman is __________ that Aphantasia is not an illness.
13. Many people spend their lives with _________ somewhere in the mind’s eye.

Reading Passage 2

You should spend about 20 minutes on Questions 14–26, which are based on Reading Passage 2 below.
Life lessons from villains, crooks and gangsters

A. A notorious Mexican drug baron’s audacious escape from prison in July doesn’t, at first, appear to have much to teach corporate boards. But some in the business world suggest otherwise. Beyond the morally reprehensible side of criminals’ work, some business gurus say organised crime syndicates, computer hackers, pirates and others operating outside the law could teach legitimate corporations a thing or two about how to hustle and respond to rapid change.

B. Far from encouraging illegality, these gurus argue that – in the same way, big corporations sometimes emulate start-ups – business leaders could learn from the underworld about flexibility, innovation and the ability to pivot quickly. “There is a nimbleness to criminal organisations that legacy corporations [with large, complex layers of management] don’t have,” said Marc Goodman, head of the Future Crimes Institute and global cyber-crime advisor. While traditional businesses focus on rules they have to follow, criminals look to circumvent them. “For criminals, the sky is the limit and that creates the opportunity to think much, much bigger.”

C. Joaquin Guzman, the head of the Mexican Sinaloa drug cartel, for instance, slipped out of his prison cell through a tiny hole in his shower that led to a mile-long tunnel fitted with lights and ventilation. Making a break for it required creative thinking, long-term planning and perseverance – essential skills similar to those needed to achieve success in big business.

D. While Devin Liddell, who heads brand strategy for Seattle-based design consultancy, Teague, condemns the violence and other illegal activities he became curious as to how criminal groups endure. Some cartels stay in business despite multiple efforts by law enforcement on both sides of the US border and millions of dollars from international agencies to shut them down. Liddell genuinely believes there’s a lesson in longevity here. One strategy he underlined was how the bad guys respond to change. In order to bypass the border between Mexico and the US, for example, the Sinaloa cartel went to great lengths. It built a vast underground tunnel, hired family members as border agents and even used a catapult to circumvent a high-tech fence.

E. By contrast, many legitimate businesses fail because they hesitate to adapt quickly to changing market winds. One high-profile example is movie and game rental company
Blockbuster, which didn’t keep up with the market and lost business to mail order video rentals and streaming technologies. The brand has all but faded from view. Liddell argues the difference between the two groups is that criminal organisations often have improvisation encoded into their daily behaviour, while larger companies think of innovation as a set process. “This is a leadership challenge,” said Liddell. “How well companies innovate and organise is a reflection of leadership.”

Left-field thinking

F. Cash-strapped start-ups also use unorthodox strategies to problem solve and build their businesses up from scratch. This creativity and innovation are often borne out of necessity, such as tight budgets. Both criminals and start-up founders “question authority, act outside the system and see new and clever ways of doing things,” said Goodman. “Either they become Elon Musk or El Chapo.” And, some entrepreneurs aren’t even afraid to operate in legal grey areas in their effort to disrupt the marketplace. The co-founders of music streaming service Napster, for example, knowingly broke music copyright rules with their first online file sharing service, but their technology paved the way for legal innovation as regulators caught up.

G. Goodman and others believe thinking hard about problem-solving before worrying about restrictions could prevent established companies from falling victim to rivals less constrained by tradition. In their book The Misfit Economy, Alexa Clay and Kyra Maya Phillips examine how individuals can apply that mindset to become more innovative and entrepreneurial within corporate structures. They studied not just violent criminals like Somali pirates, but others who break the rules in order to find creative solutions to their business problems, such as people living in the slums of Mumbai or computer hackers. They picked out five common traits among this group: the ability to hustle, pivot, provoke, hack and copycat.

H. Clay gives a Saudi entrepreneur named Walid Abdul-Wahab as a prime example. Abdul-Wahab worked with Amish farmers to bring camel milk to American consumers even before US regulators approved it. Through perseverance, he eventually found a network of Amish camel milk farmers and started selling the product via social media. Now his company, Desert Farms, sells to giant mainstream retailers like Whole Foods Market. Those on the fringe don’t always have the option of traditional, corporate jobs and that forces them to think more creatively about how to make a living, Clay said. They must
develop grit and resilience in order to last outside the cushy confines of cubicle life. “In many cases, scarcity is the mother of invention,” Clay said.

Questions 14-21

Reading Passage 2 has eight paragraphs A-H.

Match the headings below with the paragraphs.

Write the correct letter, A-H, in boxes 14-21 on your answer sheet.

14. Jailbreak with creative thinking ______________
15. Five common traits among rule-breakers _____________
16. Comparison between criminals and traditional businessmen __________
17. Can drug baron’s e-space teach legitimate corporations? __________
18. Great entrepreneur ____________.
19. How criminal groups deceive the law ____________.
20. The difference between legal and illegal organizations ____________.
21. Similarity between criminals and start-up founders ____________.

Questions 22–25

Complete the sentences below.

Write ONLY ONE WORD from the passage for each answer. Write your answers in boxes 22–25 on your answer sheet.

22. To escape from prison, Joaquin Guzman had to use such traits as creative thinking, long-term planning and __________.
23. The Sinaloa cartel built a grand underground tunnel and even used a __________ to avoid the fence.
24. The main difference between the two groups is that criminals, unlike large corporations, often have __________ encoded into their daily life.
25. Due to being persuasive, Walid Abdul-Wahab found a __________ of Amish camel milk farmers.

Question 26

Choose the correct letter, A, B, C or D.

26. The main goal of this article is to:
As More Tech Startups Stay Private, So Does the Money

A. Not long ago, if you were a young, brash technologist with a world-conquering start-up idea, there was a good chance you spent much of your waking life working toward a single business milestone: taking your company public. Though luminaries of the tech industry have always expressed scepticism and even hostility toward the finance industry, tech’s dirty secret was that it looked to Wall Street and the ritual of a public offering for affirmation — not to mention wealth. But something strange has happened in the last couple of years: The initial public offering of stock has become déclassé. For start-up entrepreneurs and their employees across Silicon Valley, an initial public offering is no longer the main goal. Instead, many founders talk about going public as a necessary evil to be postponed as long as possible because it comes with more problems than benefits.

B. “If you can get $200 million from private sources, then yeah, I don’t want my company under the scrutiny of the unwashed masses who don’t understand my business,” said Danielle Morrill, the chief executive of Mattermark, a start-up that organizes and sells information about the start-up market. “That’s actually terrifying to me.” Silicon Valley’s sudden distaste for the I.P.O. — rooted in part in Wall Street’s scepticism of new tech stocks — may be the single most important psychological shift underlying the current tech boom. Staying private affords start-up executives the luxury of not worrying what outsiders think and helps them avoid the quarterly earnings treadmill. It also means Wall Street is doing what it failed to do in the last tech boom: using traditional metrics like growth and profitability to price companies. Investors have been tough on Twitter, for example, because its user growth has slowed. They have been tough on Box, the cloud-storage company that went public last year because it remains unprofitable. And the e-commerce company Zulily, which went public last year, was likewise punished when it cut its guidance for future sales.

C. Scott Kupor, the managing partner at the venture capital firm Andreessen Horowitz, and his colleagues said in a recent report that despite all the attention start-ups have received in recent years, tech stocks are not seeing unusually high valuations. In fact, their share of the overall market has remained stable for 14 years, and far off the peak of the late 1990s. That unwillingness to cut much slack to young tech companies limits risk for regular investors. If the bubble pops, the unwashed masses, if that’s what we are, aren’t as likely to get washed out. Private investors, on the other hand, are making big bets on so-called unicorns — the Silicon Valley jargon for start-up companies valued at more than a billion dollars. If any of
those unicorns flops, most Americans will escape unharmed, because losses will be confined to venture capitalists and hedge funds that have begun to buy into tech start-ups, as well as tech founders and their employees.

D. The reluctance — and sometimes inability — to go public is spurring the unicorns. By relying on private investors for a longer period of time, start-ups get more runway to figure out sustainable business models. To delay their entrance into the public markets, firms like Airbnb, Dropbox, Palantir, Pinterest, Uber and several other large start-ups are raising hundreds of millions, and in some cases billions, that they would otherwise have gained through an initial public offering. “These companies are going public, just in the private market,” Dan Levitan, the managing partner of the venture capital firm Maveron, told me recently. He means that in many cases, hedge funds and other global investors that would have bought shares in these firms after an I.P.O. are deciding to go into late-stage private rounds. There is even an oxymoronic term for the act of obtaining private money in place of a public offering: It’s called a “private I.P.O.”

E. The delay in I.P.O.s has altered how some venture capital firms do business. Rather than waiting for an initial offering, Maveron, for instance, says it now sells its stake in a start-up to other, larger private investors once it has made about 100 times its initial investment. It is the sort of return that once was only possible after an I.P.O. But there is also a downside to the new version to initial offerings. When the unicorns do eventually go public and begin to soar — or whatever it is that fantastical horned beasts tend to do when they’re healthy — the biggest winners will be the private investors that are now bearing most of the risk. It used to be that public investors who got in on the ground floor of an initial offering could earn historic gains. If you invested $1,000 in Amazon at its I.P.O. in 1997, you would now have nearly $250,000. If you had invested $1,000 in Microsoft in 1986, you would have close to half a million. Public investors today are unlikely to get anywhere near such gains from tech I.P.O.s. By the time tech companies come to the market, the biggest gains have already been extracted by private backers.

F. Just 53 technology companies went public in 2014, which is around the median since 1980, but far fewer than during the boom of the late 1990s and 2000, when hundreds of tech companies went public annually, according to statistics maintained by Jay Ritter, a professor of finance at the University of Florida. Today’s companies are also waiting for longer. In 2014, the typical tech company hitting the markets was 11 years old, compared with a median age of seven years for tech I.P.O.s since 1980. Over the last few weeks, I've asked several founders and investors why they’re waiting; few were willing to speak on the record about their own companies, but their answers all amounted to “What’s the point?” Initial public offerings were also ways to compensate employees and founders who owned lots of stock, but there are now novel mechanisms — such as selling shares on a secondary market — for insiders to cash in on some of their shares in private companies. Still, some observers cautioned that the new trend may be a bad deal for employees who aren’t given much information about the company’s performance.

G. “One thing employees may be confused about is when companies tell them, ‘We’re basically doing a private I.P.O.,’ it might make them feel like there’s less risk than there really is,” said Ms. Morrill of Mattermark. But she said it was hard to persuade people that their paper gains may never materialize. “The Kool-Aid is really strong,” she said. If the delay in
I.P.O.s becomes a normal condition for Silicon Valley, some observers say tech companies may need to consider new forms of compensation for workers. “We probably need to fundamentally rethink how do private companies compensate employees because that’s going to be an issue,” said Mr.Kupor, of Andreessen Horowitz.

During a recent presentation for Andreessen Horowitz’s limited partners — the institutions that give money to the venture firm — Marc Andreessen, the firm's co-founder, told the journalist Dan Primack that he had never seen a sharper divergence in how investors treat public- and private-company chief executives. “They tell the public C.E.O, ‘Give us the money back this quarter,’ and they tell the private C.E.O., ‘No problem, go for 10 years,’” Mr.Andreessen said. At some point, this tension will be resolved. “Private valuations will not forever be higher than public valuations,” said Mr. Levitan, of Maveron. “So the question is, will private markets capitulate and go down or will public markets go up?” If the private investors are wrong, employees, founders and a lot of hedge funds could be in for a reckoning. But if they’re right, it will be you and me wearing the frown — the public investors who missed out on the next big thing.

Questions 28–31

Choose the correct letter, A, B, C or D.

Write the correct letter in boxes 28–31 on your answer sheet.

28. How many funds would you gain by now, if you had invested 1000$ in the Amazon in 1997?

A. 250,000$
B. close to 500,000$
C. It is not stated in the text
D. No funds

29. Nowadays founders talk about going public as a:

A. necessity
B. benefit
C. possibility
D. profit

30. In which time period was the biggest number of companies going public?

A. the early 1990s
B. the late 1900s and 2000s
C. The 1980s
D. the late 1990s
31. According to the text, which of the following is true?

A. Private valuations maybe forever higher than public ones.
B. Public valuations eventually will become even less valuable.
C. The main question is whether the public market increase or the private market decrease.
D. The pressure might last for a long time.

Questions 32–36

Complete the sentences below.

Write ONLY ONE WORD from the passage for each answer.

Write your answers in boxes 32–36 on your answer sheet.

32. Skepticism was always expected by the __________ of tech industry.
33. The new aversion to initial offerings has its __________.
34. Selling shares on a secondary market is considered a __________ mechanism.
35. Workers’ compensation might be an __________.
36. The public investors who failed to participate in the next big thing might be the ones wearing the __________.

Questions 37–40

Do the following statements agree with the information in the IELTS reading text?

In boxes 37–40 on your answer sheet, write

TRUE, if the statement agrees with the information
FALSE, if the statement contradicts the information
NOT GIVEN, if there is no information on this

37. Private investors are bearing most of the risk.
38. Not many investors were willing to speak on the record.
39. The typical tech company hitting the markets in the 1990s was 5 years old.
40. Marc Andreessen, the firm’s co-founder, expressed amazement with divergence in how investors treat the public.