

READING PASSAGE 1

You should spend about 20 minutes on **Questions 1–16**, which are based on Reading Passage 1 below.

Sea monsters are the stuff of legend - lurking not just in the depths of the oceans, but also the darker corners of our minds. What is it that draws us to these creatures?

"This inhuman place makes human monsters," wrote Stephen King in his novel *The Shining*. Many academics agree that monsters lurk in the deepest recesses, they prowl through our ancestral minds appearing in the half-light, under the bed - or at the bottom of the sea.

"They don't really exist, but they play a huge role in our mindscapes, in our dreams, stories, nightmares, myths and so on," says Matthias Classen, assistant professor of literature and media at Aarhus University in Denmark, who studies monsters in literature. "Monsters say something about human psychology, not the world."

One Norse legend talks of the Kraken, a deep-sea creature that was the curse of fishermen. If sailors found a place with many fish, most likely it was the monster that was driving them to the surface. If it saw the ship it would pluck the hapless sailors from the boat and drag them to a watery grave.

This terrifying legend occupied the mind and pen of the poet Alfred Lord Tennyson too. In his short 1830 poem *The Kraken* he wrote: "Below the thunders of the upper deep, / Far far beneath in the abysmal sea, / His ancient, dreamless, uninvaded sleep / The Kraken sleepeth."

The deeper we travel into the ocean, the deeper we delve into our own psyche. And when we can go no further - there lurks the Kraken.

Most likely the Kraken is based on a real creature - the giant squid. The huge mollusc takes pride of place as the personification of the terrors of the deep sea. Sailors would have encountered it at the surface, dying, and probably thrashing about. It would have made a weird sight, "about the most alien thing you can imagine," says Edith Widder, CEO at the Ocean Research and Conservation Association.

"It has eight lashing arms and two slashing tentacles growing straight out of its head and it's got serrated suckers that can latch on to the slimiest of prey and it's got a parrot beak that can rip flesh. It's got an eye the size of your head, it's got a jet propulsion system and three hearts that pump blue blood."

The giant squid continued to dominate stories of sea monsters with the famous 1870 novel, *Twenty Thousand Leagues Under the Sea*, by Jules Verne. Verne's submarine fantasy is a classic story of puny man against a gigantic squid.

The monster needed no embellishment - this creature was scary enough, and Verne incorporated as much fact as possible into the story, says Emily Alder from Edinburgh Napier University. "Twenty Thousand Leagues Under the Sea and another contemporaneous book, Victor Hugo's *Toilers of the Sea*, both tried to represent the giant squid as they might have been actual zoological animals, much more taking the squid as a biological creature than a mythical creature." It was a given that the squid was vicious and would readily attack humans given the chance.

That myth wasn't busted until 2012, when Edith Widder and her colleagues were the first people to successfully film giant squid under water and see first-hand the true character of the monster of the deep. They realised previous attempts to film squid had failed because the bright lights and noisy thrusters on submersibles had frightened them away.

By quietening down the engines and using bioluminescence to attract it, they managed to see this most extraordinary animal in its natural habitat. It serenely glided into view, its body rippled with metallic colours of bronze and silver. Its huge, intelligent eye watched the submarine warily as it delicately picked at the bait with its beak. It was balletic and mesmeric. It could not have been further from the gnashing, human-destroying creature of myth and literature. In reality this is a gentle giant that is easily scared and pecks at its food.

Another giant squid lies peacefully in the Natural History Museum in London, in the Spirit Room, where it is preserved in a huge glass case. In 2004 it was caught in a fishing net off the Falkland Islands and died at the surface. The crew immediately froze its body and it was sent to be preserved in the museum by the Curator of Molluscs, Jon Ablett. It is called Archie, an affectionate short version of its Latin name *Architeuthis dux*. It is the longest preserved specimen of a giant squid in the world.

"It really has brought science to life for many people," says Ablett. "Sometimes I feel a bit overshadowed by Archie, most of my work is on slugs and snails but unfortunately most people don't want to talk about that!"

And so today we can watch Archie's graceful relative on film and stare Archie herself (she is a female) eye-to-eye in a museum. But have we finally slain the monster of the deep? Now we know there is nothing to be afraid of, can the Kraken finally be laid to rest? Probably not says Classen. "We humans are afraid of the strangest things. They don't need to be realistic. There's no indication that enlightenment and scientific progress has banished the monsters from the shadows of our imaginations. We will continue to be afraid of very strange things, including probably sea monsters."

Indeed we are. The Kraken made a fearsome appearance in the blockbuster series *Pirates of the Caribbean*. It forced Captain Jack Sparrow to face his demons in a terrifying face-to-face encounter. Pirates needed the monstrous Kraken, nothing else would do. Or, as the German film director Werner Herzog put it, "What would an

ocean be without a monster lurking in the dark? It would be like sleep without dreams."

Questions 1–7

Do the following statements agree with the information given in Reading Passage 1?

In boxes 1–7 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. Matthias Classen is unsure about the possibility of monster's existence.
2. Kraken is probably based on an imaginary animal.
3. Previous attempts on filming the squid had failed due to the fact that the creature was scared.
4. Giant squid was caught alive in 2004 and brought to the museum.
5. Jon Ablett admits that he likes Archie.
6. According to Classen, people can be scared both by imaginary and real monsters.
7. Werner Herzog suggests that Kraken is essential to the ocean.

Questions 8–12

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

Write the correct letter in boxes 8–12 on your answer sheet.

8. Who wrote a novel about a giant squid?

- A. ☐ Emily Alder
- B. ☐ Stephen King
- C. ☐ Alfred Lord Tennyson
- D. ☐ Jules Verne

9. What, of the featuring body parts, mollusc **DOESN'T** have?

- A. ☐ two tentacles
- B. ☐ serrated suckers
- C. ☐ beak
- D. ☐ smooth suckers

10. Which of the following applies to the bookish Kraken?

- A. ☐ notorious
- B. ☐ scary
- C. ☐ weird
- D. ☐ harmless

11. Where can we see a giant squid?

- A. ☐ at the museum
- B. ☐ at a seaside
- C. ☐ on TV
- D. ☐ in supermarkets

12. The main purpose of the text is to:

- A. ☐ help us to understand more about both mythical and biological creatures of the deep
- B. ☐ illustrate the difference between Kraken and squid
- C. ☐ shed the light on the mythical creatures of the ocean
- D. ☐ compare Kraken to its real relative

Questions 13–16

Complete the sentences below.

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

Write your answers in boxes 13–16 on your answer sheet.

13. According to the Victor Hugo's novel, the squid would if he had such opportunity.

14. The real squid appeared to be and .

15. Archie must be the of its kind on Earth.

16. We are able to encounter the Kraken's in a movie franchise.

READING PASSAGE 2

You should spend about 20 minutes on **Questions 17–27**, which are based on Reading Passage 2 below.

The atom bomb was one of the defining inventions of the 20th Century. So how did science fiction writer HG Wells predict its invention three decades before the first detonations?

(A) Imagine you're the greatest fantasy writer of your age. One day you dream up the idea of a bomb of infinite power. You call it the "atomic bomb". HG Wells first imagined a uranium-based hand grenade that "would continue to explode indefinitely" in his 1914 novel *The World Set Free*.

He even thought it would be dropped from planes. What he couldn't predict was how a strange conjunction of his friends and acquaintances - notably Winston

Churchill, who'd read all Wells's novels twice, and the physicist Leo Szilard - would turn the idea from fantasy to reality, leaving them deeply tormented by the scale of destructive power that it unleashed.

(B) The story of the atom bomb starts in the Edwardian age, when scientists such as Ernest Rutherford were grappling with a new way of conceiving the physical world. The idea was that solid elements might be made up of tiny particles in atoms. "When it became apparent that the Rutherford atom had a dense nucleus, there was a sense that it was like a coiled spring," says Andrew Nahum, curator of the Science Museum's Churchill's Scientists exhibition. Wells was fascinated with the new discoveries. He had a track record of predicting technological innovations. Winston Churchill credited Wells for coming up with the idea of using aeroplanes and tanks in combat ahead of World War One.

(C) The two men met and discussed ideas over the decades, especially as Churchill, a highly popular writer himself, spent the interwar years out of political power, contemplating the rising instability of Europe. Churchill grasped the danger of technology running ahead of human maturity, penning a 1924 article in the Pall Mall Gazette called "Shall we all commit suicide?". In the article, Churchill wrote: "Might a bomb no bigger than an orange be found to possess a secret power to destroy a whole block of buildings - nay to concentrate the force of a thousand tons of cordite and blast a township at a stroke?" This idea of the orange-sized bomb is credited by Graham Farmelo, author of Churchill's Bomb, directly to the imagery of *The World Set Free*.

(D) By 1932 British scientists had succeeded in splitting the atom for the first time by artificial means, although some believed it couldn't produce huge amounts of energy. But the same year the Hungarian emigre physicist Leo Szilard read *The World Set Free*. Szilard believed that the splitting of the atom could produce vast energy. He later wrote that Wells showed him "what the liberation of atomic energy on a large scale would mean". Szilard suddenly came up with the answer in September 1933 - the chain reaction - while watching the traffic lights turn green in Russell Square in London. He wrote: "It suddenly occurred to me that if we could find an element which is split by neutrons and which would emit two neutrons when it absorbed one neutron, such an element, if assembled in sufficiently large mass, could sustain a nuclear chain reaction."

(E) In that eureka moment, Szilard also felt great fear - of how a bustling city like London and all its inhabitants could be destroyed in an instant as he reflected in his memoir published in 1968: "Knowing what it would mean - and I knew because I had read HG Wells - I did not want this patent to become public." The Nazis were on the rise and Szilard was deeply anxious about who else might be working on the chain reaction theory and an atomic Bomb.

Wells's novel *Things To Come*, turned into a 1936 film, *The Shape of Things to Come*, accurately predicted aerial bombardment and an imminent devastating

world war. In 1939 Szilard drafted the letter Albert Einstein sent to President Roosevelt warning America that Germany was stockpiling uranium. The Manhattan Project was born.

(F) Szilard and several British scientists worked on it with the US military's massive financial backing. Britons and Americans worked alongside each other in "silos" - each team unaware of how their work fitted together. They ended up moving on from the original enriched uranium "gun" method, which had been conceived in Britain, to create a plutonium implosion weapon instead. Szilard campaigned for a demonstration bomb test in front of the Japanese ambassador to give them a chance to surrender. He was horrified that it was instead dropped on a city. In 1945 Churchill was beaten in the general election and in another shock, the US government passed the 1946 McMahon Act, shutting Britain out of access to the atomic technology it had helped create. William Penney, one of the returning Los Alamos physicists, led the team charged by Prime Minister Clement Atlee with somehow putting together their individual pieces of the puzzle to create a British bomb on a fraction of the American budget.

(G) "It was a huge intellectual feat," Andrew Nahum observes. "Essentially they reworked the calculations that they'd been doing in Los Alamos. They had the services of Klaus Fuchs, who [later] turned out to be an atom spy passing information to the Soviet Union, but he also had a phenomenal memory." Another British physicist, Patrick Blackett, who discussed the Bomb after the war with a German scientist in captivity, observed that there were no real secrets. According to Nahum he said: "It's a bit like making an omelette. Not everyone can make a good one." When Churchill was re-elected in 1951 he "found an almost complete weapon ready to test and was puzzled and fascinated by how Atlee had buried the costs in the budget", says Nahum. "He was very conflicted about whether to go ahead with the test and wrote about whether we should have 'the art and not the article'. Meaning should it be enough to have the capability... [rather] than to have a dangerous weapon in the armoury."

(H) Churchill was convinced to go ahead with the test, but the much more powerful hydrogen bomb developed three years later worried him greatly. HG Wells died in 1946. He had been working on a film sequel to *The Shape of Things To Come* that was to include his concerns about the now-realised atomic bomb he'd first imagined. But it was never made. Towards the end of his life, says Nahum, Wells's friendship with Churchill "cooled a little". "Wells considered Churchill as an enlightened but tarnished member of the ruling classes." And Churchill had little time for Wells's increasingly fanciful socialist utopian ideas.

(I) Wells believed technocrats and scientists would ultimately run a peaceful new world order like in *The Shape of Things To Come*, even if global war destroyed the world as we knew it first.

Churchill, a former soldier, believed in the lessons of history and saw diplomacy as the only way to keep mankind from self-destruction in the atomic age. Wells's

scientist acquaintance Leo Szilard stayed in America and campaigned for civilian control of atomic energy, equally pessimistic about Wells's idea of a bold new scientist-led world order. If anything Szilard was tormented by the power he had helped unleash. In 1950, he predicted a cobalt bomb that would destroy all life on the planet. In Britain, the legacy of the Bomb was a remarkable period of elite scientific innovation as the many scientists who had worked on weaponry or radar returned to their civilian labs. They gave us the first commercial jet airliner, the Comet, near-supersonic aircraft and rockets, highly engineered computers, and the Jodrell Bank giant moveable radio telescope.

(J) The latter had nearly ended the career of its champion, physicist Bernard Lovell, with its huge costs, until the 1957 launch of Sputnik, when it emerged that Jodrell Bank had the only device in the West that could track it. Nahum says Lovell reflected that "during the war the question was never what will something cost. The question was only can you do it and how soon can we have it? And that was the spirit he took into his peacetime science." Austerity and the tiny size of the British market, compared with America, were to scupper those dreams. But though the Bomb created a new terror, for a few years at least, Britain saw a vision of a benign atomic future, too and believed it could be the shape of things to come.

Questions 17–25

Reading Passage 2 has ten paragraphs, **A–J**.

Which paragraph contains the following information?

Write the correct letter, **A–J**, in boxes 17–25 on your answer sheet. Note that one paragraph is not used.

- 17. Scientific success
- 18. Worsening relations
- 19. The dawn of the new project
- 20. Churchill's confusion
- 21. Different perspectives
- 22. Horrifying prediction
- 23. Leaving Britain behind the project

24. Long-term discussion

25. New idea

Questions 26–27

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

Write the correct letter in boxes 26–27 on your answer sheet.

26. How can you describe the relations between Churchill and Wells throughout the years?

- A. ☐ passionate → friendly → adverse
- B. ☐ curious → friendly
- C. ☐ respectful → friendly → inhospitable
- D. ☐ friendly → respectful → hostile

27. What is the type of this text?

- A. ☐ science-fiction story
- B. ☐ article from the magazine
- C. ☐ historical text
- D. ☐ Wells autobiography

READING PASSAGE 3

You should spend about 20 minutes on **Questions 28–40**, which are based on Reading Passage 3 below.

As More Tech Start-Ups Stay Private, So Does the Money

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 skepticism 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 a 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.

"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 skepticism 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.

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 many of those unicorns flop, 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.

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."

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 aversion 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.

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 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.

"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 much 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. ☐ early 1990s
- B. ☐ late 1900s and 2000s
- C. ☐ 1980s
- D. ☐ late 1990s

31. According to the text, which of the following is true?

- A. ☐ Private valuations may be 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 1990s was 5 years old.

40. Marc Andreessen, the firm's co-founder, expressed amazement with divergency in how investors treat public.