

EA s 2015 1.1 a – g, 1.2

1.1a Head hunter

Seahorses bob about (hyppiä) in no hurry (1) in the sea, they have no teeth, and their main prey (saalis) – a tiny creature called a copepod – is highly elusive (vaikeasti kiinni otettava). So how does this upright-swimming fish manage to capture 90 percent of the prey it pursues? It's all in its head, says marine biologist Brad Gemmell. Using a high-speed, hologram-generating optical system, he found that the seahorse's long snout (kuono) allows it to come in for the kill without creating much disturbance (häiriö) in the water (2). This is crucial, since copepods are blind and rely on current fluctuations (virran vaihtelu) as their signal to flee. "People see seahorses as passive," says Gemmell, "but in reality they're very effective predators (saaliseläin), able to catch and feed on (syödä jtk) one of the ocean's greatest escape artists ever (3)."

1. What is seahorses' movement in the water usually believed to involve?

- A Swimming in quick bursts (puuska)
- B Floating (ajelehtia) with a clear goal
- C Being rather slow**

2. What makes the seahorse an effective hunter?

- A The ability to dive deeper than its prey
- B The ability to sneak up (hiipiä vaivihkaa) on its prey**
 - saalis pakenee, jos virtauksessa muutoksia - niitä merihevonen ei aiheuta
- C The ability to swim parallel (rinnakkain) to its prey

3. What is said to be typical of seahorses' main food source?

- A It reacts to still water
 - nimenomaan veden muutokseen reagoi
- B It often feels threatened
- C It remains hard to catch**

1.1b Boat over troubled waters

“The Seine is the most beautiful avenue in Paris,” says Eric Piel, the retired head of psychiatry for the hospitals of central Paris. “I thought, why shouldn’t others experience being close to nature, especially the mentally ill, who are the most excluded (syrjäytyneet) in everyday life?” He envisioned a special psychiatric clinic: open yet protected. Doctors, nurses, and patients collaborated with an architect, and four years ago the Adamant – a structure with walls of glass built to rest on the waves (4) – was launched. Patients come for coffee, a snack, to confer (keskustella) with the medical staff, create art, or simply enjoy the view.

From the first day aggression evaporated (haihtua) and was replaced by tranquility (5). Why? No one can explain, clinic director Jean-Paul Hazan says. “Perhaps,” suggests Jacqueline Simonnet, the head nurse, “it’s the gentle rocking of this boat.”

“Traditionally the psychiatric hospital was hidden away,” Hazan says. “You disappear behind locked doors. Here instead of closed, all is open. These are very sick patients, but there has been no violence.” He pauses. “I think it has changed us too, but I can’t say how.” Four mulberry trees on the quay mark the seasons: yellow in fall, bare in winter, pale green in spring, dark green in summer. A cormorant (merimetso) swims by, hinting of nature’s grace. The river’s reflected light dapples (täplittää) the interior. The layout is open.

4. What is mentioned about the clinic’s structure?

A It features glass ceilings
▪ seinät lasia, ei katto

B It floats on water

C It is easily changeable

5. How is the environment said to affect the patients?

A It creates a feeling of calmness

▪ "tranquility" r.22, sitten laajasti selitetään syyksi ympäristöä

B It prevents them from letting go

▪ nimenomaan "all is open"

C It enhances their unpredictability (arvaamattomuus)

▪ ei tällaisesta puhuta - yrittävätkö harhauttaa hienon näköisillä sanoilla? Luota siihen, mitä luet ja ymmärrät!

The space, Simonnet says, is fluid. Glass erases (pyyhkii pois) the divide between inside and out. It also, metaphorically at least, blurs (sumentaa) the line between them and us – between the marginalized mentally ill and the presumably normal (6). “We are all in the same boat,” says Gérard Ronzatti, the architect who designed the clinic. Space, like water, changes with the flow of time and events. “After the revolution, many monasteries were used as jails,” he said quietly. “In the same space you can have freedom or confinement.” A building, a room, can confine (rajoittaa, sulkea) or **release** (vapauttaa), allowing the spirit to expand into the space provided and **beyond**. In designing the clinic, Ronzatti opted for **the latter** (7). The Adamant is as beautiful and fluid as the river Seine

6. Why does the architect refer to the boat metaphor?

A To emphasize stability

B To belittle (vähätellä) harmony

C To highlight equality

- venesitaatin edellä kerrotaan, miten raja terveen ja sairaan välillä hämärtyy - venesitaatti summaa ajatuksen

7. What does the architect say about the use of space in the clinic?

A It functions as a means of preservation (säilytys)

B It aims at promoting a sense of liberty

- the former - the latter... ole tarkkana näiden viittausten kanssa! Tässä se oli avain oikeaan vastaukseen.

C It concentrates on preserving values

1.1c Good egg

Growing up in Alabama, Josh Tetrick lived off his mom's biscuits and wings. Now, as the owner and head of food start-up (8) Hampton Creek in San Francisco, he has an appetite for more inventive eats. Tetrick, 34, is out to make packaged foods more eco-friendly by swapping eggs – one of the products' most usual but least green ingredients (9)– for plant-based substitutes, such as, for instance, yellow peas. Since last May, more than 90 billion eggs have been laid (munittu) in the United States. “Chickens are fed massive amounts of soy and corn, whose production pumps greenhouse gases into the atmosphere,” says Tetrick. “What's more, the human population is expected to just keep growing. We have to figure out how to feed everyone without destroying the environment.”

8. What is said about Josh Tetrick's profession?

A He works as an entrepreneur

- start-up = aloitteleva firma

B He specializes in innovative design

C He runs a family business

9. According to the text, why are egg-substitutes necessary?

A To support farmers

B To sustain consumption

- on pikemminkin huolissaan lisääntyvästä kulutuksesta

C To preserve nature

- toteaa kananmunien olevan epäekologisia ja selostaa kanankasvatuksen kaasupäästöjä

Tetrick enlisted (saada avukseen) the help of biochemists, food scientists, and chefs, and after testing thousands of plants, the biochemists found 11 with egg's binding and emulsifying properties. (10) Bonus: Tetrick says these plants are on average 40 percent less expensive than eggs and require fewer resources to produce. So far the company has mayonnaise on U.S. shelves, and its chocolate chip cookie dough debuts this summer. And Bill Gates, a Hampton Creek investor, along with an impressively high number of other business angels sponsoring the company, has singled out the company as shaping the future of food. Says Tetrick: "People want to buy good food without breaking the bank. Now they can also eat sustainably." Eggs-actly.

10. How were optimal egg-substitutes found?

A By surveying exotic species of flora

B Through extensive research

- pitkä lista asiantuntijoita mainitaan, tuhansia kasveja tutkittiin

C As a fortunate coincidence

11. What is primarily implied about the immediate future of the business?

A It will continue to attract funding

B It will rapidly expand globally

- annetaan kyllä ymmärtää, että bisnes kasvaa ja laajenee, mutta tarkalleen ottaen globaaleista markkinoista ei puhuta

C It will constantly reduce food prices

- ruuan halpenemisesta puhutaan, mutta ei sentään jatkuvasta ("constantly")

1.1d Three studies

Study #1: A study in *The Journal of the American Medical Association* found that after healthy people were given nasal drops containing a strain (lajike) of cold virus, those with six or more types of social ties (including friends, coworkers, and fellow volunteers) were four times less likely to get sick (12) than those with only one to three types of socialties.

12. What was the finding of the first study?

A Relationships affect heart-beat rates

B Relationships result in fewer colds

C Relationships foster (edistää) the flu

Study #2: When researchers from University College London measured cortical (aivokuori-) levels (one indicator of chronic fatigue and burn out) in individuals 30 minutes after the subjects woke up, they found out that those with fewer siblings had levels 21 percent higher (13) than those with many.

13. What did the second study mainly point out?

A The importance of exercise

B The importance of avoiding exhaustion

C The importance of being connected

- vähemmän sisaruksia = korkeammat mittaustulokset = enemmän uupumusta

Study #3: Research in the *American Journal of Public Health* found that among older women, those who had daily contact with their bridge-club or members of their church saw their risk of developing dementia reduced by 43 percent compared with those who had contact less than once a week. This may be because social interaction helps form new synaptic connections, keeping away cognitive decline (14).

14. Which one of the following summarizes the third study?

A Being outgoing intensifies (vahvistaa) age-related illnesses

B Developing one's mind requires constant training

C Socializing aids in giving one's mind a workout

- sosiaalista toimintaa -> aivoissa liikennettä-> ei kognitiivista rappiota

15. Opt for an alternative heading for this text:

A How friends sustain (ylläpitää) health

- teksteissä tuotiin esille sosiaalisen elämän hyviä vaikutuksia terveydelle

B How friends overrate (yliarvioida) health

C How friends compromise health

1.1e *The Tale of the Dueling Neurosurgeons: the history of the human brain*

Some people's tragedies have been science's miracles, particularly in the field of neuroscience, where researchers have long relied on rare brain traumas to reveal the workings of the mind. "Despite the often overhyped advances of brain-scanning, injuries remain the best, and only, way to infer (osoittaa) certain things about the brain, (17)" writes journalist Sam Kean in his *The Tale of the Dueling Neurosurgeons*. This is a compilation of patients' stories which details some of the unexpected truths revealed by accidents: "Destroy one small node of neurons, and people lose the ability to recognize fruits and vegetables, but no other foods. Destroy another node and they lose the ability to read – even though they can still write." Beyond paying tribute to the scientific advances these patients made possible, Kean humanizes the patients themselves (18).

16. What type of text is this?

A A review of a published academic article

B A review of an unpublished manuscript

- ei mitään viitteitä, ettei teosta olisi jo julkaistu

C A review of a recent book published

- teoksen on kirjoittanut toimittaja, kertoo tieteen saavutuksista kyllä, mutta kertoo myös itse potilaista ihmisinä
- ei akateeminen artikkeli

17. What is said about technology in brain research?

A It has its limitations

- tiettyjä asioita voidaan todentaa vain vammautumisen seurauksia tarkkailemalla, ei esim. aivoja kuvaamalla

B It provides a cure

C It comes to the rescue

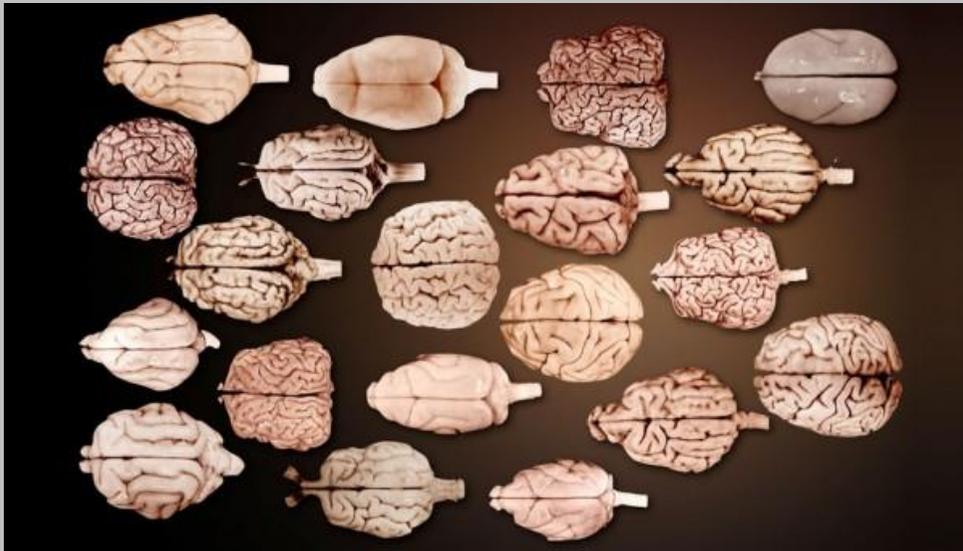
18. According to the text, what is the main contribution of this publication?

A It provides an overview of academically applicable studies

B It highlights the real-life accounts of informants

C It bases its argumentation on hands-on experimentation

- tieteelliset tulokset mukana argumentoinnissa, ei pelkkä käytännön kokemusten raportti



1.1f What to see in the country

With its nodding, hat-like flowers in soft purple, pink and white hues (vivaahde), the foxglove, *Digitalis purpurea*, brings a special quality to British hedgerows and woodlands. Also known as Fairy's Thimble, Fairy Gloves and Fairy Bells, its common name is said to be a corruption of folksglove – referring to the gloves of good folk, or fairies (19). It is for this reason that in Scotland leaves of the plant were historically placed alongside newborn babies to ward off evil spirits, while in Wales, dye from the flowers was used to draw crosses on doors and floors to keep witches at bay (ahtaalla). Today, the plant is recognized for its use as a heart muscle stimulant – it is even commercially cultivated for this very purpose (20) – as well as for being an important source of nectar to pollinators (pölyttäjä), such as the bumble bee, white admiral butterfly and hawk moth.

19. What is special about the plant's common name?

- A It originally referred to a particular region
- B It is derived from a plant's Latin-based name
- C It features references to its believed mystical qualities**
 - nimi antaa ymmärtää, että kasvilla on taikavoimia

20. Why is the plant still grown?

= **cultivated**

- A For its soothing appearance
- B For its medicinal benefits**
- C For its retail value



1.1g Idea watch: signs of the times

Go ahead, count how many times you press the @ key each day. It's arguably one of the most used symbols on our devices, required for both e-mail and tweets. But the "at" swirl, known as a "snail" in Italy and a "monkey tail" in the Netherlands, was almost relegated to typewriter oblivion (unhola). Before we get to that story, a brief history courtesy of *Smithsonian* [Museum] *Magazine* and New York's Museum of Modern Art, which houses an entire @ collection (21): As far back as the sixth century, @ was used as a ligature to combine the letters of the Latin preposition *ad* (meaning "at" or "to") into one convenient pen stroke (22).

21. What does this text base its treatment of historical details on?

A It relies on data collected by Harvard Business Review journalists from historical sources

- jutun ovat nämä journalistit kirjoittaneet, mutta dataa ovat koonneet muut - näille journalsitut antavat kunnian

B It relies on information provided by relevant institutions

- nimeltä mainitut museolehti ja nykytaiteen museo

C It relies on knowledge acquired while interacting with peers

22. What characterizes the beginning of the use of @?

A The urge to impress the intended audience

B The need to produce legible texts

C The strive (tavoittelu) for overall efficiency

- prepositio korvattiin nopeasti kirjoitettavalla merkillä

The symbol evolved over time and was used in Venetian trade dealings to indicate an amphora, a jar used by merchants as a unit of measure, and by Spanish traders to mean *arroba*, another unit of measure (23). Eventually it came to mean “at the rate of,” as in “12 peaches @ \$1.50 – for a total of \$18.” By 1885 the symbol appeared on the American Underwood typewriter. It was a mainstay on keyboards for the next century, though it was used less and less over time. Then in 1971 along came Ray Tomlinson to pull @ out of its obscurity. Charged by the technological research and development company Bolt, Beranek and Newman with developing a new way to send messages between computers on the ARPAnet, he decided to use the symbol in an early e-mail because it naturally implied location – and was already on keyboards (24). No one ever used it, so it was ready for a new role.

Harvard Business Review

23. What is said of the symbol’s development in Europe?

A It became part of business negotiations

B It acquired a practical meaning in trade

- mittayksikkö Venetsiassa ja Espanjassa

C It retained (=säilytti) its original commercial meaning

- alunperin merkitys ei kaupankäyntiin liittyvä

24. What explains the current use of the symbol?

A Its inherent (luontainen) qualities and mere existence

- alunperin paikan prepositio, joten merkitys täsmää; valmiina näppäimistöllä

B Its popularity among professional writers

C Its well-recorded history of usage

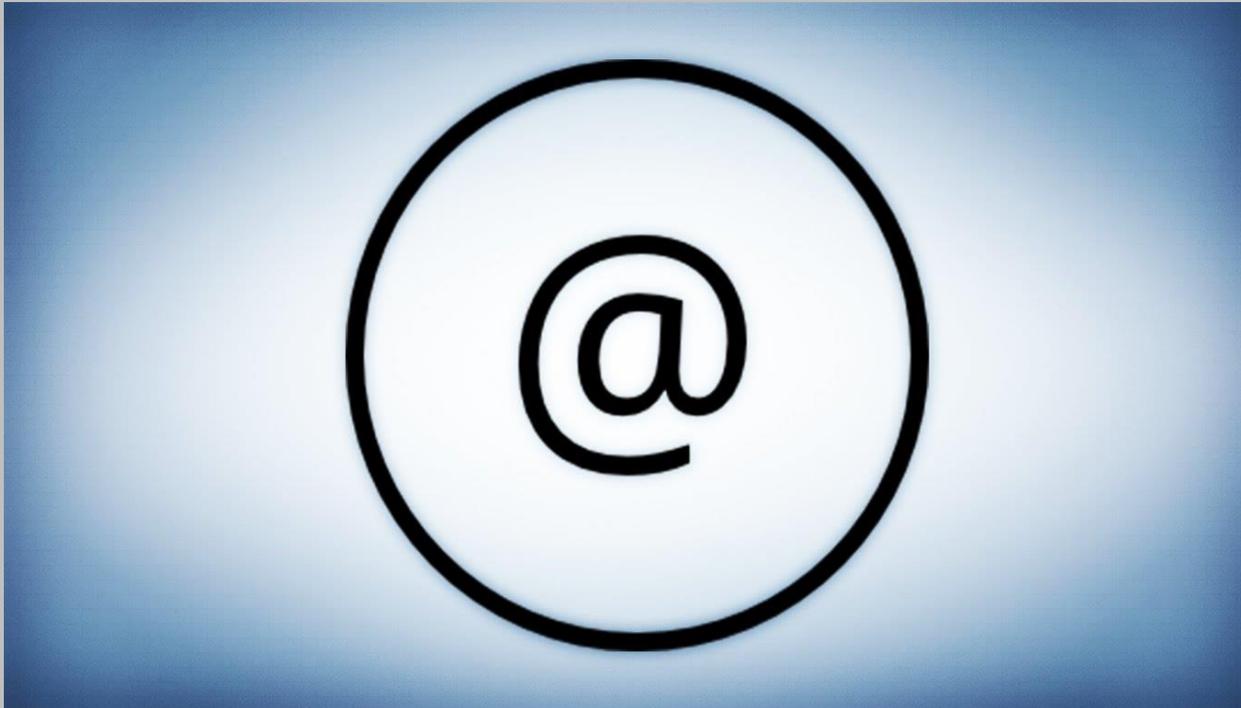
25. Opt for an alternative heading for this text:

A The expected appearance of @

B How @ fell into disuse

C The immortal @ still kicking

- monta eri käyttötapaa historian kuluessa, välillä jäänyt vähän unholaan, mutta taas uusi käyttö löytynyt



1.2 Uncivil War Breaks Out Over Fluke as Habitat Shifts North

The summer flounder (kämpela)– one of the most sought-after catches on the U.S. East Coast – is stirring up a climate change battle as it glides through the sand and grasses at the bottom of a warming North Atlantic. Also known as “fluke,” the flat, toothy fish is remarkable for its ability to change color to adapt to its surroundings, rendering it almost invisible to predators and prey. Some scientists say in recent years the species has begun adapting in another way. As the Atlantic Ocean has warmed, they say, the fish have headed north. The center of the summer flounder population, recorded as far south as Virginia around 1970, is now off the New Jersey coast. Its migration has set the stage for a battle between northern and southern East Coast states on how to share the business of harvesting this tasty, lean fish – valued at \$30 million per year commercially and untold millions more for the recreational fishing industry.

a) Miten kesäkämpela on mukautunut ilmastonmuutokseen, ja mistä on syntynyt kiista?

On muuttanut pohjoisemmaksi (vesien lämmettyä). (1 p.)

Kalastusoikeuksista. (1 p.)



Why “Big Data” Is a Big Deal

Data now stream from daily life: from phones and credit cards and televisions and computers; from the infrastructure of cities; from sensor-equipped buildings, trains, buses, planes, bridges, and factories. The data flow so fast that over the past two years the total accumulation dwarfs (tekee kääpiömäisen pieneksi) the prior record of human civilization. But it is not the *quantity* of data that is revolutionary. The revolution lies in improved data methodology, not in the exponential growth of storage or even computational capacity. New ways of *linking* datasets have played a large role in generating new insights. And creative approaches to *visualizing* data frequently prove integral to the process of creating knowledge.

b) Mikä on mullistavaa erittäin suurien tietomassojen käsittelyssä?

(2 asiaa)

Aineistoja yhdistellään uusilla tavoilla. (1 p.)

Tuloksia havainnollistetaan/visualisoidaan uusilla tavoilla. (1 p.)

Älä erehdy tässä kertomaan lisääntyneestä datan määrästä (vaikka sitä monisanaisesti kuvataan), kun nimenomaan sanotaan, että se ei ole se mullistavin juttu. Ja kysytään datan KÄSITTELYSTÄ.



World War One: The original code talkers

When US military codes kept being broken by the Germans in WW1, a Native American tribe came to the rescue. They just spoke their own language – which baffled the enemy – and paved the way for other Native American “code talkers” in WW2. “Using the Choctaw language had huge advantages,” says Dr William Meadows of Missouri State University, the only academic to have studied and written extensively on the Choctaw code talkers. “It was a largely unknown language. Only a few American Indian tribes had more than 20,000 people, so their languages weren’t widely spoken.” The Choctaw speakers were instrumental in helping US troops win several key battles, says Meadows. It was also the quickest way of coding and decoding information, faster than any machine. That’s why Choctaw was used.

c) Miksi choctaw sopi hyvin koodikieleksi ensimmäisessä maailmansodassa? (2 asiaa)

Juuri kukaan ei ymmärtänyt sitä. (1 p.)

Menetelmä oli nopeampi kuin perinteinen salakirjoitus. (1 p.)



Coming soon... a new landing place!

Throughout Pitcairn's entire modern history only one small cove, Bounty Bay, has served as the access point for vessels coming and going. The fact that access to the outside world is accomplished only via boat through the little harbour has been a source of concern for many, many decades. The importance of a safe landing place is magnified with the contemplation of an emergency and its potential for a catastrophic outcome if access to or from Pitcairn is denied. Of less urgent – but no less important – significance, is the ability to land cargo from Pitcairn's quarterly supply ship, which brings food, medicine and fuel supplies every three months. Adding to the island's growing access needs is its fledgling tourism industry and the ability to land visitors safely. For an island that once relied on the sale of postage stamps for revenue that has since decreased dramatically due to the worldwide technological advances in communications, tourism is now pivotal to Pitcairn's future, and safe, reliable access is key to its success.

d) Mistä Pitcairn sai tulonsa aikaisemmin ja mistä nykyään?

Postimerkeistä. (1 p.)

Turismista. (1 p.)



In times past, when the expected arrival of vessels were anticipated at night or in dangerous seas off Bounty Bay, longboat crews would row the boats through the dangerous entrance during daylight hours to wait offshore for the vessel's arrival in the lee of the land; occasionally, staying out all night to await the return of daylight to attempt a safe landing back at the harbour. There were a few occasions when a vessel was radioed to pass on by due to dangerous conditions at the harbour; but, that was in the days when the population was four times the number it is today, and there were plenty of able-bodied men to crew the boats safely. With improvements to the Landing at Bounty Bay and diesel-powered motor boats, fewer men are required to crew the longboats for passage into and out of the harbour; however, dangerous sea conditions remain an unpredictable and potential threat to safety and accessibility. That is about to change. Under the EU's European Development Fund (EDF), Pitcairn has been granted the means to develop an alternate landing place at Water Valley, on the western side of the island at Tedside. The community of Pitcairn is grateful to the EU for funding the alternate landing place project.

e) Miten saareen saatiin tarvikkeet ennen vanhaan, ja mikä asia on samoin nykyään kuin silloinkin?

Soutuveneellä (laivasta satamaan). (1 p.)

Merenkäynti voi uhata satamaan pääsyä. (1 p.)