Reading 4

Instructor: Ho Thi Nhu

Contents of this course

- Reading skills using the coursebook Northstar Reading and Writing 4
- Extra reading and homework using other materials
- Progress test
- Self-study using reference books and Google classroom

Pre-course test

- You will have 30 minutes for the test
- Submit the answers when you have finished
- Read the text carefully

- Here is the link to your test:

Lesson 1

Topic 1: Prodigies

A question for discussion: Nature or nurture?
In your opinion, does the environment a person is raised in (nurture) create a genius, or is it because the person was simply born that way (nature)?

Reading 1

A genius explains - p. 6

A GENIUS EXPLAINS

By Richard Johnson
The Guardian

1 Daniel Tammet is talking. As he talks, he studies my shirt and counts the stitches. Ever since the age of three, when he suffered an epileptic fit, Tammet has been obsessed with counting. Now he is 26, and a mathematical genius who can figure out cube roots quicker than a calculator and recall pi to 22,514 decimal places. He also happens to be autistic, which is why he can't drive a car, wire a plug, or tell right from left. He lives with extraordinary ability and disability.

2 Tammet is calculating 377 multiplied by 795. Actually, he isn't "calculating": there is nothing conscious about what he is doing. He arrives at the answer instantly. Since his epileptic fit, he has been able to see numbers as shapes, colors, and textures. The number two, for instance, is a motion, and five is a clap of thunder. "When I multiply numbers together, I see two shapes. The **image** starts to change and evolve, and a third shape emerges. That's the answer. It's mental imagery. It's like maths without having to think."

3 Tammet is a "**savant**," an individual with an astonishing, extraordinary mental ability. An **estimated** 10% of the autistic population—and an estimated 1% of the non-autistic population—have savant abilities, but no one knows exactly why.

4 Scans of the brains of autistic savants suggest that the right hemisphere might be **compensating** for damage in the left hemisphere. While many savants struggle with language and comprehension (skills associated primarily with the left hemisphere), they often have amazing skills in mathematics and memory (primarily right hemisphere skills). Typically, savants have a limited vocabulary, but there is nothing limited about Tammet's vocabulary.

5 Tammet is creating his own language, strongly influenced by the vowel and image-rich languages of northern Europe. (He already speaks French, German, Spanish, Lithuanian, Icelandic, and Esperanto.) The vocabulary of his language—"Mänti," meaning a type of tree —reflects the relationships between different things. The word "ema," for instance, translates as "mother," and "ela" is what a mother creates: "life." "Päike" is "sun," and "päive" is what the

sun creates: "day." Tammet hopes to launch Mänti in academic circles later this year, his own personal exploration of the power of words and their inter-relationship.

6 Last year, Tammet broke the European record for recalling pi, the mathematical constant,[1] to the furthest decimal point. He found it easy, he says, because he didn't even have to "think." To him, pi isn't an abstract set of digits; it's a visual story, a film projected in front of his eyes. He learnt the number forwards and backwards and, last year, spent five hours recalling it in front of an adjudicator.[2] He wanted to prove a point. "I memorised pi to 22,514 decimal places, and I am technically **disabled**. I just wanted to show people that disability needn't get in the way."

7 Tammet is softly spoken, and shy about making eye contact, which makes him seem younger than he is. He lives on the Kent coast, but never goes near the beach—there are too many pebbles to count. The thought of a mathematical problem with no solution makes him feel uncomfortable. Trips to the supermarket are always a chore. "There's too much mental stimulus. I have to look at every shape and texture. Every price, and every arrangement of fruit and vegetables. So instead of thinking,'What cheese do I want this week?', I'm just really uncomfortable."

8 Tammet has never been able to work 9 to 5. It would be too difficult to fit around his daily routine. For instance, he has to drink his cups of tea at exactly the same time every day. Things have to happen in the same order: he always brushes his teeth before he has his shower. "I have tried to be more **flexible**, but I always end up feeling more uncomfortable. **Retaining** a sense of control is really important. I like to do things in my own time and in my own style, so an office with targets and bureaucracy just wouldn't work."

9 Instead, he has set up a business on his own, at home, writing e-mail courses in language learning, numeracy, and literacy for private clients. It has had the fringe **benefit** of keeping human interaction to a minimum. It also gives him time to work on the verb structures of Mänti.

10 Few people on the streets have recognised Tammet since his pi record attempt. But, when a documentary about his life is broadcast on Channel 5 later this year, all that will change. "The highlight of filming was to meet Kim Peek, the real-life character who inspired the film *Rain Man*. Before I watched *Rain Man*, I was frightened. As a nine-year-old schoolboy, you don't want people to point at the screen and say, 'That's you.' But I watched it and felt a real connection. Getting to meet the real-life Rain Man was inspirational."

11 Peek was shy and introspective, but he sat and held Tammet's hand for hours. "We shared so much—our love of key dates from history, for instance. And our love of books. As a child, I regularly took over a room in the house and started my own lending library. I would separate out fiction and non-fiction, and then alphabetise them all. I even introduced a ticketing system. I love books so much. I've read more books than anyone else I know. So I was delighted when Kim wanted to meet in a library." Peek can read two pages simultaneously, one with each eye. He can also recall, in exact detail, the 7,600 books he has read. When he is at home in Utah, he spends afternoons at the Salt Lake City public library, memorising phone books and address directories. "He is such a lovely man," says Tammet. "Kim says, 'You don't have to be handicapped to be different—everybody's different.' And he's right."

12 As a baby, he (Tammet) banged his head against the wall and cried constantly. Nobody knew what was wrong. His mother was

[1] **mathematical constant:** a special number that is usually a real number and is considered "significantly interesting is some way"

[2] **adjudicator:** a judge or arbitrator, especially in a dispute or competition

(continued on next page)

anxious, and would swing him to sleep in a blanket. She breastfed him for two years. The only thing the doctors could say was that perhaps he was understimulated. Then, one afternoon when he was playing with his brother in the living room, he had an epileptic fit.[3]

13 "I was given medication—round blue tablets—to control my seizures and told not to go out in direct sunlight. I had to visit the hospital every month for regular blood tests. I hated those tests, but I knew they were necessary. To make up for it, my father would always buy me a cup of squash to drink while we sat in the waiting room. It was a worrying time because my Dad's father had epilepsy and actually died of it, in the end. They were thinking, 'This is the end of Daniel's life.'"

14 He remembers being given a Ladybird book called *Counting* when he was four. "When I looked at the numbers, I 'saw' images. It felt like a place I could go where I really belonged. That was great. I went to this other country whenever I could. I would sit on the floor in my bedroom and just count. I didn't notice that time was passing. It was only when my Mum shouted up for dinner, or someone knocked at my door, that I would snap out of it."

15 One day his brother asked him a **sum**. "He asked me to multiply something in my head—like 'What is $82 \times 82 \times 82 \times 82$?' I just looked at the floor and closed my eyes. My back went very straight, and I made my hands into fists. But after five or 10 seconds, the answer just flowed out of my mouth. He asked me several others, and I got every one right. My parents didn't seem surprised. And they never put pressure on me to perform for the neighbours. They knew I was different but wanted me to have a normal life as far as possible."

16 Tammet could see the car park of his infant school from his bedroom window, which made him feel safe. "I loved assembly because we got to sing hymns. The notes formed a pattern in my head, just like the numbers did." The other children didn't know what to make of him and would tease him. The minute the bell went for playtime, he would rush off. "I went to the playground, but not to play. The place was surrounded by trees. While the other children were playing football, I would just stand and count the leaves."

17 Tammet may have been teased at school, but his teachers were always protective. "I think my parents must have had a word with them, so I was pretty much left alone." He found it hard to socialise with anyone outside the family, and, with the advent of adolescence, his shyness got worse.

18 After leaving school with three A-levels (History, French and German, all grade Bs), he decided he wanted to teach—only not the **predictable**, learn-by-rote type of teaching. For a start, he went to teach in Lithuania, and he worked as a volunteer. "It was also the first time I was introduced as 'Daniel' rather than 'the guy who can do weird stuff in his head.' It was such a pleasant relief." Later, he returned home to live with his parents and found work as a maths tutor.

19 When he isn't working, Tammet likes to hang out with his friends on the church quiz team. His knowledge of popular culture lets him down, but he's a shoo-in when it comes to the maths questions. "I do love numbers," he says. "It isn't only an intellectual or aloof thing that I do. I really feel that there is an emotional attachment, a caring for numbers. I think this is a human thing—in the same way that a poet humanises a river or a tree through metaphor, my world gives me a sense of numbers as personal. It sounds silly, but numbers are my friends."

[3] **epileptic fit:** (also referred to as an epileptic seizure) a brief symptom of epilepsy which may include loss of consciousness, convulsions, or losing muscle tone and slumping to the ground

Main ideas

Choose the best paragraph headers for each of the following sections in the article.

1. *For paragraphs 1 and 2:*
   a. Daniel Tammet—mathematical genius
   b. Daniel Tammet's abilities and disabilities
   c. Math—how he does it

2. *For paragraphs 4 and 5:*
   a. The autistic brain
   b. Mänti—Daniel's language
   c. Not the typical savant

3. *For paragraphs 7 and 8:*
   a. Everyday life can be difficult
   b. Overstimulation can be a problem
   c. Daniel's daily routine

4. *For paragraphs 10 and 11:*
   a. Kim Peek and Daniel's similarities
   b. Kim Peek and Daniel's love of books
   c. Daniel and Kim Peek connect

5. *For paragraphs 14 and 15:*
   a. Daniel starts counting
   b. Daniel's math skills emerge
   c. Numbers as images

6. *For paragraphs 16 and 17:*
   a. Daniel's love of singing
   b. Daniel's shyness
   c. Problems in school

Details

Match the details and examples from the box with the appropriate categories and identify whether each of them is an ability or disability.

Daniel feels uncomfortable in the supermarket.	~~Daniel has invented his own language.~~	~~Daniel can calculate cube roots faster than a calculator.~~
Daniel can recall pi to 22,514 decimal points.	Daniel must drink his tea at exactly the same time every day.	It is hard for Daniel to socialize with anyone outside his family.
Daniel is able to read a lot of books.	Daniel has trouble making eye contact.	Daniel can multiply 377 × 795 in his head.
Daniel doesn't go to the beach because there are too many pebbles to count.	Daniel always has to brush his teeth before he showers.	The thought of a mathematical problem with no solution makes Daniel uncomfortable.
Daniel can easily remember key dates in history.	Daniel speaks seven languages.	

CATEGORY	DETAILS OR EXAMPLES	ABILITY	DISABILITY
MATH	1. Daniel can calculate cube roots faster than a calculator.	X	
	2. Daniel can multiply 377*795 in his head.	x	
	3. Daniel doesn't go to the beach because there are too many pebbles to count.		x
	4. The thought of mathematical problem with no solution makes Daniel uncomfortable.		x
LANGUAGE	1. Daniel has invented his own language.	X	
	2. Daniel speaks seven languages.	x	
	3. Daniel is able to read a lot of books.	x	
MEMORY	1. Daniel can easily remember key dates in history.	x	
	2. Daniel can recall pi to 22,514 decimal points.	x	
SOCIAL INTERACTION	1. It is hard for Daniel to socialize with anyone outside his family.		x
	2. Daniel has trouble making eye contact.		x
	3. Daniel feels uncomfortable in the supermarket.		x
NEED FOR ORDER	1. Daniel must drink his tea at the same time every day.		x
	2. Daniel always has to brush his teeth before he showers.		x

Practice time

Here is the link to your extra reading: https://forms.gle/oCQVxom3wffa7GFs7

Lesson 2

Overcoming obstacles

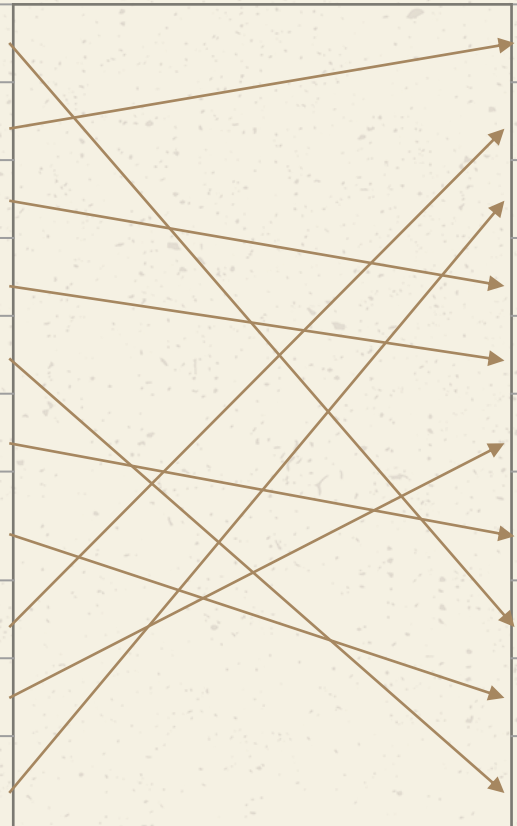
Medicine

Question for discussion:

What obstacles have you faced in your life? How have you tried to overcome them?

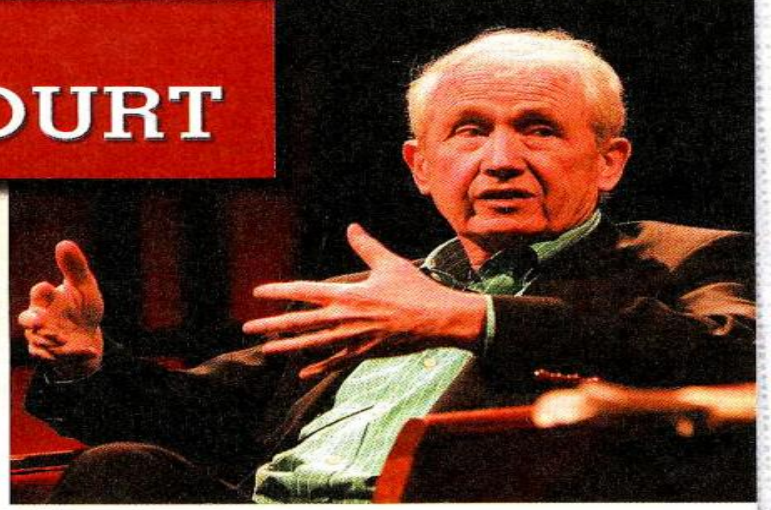
Vocabulary

Abandonment (n)	Poor, sparse
Meager (adj)	embarrassment
Yearned for (v)	Beaten, overcome by
Tormented (adj)	Strongly desired, wanted
Dilapidated (adj)	Painful
Poverty (n)	Immoral, dishonest
Hopelessness (n)	Having little money or few material things
Shame (n)	Leaving someone behind
Sordid (adj)	Being without hope
Defeated (v)	Falling apart, in terrible condition



Reading 1: The education of Frank McCourt

THE EDUCATION OF FRANK McCOURT



By Barbara Sande Dimmitt
(from Reader's Digest)

1 Frank McCourt sat on a stage in New York City's Lincoln Center, his white hair glistening under the lights overhead. He was still boyish of expression at 66, and smile lines radiated from hazel eyes bright with inquisitiveness. Soon he would be addressing the 1997 graduating class of Stuyvesant High School, where he had taught English for 18 years.

2 He let his mind wander as he gazed out at the great hall. *I've learned so much from kids like these*, he thought. *They gave me much more than I gave them.*

3 "Yo, Teach!" a voice boomed. Frank McCourt scanned the adolescents in his classroom. It was the fall of 1970 and his first week of teaching at Seward Park High School, which sat in the midst of **dilapidated** tenement buildings on Manhattan's Lower East Side. McCourt located the speaker and nodded. "You talk funny," the student said, "Where ya from?"

4 "Ireland," McCourt replied. With more than ten years of teaching experience under his belt, this kind of interrogation[1] no longer surprised him. But one question in particular still made him squirm[2] "Where'd you go to high school?" someone else asked.

5 *If I tell them the truth, they'll feel superior to me*, McCourt thought. *They'll throw it in my face*. Most of all, he feared an accusation he'd heard before—from himself: You come from nothing, so you are nothing.

6 But McCourt's heart whispered another possibility: Maybe these kids are **yearning for** a way of figuring out this new teacher. Am I willing to risk being humiliated in the classroom to find out?

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[1] **interrogation:** intense questioning
[2] **squirm:** feel embarrassed or ashamed

"Come on, tell us! Where'd you go to high school?"

"I never did," McCourt replied.

"Did you get thrown out?"

I was right, the teacher thought. *They're curious.* McCourt explained he'd left school after the eighth grade to take a job.

"How'd you get to be a teacher, then?" they asked. "When I came to America," he began, "I dreamed bigger dreams. I loved reading and writing, and teaching was the most exalted profession I could imagine. I was unloading sides of beef[3] down on the docks when I decided enough was enough. By then I'd done a lot of reading on my own, so I persuaded New York University to enroll me."

McCourt wasn't surprised that this story fascinated his students. Theirs wasn't the kind of **poverty** McCourt had known; they had electricity and food. But he recognized the telltale signs of need in some of his students' threadbare[4] clothes and sensed the bitter **shame** and **hopelessness** he knew all too well. If recounting his own experiences would jolt these kids out of their defeatism so he could teach them something, that's what he would do.

A born storyteller, McCourt drew from a repertoire of accounts about his youth. His students would listen, spellbound[5] by the gritty details, drawn by something more powerful than curiosity. He'd look from face to face, recognizing a bit of himself in each sober gaze.

Since humor had been the McCourts' weapon against life's **miseries** in Limerick, he used it to describe those days. "Dinner usually was bread and tea," he told the students. "Mam[6] used to say, 'We've got our balanced diet: a solid and a liquid. What more could we want?' "

The students roared with laughter.

He realized that his honesty was helping forge a link with kids who normally regarded teachers as adversaries. At the same time, the more he talked about his past, the better he understood how it affected him.

While at college, a creative-writing professor had asked him to describe an object from his childhood. McCourt chose the decrepit bed he and his brothers had shared. He wrote of their being scratched by the stiff stuffing protruding from the mattress and of ending up jumbled together in the sagging center with fleas[7] leaping all over their bodies. The professor gave McCourt an A, and asked him to read the essay to the class.

"No!" McCourt said, recoiling at the thought. But for the first time, he began to see his **sordid** childhood, with all the miseries, betrayals, and longings that **tormented** him still, as a worthy topic. *Maybe that's what I was born to put on the page,*[8] he thought.

While teaching, McCourt wrote occasional articles for newspapers and magazines. But his major effort, a memoir of 150 pages that he churned out in 1966, remained unfinished. Now he leafed through his students' transcribed essays. They lacked polish, but somehow they worked in a way his writing didn't. *I'm trying to teach these kids to write,* he thought, *yet I haven't found the secret myself.*

The bell rang in the faculty lounge at Stuyvesant High School in Manhattan. When McCourt began teaching at the prestigious[9] public high school in 1972, he joked that he'd finally made it to paradise. Some 13,000 students sought admission each year, competing for approximately 700 vacancies. Part of the fun of working with these bright students was keeping them a few degrees off-balance. McCourt asked at the beginning

(continued on next page)

[3] **sides of beef:** very large pieces of meat
[4] **threadbare:** very thin from being used a lot
[5] **spellbound:** very interested in something you are listening to
[6] **Mam:** a word for *mother*
[7] **fleas:** tiny insects that bite
[8] **put on the page:** to write
[9] **prestigious:** admired or respected as one of the best or most important

of a creative writing class, "What did you have for dinner last night?" The students stared at him as if he'd lost his wits.

"Why am I asking this? Because you need to become good observers of detail if you're going to write well." As answers trickled in, McCourt countered with more questions. "Where did you eat?" "Who else was there?" "Who cleaned up afterward?"

Student after student revealed families fragmented by divorce and loneliness. "We always argue at the table." "We don't eat together." As he listened, McCourt mentally catalogued the differences and similarities between his early life and theirs. He began to appreciate more the companionship that enriched the **meager** meals his mother had struggled to put on the table.

That night McCourt lay awake in bed, harvesting the bounty of his chronic insomnia.[10] He visualized himself standing on a street in Limerick and took an imaginary walk about. He looked at shops and pubs, noting their names, and peered through their windows. He read street signs and recognized people walking past. Oblivious to time, he wandered the Limerick of his mind, collecting the details of scenery and a cast for the book that festered inside him.

Yet when he later picked up a notebook and tried to set down the previous night's travels, he stopped. McCourt knew that he was still holding back. Before, he had done it out of respect for his mother, who would have been mortified to see the darkest and most searing episodes of his childhood in print.[11] But she had died in 1981, and with her had died his excuse.

At least the bits and pieces that bubbled into his consciousness enlivened the stories he told in class. "Everyone has a story to tell," he said. "Write about what you know with conviction, from the heart. Dig deep," he urged. "Find your own voice and dance your own dance!"

On Fridays the students read their compositions aloud. To draw them out, McCourt would read excerpts from his duffel bag full of notebooks. "You had such an interesting childhood, Mr. McCourt," they said. "Why don't you write a book?" They threw his own words back at him: "It sounds like there's more to that story; dig deeper . . ."

McCourt was past 50 and painfully aware of the passage of time. But despite his growing frustration at his unfinished book, he never tired of his students' work.

These young people have been giving you lessons in courage, he thought. *When will you dare as mightily as they?*

It was October 1994. Frank McCourt, now retired, sat down and read his book's new opening, which he had written a few days before and still found satisfying. But many blank pages lay before him. *What if I never get it right?* he wondered grimly.

He stared at the logs glowing in the fireplace and could almost hear students' voices from years past, some angry, some **defeated**, others confused and seeking guidance. "It's no good, Mr. McCourt. I don't have what it takes."

Then Frank McCourt, author, heard the steadying tones of Frank McCourt, teacher: Of course you do. Dig deeper. Find your own voice and dance your own dance.

He scribbled a few lines. "I'm in a playground on Classon Avenue in Brooklyn with my brother Malachy. He's two, I'm three. We're on the seesaw." In the innocent voice of an unprotected child who could neither comprehend nor control the world around him, Frank McCourt told his tale of poverty and **abandonment**.

In September 1996 *Angela's Ashes* hit bookstores. Within weeks McCourt received an excited call from his agent: His book was getting warm reviews and selling at an unbelievable rate. The most surprising call came on April 7, 1997, when McCourt learned

[10] **insomnia:** sleeplessness
[11] **in print:** in a book, newspaper, or magazine

that *Angela's Ashes* had received America's most coveted literary award: the Pulitzer Prize.

34 McCourt laid his hands on the lectern, finishing his commencement address[12] at Lincoln Center. "Early in my teaching days, the kids asked me the meaning of a poem," he said. "I replied, 'I don't know any more than you do. I have ideas. What are your ideas?' I realized then that we're all in the same boat. What does anybody know?

35 "So when you go forth tonight, fellow students—for I'm still one of you—remember that you know nothing! Be excited that your whole life is before you for learning."

36 As he gave them a crooked smile, the students leapt to their feet, waving and whistling. *This is too much*, he thought, startled by the intensity of their response. During months of speeches and book signings, he had received many accolades.[13] But this—this left him fighting back tears. It's the culmination of everything, coming from them.

37 Their standing ovation continued long after Frank McCourt, the teacher who had learned his own lessons slowly but well, returned to his seat.

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[12] **commencement address:** speech given at a graduation

[13] **accolades:** praise and approval for someone's work

Main ideas

Complete the table with information from Vocabulary and the reading text.

1934	Frank McCourt's family returned to Ireland.
1949	Frank McCourt returned to the United States.
1970	
1981	
1994	
1996	
1997	

Details

Complete the table with the reasons why the events happened and what happened as a result.

1934 Event: Frank McCourt's family returned to Ireland.	The McCourts wanted a better life, so they returned to Ireland. Their life was still very hard. Three children died. The family remained very poor and very hungry.
1949 Event:	
1970 Event:	
1981 Event:	
1994 Event:	
1996 Event:	
1997 Event:	

Practice time

Here is the link to your extra reading: https://forms.gle/YrERUVAa1bntMQSZ8

Reading 2: Genetic testing and disease...

Genetic testing and disease: Would you want to know?

By Janice Lloyd, USA TODAY

1 Kristen Powers finishes packing her lunch and opens the kitchen door to leave for high school with her brother, Nate, in tow.[1] "I drive but always let him pick the music," she says, smiling. He gives her a gentle nudge[2] and they set off to the car.

2 Nothing like having a kid brother behind you, especially when you are embarking[3] on a courageous journey. Kristen, 18, is having blood work done May 18 to find out whether she inherited the defective gene for Huntington's disease, a fatal, neurodegenerative disorder that can debilitate victims as early as their mid-30s. The siblings have a 50-50 chance of developing the rare disease, which claimed their mother's life last year at age 45.

3 Nate, 16, doesn't know whether he'll follow his sister's lead. Only people 18 or older can be tested, unless they're exhibiting symptoms, because a positive result can be shattering news. There's also no cure. Huntington's is devastating on so many levels: People lose coordination, developing wild jerky movements; they suffer behavioral changes, often becoming depressed and psychotic; and in the end, they develop dementia and require total care. One of their last images of their mother was in a wheelchair in a nursing home.

4 Nate "has been amazingly supportive of my wanting to get tested," Kristen says. "He is interested in the whole process, but he's been hesitant over the years to commit to testing, while I've known since I was 15 that I wanted to do this."

5 "Know thyself" has taken on a scientific meaning for a growing number of people who, like Kristen, want a crystal ball to look into their DNA. Ever since the Human Genome Project identified the 20,000 to 25,000 genes in 2003, researchers have continued to identify the ones that play roles in diseases, from Alzheimer's to type 2 diabetes to certain types of cancer. Though lifestyle and environment are big pieces of the puzzle, consider this: Genetic tests could become part of standard care for everyone and **revolutionize** the way medicine is practiced, proponents say.

6 Gone would be the days of waiting to develop a disease. People would know about diseases they are at risk for and could change their living habits or consider treatments. Opponents warn about the **potential** for invasion of privacy—threatening employment and insurance—and the possibility that people equipped with the knowledge of their genetic makeup might make risky and unhealthy decisions.

7 Kristen has had counseling at the University of North Carolina to prepare her for dealing with her testing news, and she copes with stress by walking with her rescue dog, Jake. "Walking is critical for me," she says. She will return to the campus at the end of May with her father, Ed Powers, to get the results.

8 "She's always wanted to take matters into her own hands," her father says. "She's constantly asking what we can do to make things better. I am her biggest backer and want to be there for her every step of the way during this."

Leaning on social media

9 Kristen leans on her kitchen table and explains in a quiet, clear voice that she is ready to handle the news and has no plans to keep it secret. "I started out trying to find answers on the Internet about Huntington's disease," she says, "but I quickly became very disappointed. There's not a good video or an **advocate** for it, like Michael J. Fox is for Parkinson's disease."

10 She has raised $17,580 on the website Indiegogo.com and hired a video crew to make a documentary about the emotional and medical **aspects** of testing on her and her family. "Social media can be a real unifier. There's not much out there yet for young people on Huntington's. I want to change that."

11 Her mother, Nicola Powers, was diagnosed in 2003 after struggling with symptoms for several years. "I remember watching her stumble and walk like a drunk person at times," Kristen says. "That was before we knew what was wrong with her. She was really struggling. It was very scary."

12 Nicola Powers didn't know the disease ran in her family. She grew apart from her biological father after her parents divorced. Once she looked into his medical history because of her symptoms, she discovered he had Huntington's.

13 Kristen doesn't want the gene to be passed on again. She says she won't have children if she tests positive: "I can be candid with potential partners and be responsible," she says.

14 Genetic counselors warn about the emotional **impact** of testing on the person and family. "Some people like to plan everything out," says Brenda Finucane, president of the National Society of Genetic Counselors. "They think the information is empowering, while some people want to see how life plays out."

15 Robert Green has found that most people will not seek out risk information about late-onset Alzheimer's disease if they're not psychologically prepared to handle it. But "it turns out many people handle this kind of information quite well," says Green, associate director for research in genetics at Brigham and Women's Hospital in Boston. "Some changed their wills,[4] and some made lifestyle changes. Taking these tests is all about actionability.[5]"

16 Timing can be tricky, though. Kristen's father and stepmother, Betsy Banks Saul, suggested she hold off until she has a support system at college. "She's a very intelligent,

(continued on next page)

[1] **in tow:** following closely behind someone or something
[2] **nudge:** push
[3] **embarking:** starting something new, difficult, or exciting
[4] **wills:** legal documents that show whom you want to have your money and property after you die
[5] **actionability:** being able to act upon

strong young woman, and we trust her, but we wish we could be nearby to support her," Betsy says.

17 After high school graduation in June, she will attend Stanford, in California — far from her farm, family, and friends. Kristen listened to her parents' concerns and considered putting off testing, "but I am a type A person who has always craved getting information. I want to know."

Not all tests are equal

18 Her test will look for the single gene that causes Huntington's, but most diseases have a more complicated genetic profile. A growing number of tests look at multiple genes that might increase or decrease a person's risk for developing thousands of diseases. Companies market the tests for as little as $100 on the Internet and don't require a physician's signature. But those kinds of results are not always **reliable**, says Ardis Dee Hoven, former chair of the American Medical Association.

19 "In the absence of a medical professional, a patient might have difficulty **interpreting** the test and make decisions that are not healthy decisions," Hoven says. For instance, someone who tests negative for BRCA1 and BRCA2—genes that put people at a higher risk for developing certain breast and ovarian cancers—might not know there are other **risk factors**. Unless the patient has a physician guiding her, Hoven says, she might think she's home-free[6] and skip routine screening tests.

20 David Agus, author of the new book *The End of Illness*, says that's why the company he co-founded, Navigenics, requires customers to get a signature from their doctors before being tested. Navigenics also offers genetic counseling as part of the $300–$400 fee. "Genetics are a small piece of the puzzle, but they're a very important piece," says Agus, head of the Center for Applied Molecular Medicine at the University of Southern California.

21 A cancer specialist, Agus discovered he has an above-average risk for cardiovascular disease and a slightly lower-than-average risk for colon cancer. His doctor put him on a statin to help prevent heart disease, and, he says, "my kids took it upon themselves to keep me away from french fries." He also had a colonoscopy at age 43, earlier than medical standards call for, and had a polyp removed. "Could my polyp have turned into cancer? Who knows? But why should I wait for that to happen? Unless our country can focus on prevention, which testing is all about, our health care costs will be completely out of control."

22 A study of 1,200 patients that was presented in March at an American College of Cardiology meeting found that those who were told they had a gene **linked** to heart disease improved their adherence to statin therapy by 13% compared with those who had not been tested for the gene.

23 "I could see how testing could become embedded[7] in how we treat our patients," Hoven says. "It's always better to prevent disease than to treat it, and quality of life is so much better for people."

How accessibility could change

24 Since the human genome was unraveled[8] a dozen years ago, genetic testing has been cost-prohibitive for the average person. The promise was that this breakthrough would lead to a better understanding of myriad[9] diseases and, ultimately, individualized treatments. Whole genome testing studies the **interaction** of our 20,000 to 25,000 genes with one another and with a person's **environment**. The $10,000 price tag, though, is expected to drop to $1,000 within the decade. When the tests become mainstream, doctors could face a dilemma.[10]

25 A study in March reports that 10 of 16 specialists (62%) favored telling a patient he carried the gene for Huntington's if the finding was incidental to why the test was ordered. The study noted that the specialists unanimously agreed on disclosing 21 of 99 commonly ordered genetic conditions for adults, and "multiple expert panels" might be needed to agree on what to tell patients.

26 "This is one of the toughest issues facing the rollout of clinical sequencing (whole genome sequencing)," Green says. He adds that after the study, he co-chaired a forum March 28 of the American College of Medical Genetics to discuss how to form a **consensus**.

27 That's a non-issue for Kristen. She knows she will get an answer. One of her hardest decisions has been picking who will be in the room when she gets her results. She knows she wants the videographers taping. At first she didn't want her father to be there, but she relented when he asked her to reconsider.

28 "I know I can take the news," she says, "Knowledge is power. But I didn't think I could get a positive result and then watch my father cry. I've never seen him cry before."*

[6] **home-free:** safe and without problems

[7] **embedded:** put something firmly and deeply into something else

[8] **was unraveled:** something very complicated was understood or explained

[9] **myriad:** a very large number of something

[10] **dilemma:** situation in which you have to make a choice between two or more difficult actions

*Kristin tested negative for Huntington's disease.

MAIN IDEAS

Main ideas

Complete the chart with the pros and cons of genetic testing.

POSITIVE	NEGATIVE
I. Can revolutionize medicine a. Can choose appropriate treatment plan b. Quality of life is better.	I. Emotional and physical impact a. Positive result can lead to risky, unhealthy decision b. Positive result can be shattering for patient and fam
II. Information is empowering for patient. a. Can change lifestyle b. Can prevent diseases rather than just treat them.	II. Invasion of privacy a. May threaten employment and insurance
	III. Results are not always reliable.
	IV. Professional interpretation is not required. a. Patient may interpret test results incorrectly. b. There are other risk factors in addition to genes.

Details

Match the people, places and the diseases on the left with the information on the right.

1. _____ Ardis Dee Hoven

2. _____ Robert Green

3. _____ Human Genome Project

a. A progressive, degenerative disorder that attacks the brain's nerve cells, or neurons, resulting in loss of memory, thinking and language skills, and behavioral changes. It can be identified through genetic testing.

b. Head of the Center for Applied Molecular Medicine at the University of Southern California, author of *The End of Illness*, and co-founder of Navigenics, a genetic testing company

c. Location of Kristen Powers' counseling center

4. _____ Alzheimer's disease

5. _____ David Agus

6. _____ BRCA1 & BRCA2

7. _____ Huntington's disease

8. _____ University of North Carolina

9. _____ Indiegogo.com

10. _____ Brenda Finucane

11. _____ Michael J. Fox

d. An incurable fatal, neurodegenerative disorder that can debilitate victims as early as their mid-30s. It can be identified through genetic testing.

e. A 2003 study which identified the 20,000–25,000 genes in the human body

f. A well-known advocate for Parkinson's disease

g. Website where Kristen Powers raised money to hire a video crew

h. Former chair of the American Medical Association who warned that genetic test results are not always reliable

i. President of the National Society of Genetic Counselors who talks about the emotional impact of testing

j. Genes that indicate a high risk factor for developing certain breast and ovarian cancers

k. Associate director for research in genetics at Brigham and Women's Hospital. He talks about using the test results to take (positive) action.

Practice time

Here is the link to your extra reading: https://forms.gle/SdPhNgn187jRrL1s6

Lesson 3

Animal intelligence

Longevity

Generosity

Question for discussion

Do you think domesticated animals that can be trained are more intelligent than animals living in the wild?

Reading 1:
Extreme perception and animal intelligence

EXTREME PERCEPTION AND ANIMAL INTELLIGENCE

By Temple Grandin and Catherine Johnson
(from *Animals in Translation*)

1 Many animals have extreme **perception**. Forensic[1] dogs are three times as good as any X-ray machine at sniffing out contraband,[2] drugs, or explosives, and their overall success rate is 90 percent.

Seizure alert dog with owner Donna Jacobs

2 The fact that dogs can smell things a person can't doesn't make him a genius; it just makes him a dog. Humans can see things dogs can't, but that doesn't make us smarter. But when you look at the jobs some dogs have invented for themselves using their advanced perceptual abilities, you're moving into the realm of true **cognition**, which is solving a problem under novel conditions. The seizure alert dogs are an example of an animal using advanced perceptual abilities to solve a problem no dog was born knowing how to solve. Seizure alert dogs are dogs who, their owners say, can *predict* a seizure before it starts. There's still **controversy** over whether you can train a dog to predict seizures, and so far people haven't had a lot of luck trying. But there are a number of dogs who have figured it out on their own. These dogs were trained as seizure response dogs, meaning they can help a person once a seizure has begun. The dog might be trained to lie on top of the person so he doesn't hurt himself, or bring the person his medicine or the telephone. Those are all standard helpful **behaviors** any dog can be trained to perform.

3 But some of these dogs have gone from responding to seizures to perceiving signs of a seizure ahead of time. No one knows how they do this because the signs are invisible to people. No human being can look at someone who is about to have a seizure and see (or hear, smell, or feel) what's coming. Yet one study found that 10 percent of owners said their seizure response dogs had turned into seizure alert dogs.

4 The *New York Times* published a terrific article about a woman named Connie Standley, in Florida, who has two huge Bouvier de Flandres dogs who predict her seizures about thirty minutes ahead of time. When they sense Ms. Standley is heading into a seizure, they'll do things like pull on her clothes, bark at her, or drag on her hand to get her to someplace safe so she won't get hurt when the seizure begins. Ms. Standley says they predict about 80 percent of her seizures. Ms. Standley's dogs **apparently** were trained as seizure alert dogs before they came to her, but there aren't many dogs in that **category**. Most seizure alert dogs were trained to respond to seizures, not predict seizures.

(continued on next page)

[1] **forensic:** relating to methods for finding out about a crime

[2] **contraband:** goods that are brought into or taken out of a country illegally

5 The seizure alert dogs remind me of Clever Hans. Hans was the world-famous German horse in the early 1900s whose owner, Wilhelm von Osten, thought he could count. Herr von Osten could ask the horse questions like, "What's seven and five?" and Hans would tap out the number twelve with his hoof. Hans could even tap out answers to questions like, "If the eighth day of the month comes on Tuesday, what is the date for the following Friday?" He could answer mathematical questions posed to him by complete strangers, too.

6 Eventually, a psychologist named Oskar Pfungst managed to show that Hans wasn't really counting. Instead, Hans was observing subtle, **unconscious** cues the humans had no idea they were giving off. He'd start tapping his foot when he could see it was time to start tapping; then he'd stop tapping his foot when he could see it was time to stop tapping. His questioners were making tiny, unconscious movements only Hans could see. The movements were so tiny the humans making them couldn't even *feel* them.

7 Dr. Pfungst couldn't see the movements, either, and he was looking for them. He finally solved the case by putting Hans's questioners out of view and having them ask Hans questions they didn't know the answers to themselves. It turned out Hans could answer questions only when the person asking the question was in plain view and already knew the answer. If either condition was missing, his performance fell apart.

8 Psychologists often use the Clever Hans story to show that humans who believe animals are intelligent are deluding themselves. But that's not the **obvious** conclusion as far as I'm concerned. No one has ever been able to *train* a horse to do what Hans did. Hans trained himself. Is the ability to read a member of a different species as well as Hans was reading human beings really a sign that he was just a "dumb animal" who'd been classically conditioned to stamp his hoof? I think there is more to it than that.

9 What makes Hans similar to seizure alert dogs is that both Hans and the dogs **acquired** their skills without human help. As I mentioned, to my knowledge, so far no one has figured out how to take a "raw" dog and teach it how to predict seizures. About the best a trainer can do is reward the dogs for helping when a person is having a seizure and then leave it up to the dog to start identifying signs that predict the onset of a seizure on his own. That **approach** hasn't been hugely successful, but some dogs do it. I think those dogs are showing superior intelligence the same way a human who can do something few other people can do shows superior intelligence.

10 What makes the actions of the seizure alert dogs, and probably of Hans, too, a sign of high intelligence—or high talent—is the fact that they didn't have to do what they did. It's one thing for a dog to start recognizing the signs that a seizure is coming; you might chalk that up to **unique** aspects of canine hearing, smell, or vision, like the fact that a dog can hear a dog whistle while a human can't. But it's another thing for a dog to start to recognize the signs of an impending seizure and *then decide to do something about it*. That's what intelligence is in humans; intelligence is people using their built-in perceptual and cognitive skills to **achieve** useful and sometimes remarkable goals.

Main ideas

Work with a partner. Read the statements and decide which three represent the main ideas of Reading One. Then discuss the reasons for your choice.

1. Many animals have extreme perception.
2. The author believes that true cognition, or intelligence, is defined as solving problems under novel conditions.
3. Ms. Standley's seizure alert dogs are able to predict about 80 percent of her seizures before they happen.
4. Some psychologists believe animals like Clever Hans are not really intelligent.
5. Some animals are able to read human behavior by observing subtle signs that even humans don't recognize.
6. The psychologist Oskar Pfungst was able to show that Hans wasn't really counting.
7. For Clever Hans to correctly answer a question, two conditions had to be met. He had to be able to see the person asking the question, and the person had to know the answer to the question.
8. The author believes seizure alert dogs and Clever Hans are showing high intelligence because they are able to recognize a sign and then choose to do something about it.

Details

Reading One mentions many people and animals connected with animal intelligence. Match these people and animals with their descriptions.

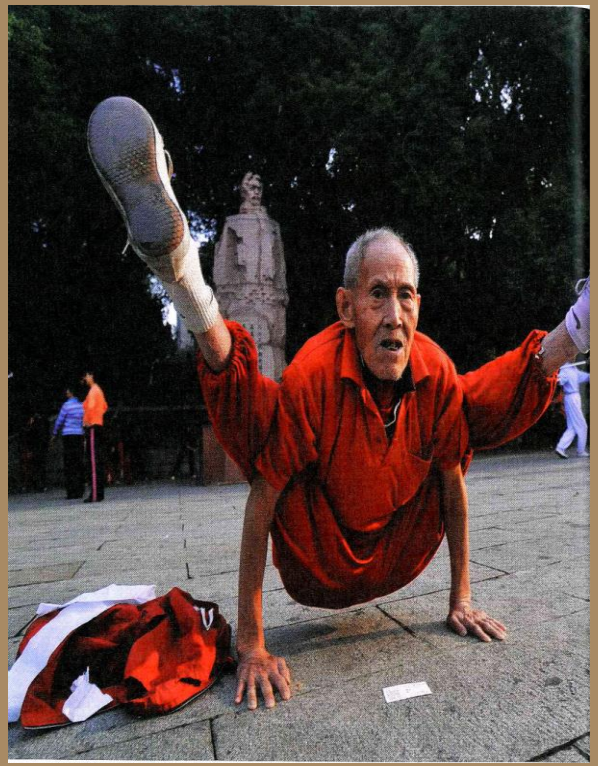
1. _____Forensic dogs
2. _____Seizure response dogs
3. _____Seizure alert dogs
4. _____Ms. Connie Standley
5. _____Wilhelm von Osten
6. _____ Oskar Pfungst
7. _____Clever Hans

a. Clever Hans's owner who thought he could count
b. Owner of two seizure alert dogs
c. Dogs that have been trained to help people once their seizures have started
d. Dogs that are able to predict seizures before they happen and warn their owners
e. German horse who apparently could count and answer questions
f. Dogs that use their sense of smell to find contraband such as drugs or explosives
g. Psychologist who proved that Clever Hans wasn't really counting

Practice time

Here is the link to your extra reading: https://forms.gle/eECYFQeonCakM8bR7

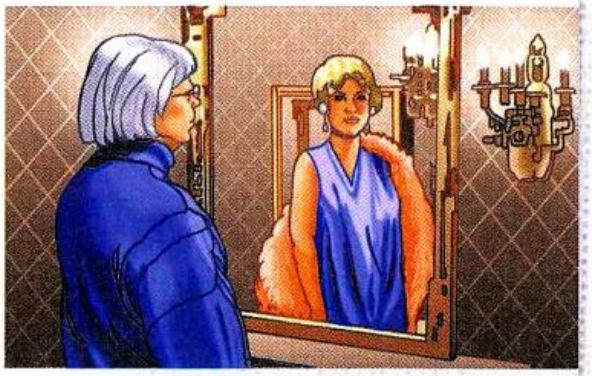
Reading 2:
Death do us part



DEATH DO US PART

By Robert Silverberg

1 It was her first, his seventh. She was thirty-two, he was three hundred and sixty-three: the good old May/December[1] number. They honeymooned in Venice, Nairobi, the Malaysia Pleasure Dome, and one of the posh[2] L-5 resorts, a shimmering glassy sphere with round-the-clock sunlight and waterfalls that tumbled like cascades of diamonds, and then they came home to his lovely sky-house suspended on tremulous guy-wires[3] a thousand meters above the Pacific to begin the everyday part of their life together.



2 Her friends couldn't get over it. "He's ten times your age!" they would exclaim. "How could you possibly want anybody that old?" Marilisa admitted that marrying Leo was more of a lark[4] for her than anything else. An impulsive thing: a sudden **impetuous** leap. Marriages weren't forever, after all—just thirty or forty years and then you moved along. But Leo was sweet and kind and actually

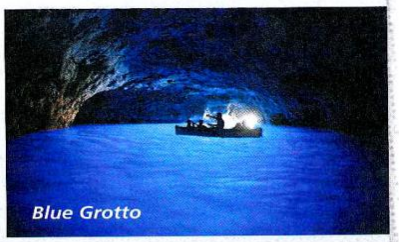
[1] **May/December:** term used to describe a romantic relationship where there is a big difference in the ages of the two people
[2] **posh:** expensive and used by rich people
[3] **tremulous guy-wires:** shaking cables (metal ropes)
[4] **lark:** something you do to amuse yourself or as a joke

quite sexy. And he had wanted her so much. He genuinely did seem to love her. Why should his age be an issue? He didn't appear to be any older than thirty-five or so. These days you could look as young as you like. Leo did his Process faithfully and **punctually**, twice each decade, and it kept him as dashing and **vigorous** as a boy.

3 There were little drawbacks, of course. Once upon a time, long, long ago, he had been a friend of Marilisa's great-grandmother: They might have even been lovers. She wasn't going to ask. Such things sometimes happened, and you simply had to work your way around them. And then also he had an ex-wife on the scene, Number Three, Katrin, two hundred and forty-seven years old and not looking a day over thirty. She was constantly hovering[5] about. Leo still had warm feelings for her. "A wonderfully dear woman, a good and loyal friend," he would say. "When you get to know her, you'll be as **fond of** her as I am." That one was hard, all right. What was almost as bad, he had children three times Marilisa's age and more. One of them—the next-to-youngest, Fyodor—had an **insufferable** and **presumptuous** way of winking[6] and sniggering[7] at her. "I want you to meet our father's newest toy," Fyodor said of her once, when yet another of Leo's centenarian sons, previously unsuspected by Marilisa, turned up. "We get to play with her when he's tired of her." Someday Marilisa was going to pay him back[8] for that.

4 Still and all, she had no serious complaints. Leo was an ideal first husband: wise, warm, loving, attentive, and generous. She felt nothing but the greatest tenderness for him. And then too he was so **immeasurably** experienced in the ways of the world. If being married to him was a little like being married to Abraham Lincoln or Augustus Caesar, well, so be it: They had been great men, and so was Leo. He was endlessly fascinating. He was like seven husbands rolled into one. She had no regrets, none at all, not really.

5 In the spring of eighty-seven they go to Capri for their first anniversary. Their hotel is a reconstructed Roman villa on the southern slope of Monte Tiberio: alabaster wall frescoed in black and red, a brilliantly colored mosaic of sea-creatures in the marble bathtub, a broad travertine terrace that looks out over the sea. They stand together in the darkness, staring at the **awesome** sparkle of the stars. A crescent moon slashes across the night. His arm is around her; her head rests against his breast. Though she is a tall woman, Marilisa is barely heart-high to him.


Blue Grotto

6 "Tomorrow at sunrise," he says, "we'll see the Blue Grotto.[9] And then in the afternoon we'll hike down below here to the Cave of the Mater Magna. I always get a shiver when I'm there. Thinking about the ancient islanders who worshipped their goddess under that cliff, somewhere back in the Pleistocene. Their rites and rituals, the offerings they made to her."

(continued on next page)

7 "Is that when you first came here?" she asks, keeping it light and sly. "Somewhere in the Pleistocene?"

8 "A little later than that, really. The Renaissance, I think it was. Leonardo and I traveled down together from Florence-"

9 "You and Leonardo, you were like *that*?"

10 "Like that, yes. But not like *that*, if you take my meaning."

11 "And Cosimo di'Medici. Another one from the good old days. Cosimo gave such great parties, right?"

12 "That was Lorenzo," he says. "Lorenzo the Magnificent, Cosimo's grandson. Much more fun than the old man. You would have adored him."

13 "I almost think you're serious when you talk like that."

14 "I'm always serious. Even when I'm not." His arm tightens around her. He leans forward and down, and buries a kiss in her thick dark hair. "I love you," he whispers.

15 "I love you," she says. "You're the best first husband a girl could want."

16 "You're the finest last wife a man could ever desire."

17 The words skewer[10] her. *Last* wife? Is he expecting to die in the next ten or twenty or thirty years? He is old—ancient—but nobody has any idea yet where the limits of the Process lie. Five hundred years? A thousand? Who can say? No one able to afford the treatments has died a natural death yet, in the four hundred years since the Process was invented. Why then does he speak so knowingly of her as his last wife? He may live long enough to have seven, ten, fifty wives after her.

18 Marilisa is silent a long while.

19 Then she asks him, quietly, uncertainly. "I don't understand why you said that."

20 "Said what?"

21 "The thing about my being your last wife."

22 He hesitates[11] a moment. "But why would I ever want another, now that I have you?"

23 "Am I so **utterly** perfect?"

24 "I love you."

25 "You loved Tedesca and Thane and Iavilda too," she says. "And Miaule and Katrin." She is counting on her fingers in the darkness. One wife is missing from the list. "And . . . Syantha. See, I know all their names. You must have loved them but the marriage ended anyway. They have to end. No matter how much you love a person, you can't keep a marriage going forever."

26 "How do you know that?"

27 "I just do. Everybody knows it."

28 "I would like this marriage never to end," he tells her. "I'd like it to go on and on and on. To continue to the end of time. Is that all right? Is such a sentiment[12] permissible, do you think?"

29 "What a romantic you are, Leo!"

30 "What else can I be but romantic, tonight? This place, the spring night, the moon, the stars, the sea, the fragrance of the flowers in the air. Our anniversary. I love you. Nothing will ever end for us. Nothing."

[5] **hovering:** staying in the same place especially because you are waiting for something
[6] **winking:** closing and opening one eye quickly, usually to show that you are joking, being friendly, or telling a secret
[7] **sniggering:** laughing quietly in a way that is not nice
[8] **pay (someone) back:** to do something unpleasant to someone as a punishment because that person has done something unpleasant to you
[9] **Blue Grotto:** a famous sea cove on the coast of the Italian island of Capri
[10] **skewer:** to hurt
[11] **hesitates:** pauses before doing or saying something because of uncertainty
[12] **sentiment:** an opinion or feeling that you have about something

31 "Can that really be so?" she asks.

32 "Of course. Forever and ever, as it is this moment."

33 She thinks from time to time of the men she will marry after she and Leo have gone their separate ways. For she knows that she will. Perhaps she'll stay with Leo for ten years, perhaps for fifty; but **ultimately**, despite all his assurances to the contrary,[13] one or the other of them will want to move on. No one stays married forever. Fifteen, twenty years, that's the usual. Sixty or seventy tops.

34 She'll marry a great athlete, next, she decides. And then a philosopher; and a political leader; and then stay single for a few decades, just to clear her palate, so to speak, an intermezzo[14] in her life, and when she wearies of that she'll find someone entirely different, a simple rugged man who likes to hunt, to work in the fields with his hands, and then a yachtsman with whom she'll sail the world, and then maybe when she's about three hundred she'll marry a boy, an innocent of eighteen or nineteen who hasn't even had his first Prep yet, and then—then a childish game. It always brings her to tears, eventually. The unknown husbands that wait for her in the misty future are vague **chilly** phantoms, fantasies, frightening, and inimical.[15] They are like swords that will inevitably fall between her and Leo, and she hates them for that.

35 The thought of having the same husband for all the vast expanse[16] of time that is the rest of her life, is a little disturbing—it gives her a sense of walls closing in, and closing and closing and closing—but the thought of leaving Leo is even worse. Or of his leaving her. Maybe she isn't truly in love with him, at any rate not as she imagines love at its deepest to be, but she is happy with him. She wants to stay with him. She can't really envision parting with him and moving on to someone else.

36 But of course she knows that she will. Everybody does in the fullness of time. *Everybody*.

37 Leo is a sand-painter. Sand-painting is his fifteenth or twentieth career. He has been an architect, an archeologist, a space-habitats developer, a professional gambler, an astronomer, and a number of other **disparate** and dazzling things. He reinvents himself every decade or two. That's as necessary to him as the Process itself. Making money is never an issue, since he lives on the compounding interest of investments set aside centuries ago. But the fresh challenge—ah, yes, always the fresh challenge.

38 Marilisa hasn't entered on any career path yet. It's much too soon. She is, after all, still in her first life, too young for the Process, merely in the Prep stage yet. Just a child, really. She has dabbled[17] in ceramics, written some poetry, composed a little music. Lately she has begun to think about studying economics or perhaps Spanish literature. No doubt her actual choice of a path to follow will be very far from any of these. But there's time to decide. Oh, is there ever time.

[13] **to the contrary:** showing that the opposite is true
[14] **intermezzo:** a short period of time between two longer periods
[15] **inimical:** harmful
[16] **vast expanse:** large, wide area
[17] **dabbled:** did something in a way that wasn't very serious

Main ideas

Write sentences about how different the views are. Compared to the present-day. Society views.

Marriage

Present-day society: *Marriage is seen as a lifelong commitment, although in some societies divorce is common. Some people may have more than one or two marriages.*

"Death Do Us Part": _____

_____

_____

Family structure / Relationships

Present-day society: *Three generations of a family living at the same time is common.*

"Death Do Us Part": _____

_____

_____

Careers

Present-day society: *Although many people have many different jobs throughout their lives, they don't frequently change careers.*

"Death Do Us Part": _____

_____

_____

Longevity

Present-day society: *The average lifespan varies around the world, but in developed countries the average lifespan is mid-seventies.*

"Death Do Us Part": _____

_____

_____

Details

Marilisa and Leo have different perspectives on the topics in the chart. Complete the chart with examples of their differing views.

TOPIC	MARILISA	LEO
MARRIAGE	First marriage Assumes she'll be married again to a variety of men	
FAMILY STRUCTURE / RELATIONSHIPS		
CAREERS		
LONGEVITY		

Practice time

Here is the link to your extra reading: https://forms.gle/PPwwpq8vgtvJ11Wm8

Reading 3: Justin Lebo

JUSTIN LEBO

BY PHILLIP HOOSE (from *It's Our World, Too*)

1 Something about the battered old bicycle at the garage sale[1] caught ten-year-old Justin Lebo's eye. What a wreck! It was like looking at a few big bones in the dust and trying to figure out what kind of dinosaur they had once belonged to.

2 It was a BMX bike with a twenty-inch frame. Its original color was buried beneath five or six coats of gunky paint. Everything—the grips, the pedals, the brakes, the seat, the spokes—was bent or broken, twisted and rusted. Justin stood back as if he were inspecting a painting for sale at an auction. Then he made his final judgment: perfect.

3 Justin talked the owner down to $6.50 and asked his mother, Diane, to help load the bike into the back of their car.

4 When he got it home, he wheeled the junker into the garage and showed it **proudly** to his father. "Will you help me fix it up?" he asked. Justin's hobby was bike racing, a **passion** the two of them shared. Their garage barely had room for the car anymore. It was more like a bike shop. Tires and frames hung from hooks on the ceiling, and bike wrenches dangled from the walls.

5 Now Justin and his father cleared out a work space in the garage and put the old junker up on a rack. They poured alcohol on the frame and rubbed until the old paint began to yield, layer by layer. They replaced the broken pedal, tightened down a new seat, and restored the grips. In about a week, it looked brand new.

6 Soon he forgot about the bike. But the very next week, he bought another junker at a yard sale[2] and fixed it up, too. After a while, it bothered him that he wasn't really using either bike. Then he realized that what he loved about the old bikes wasn't riding them: It was the **challenge** of making something new and useful out of something old and broken.

7 Justin wondered what he should do with them. They were just taking up space in the garage. He remembered that when he was younger, he used to live near a large brick building called the Kilbarchan Home for Boys. It was a place for boys whose parents couldn't care for them for one reason or another.

8 He found "Kilbarchan" in the phone book and called the director, who said the boys would be **thrilled** to get two bicycles. The next day when Justin and his mother unloaded the bikes at the home, two boys raced out to greet them. They leapt aboard the bikes and started tooling around the semicircular driveway, doing wheelies and pirouettes, laughing and shouting.

[1] **garage sale:** a sale of used furniture, clothes, toys, etc. that you no longer want, usually held in your garage

[2] **yard sale:** another phrase for garage sale

(continued on next page)

9 The Lebos watched them for a while, then started to climb into their car to go home. The boys cried after them, "Wait a minute! You forgot your bikes!" Justin explained that the bikes were for them to keep. "They were so happy." Justin remembers. "It was like they couldn't believe it. It made me feel good just to see them happy."

10 On the way home, Justin was silent. His mother assumed he was lost in a feeling of **satisfaction**. But he was thinking about what would happen once those bikes got wheeled inside and everybody saw them. How could all those kids decide who got the bikes? Two bikes could cause more trouble than they would solve. Actually they hadn't been that hard to build. It was fun. Maybe he could do more . . .

11 "Mom," Justin said as they turned onto their street, "I've got an idea. I'm going to make a bike for every boy at Kilbarchan for Christmas." Diane Lebo looked at Justin out of the corner of her eye. She had rarely seen him so **determined**.

12 When they got home, Justin called Kilbarchan to find out how many boys lived there. There were twenty-one. It was already June. He had six months to make nineteen bikes. That was almost a bike a week. Justin called the home back to tell them of his plan. "I could tell they didn't think I could do it," Justin remembers. "I knew I could."

13 Justin knew his best chance to build bikes was almost the way General Motors or Ford builds cars: in an assembly line. He figured it would take three or four junkers to produce enough parts to make one good bike. That meant sixty to eighty bikes. Where would he get them?

14 Garage sales seemed to be the only hope. It was June, and there would be garage sales all summer long. But even if he could find that many bikes, how could he ever pay for them? That was hundreds of dollars.

15 He went to his parents with a **proposal**. "When Justin was younger, say five or six," says his mother, "he used to give away some of his allowance[3] to help others in need. His father and I would **donate** a dollar for every dollar Justin donated. So he asked us if it could be like the old days, if we'd match every dollar he put into buying old bikes. We said yes."

16 Justin and his mother spent most of June and July hunting for cheap bikes at garage sales and thrift shops.[4] They would haul the bikes home, and Justin would start stripping them down in the yard.

17 But by the beginning of August, he had **managed** to make only ten bikes. Summer vacation was almost over, and school and homework would soon cut into his time. Garage sales would dry up when it got colder, and Justin was out of money. Still he was determined to find a way.

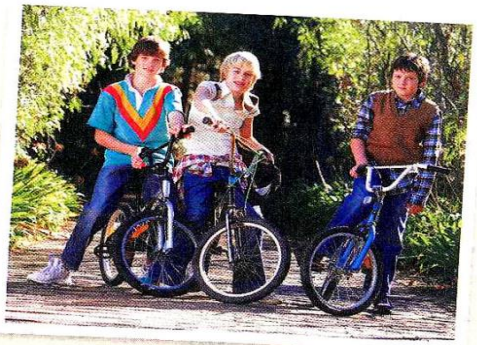
18 At the end of August, Justin got a break. A neighbor wrote a letter to the local newspaper describing Justin's project, and an editor thought it would make a good story. In her **admiring** article about a boy who was **devoting** his summer to help kids he didn't even know, she said Justin needed bikes and money, and she printed his home phone number.

19 Overnight, everything changed. "There must have been a hundred calls," Justin says. "People would call me up and ask me to come over and

[3] **allowance:** money you are given regularly or for a special reason

[4] **thrift shops:** stores that sell used goods, especially furniture, clothes, and toys, often in order to raise money for a charity

pick up their old bike. Or I'd be working in the garage, and a station wagon would pull up. The driver would leave a couple of bikes by the curb. It just snowballed.[5]"



20 The week before Christmas Justin delivered the last of the twenty-one bikes to Kilbarchan. Once again, the boys poured out of the home and leapt aboard the bikes, tearing around in the snow.

21 And once again, their joy **inspired** Justin. They reminded him how important bikes were to him. Wheels meant freedom. He thought about how much more the freedom to ride must mean to boys like these who had so little freedom in their lives. He decided to keep on building.

22 "First I made eleven bikes for the children in a foster home[6] my mother told me about. Then I made bikes for all the women in a battered women's shelter. Then I made ten little bikes and tricycles for children with AIDS. Then I made twenty-three bikes for the Paterson Housing Coalition."

23 In the four years since he started, Justin Lebo has made between 150 and 200 bikes and given them all away. He has been careful to leave time for his homework, his friends, his coin collection, his new interest in marine biology, and of course, his own bikes.

24 Reporters and interviewers have asked Justin Lebo the same question over and over: "Why do you do it?" The question seems to make him uncomfortable. It's as if they want him to say what a great person he is. Their stories always make him seem like a saint, which he knows he isn't. "Sure it's nice of me to make the bikes," he says, "because I don't have to. But I want to. In part, I do it for myself. I don't think you can ever really do anything to help anybody else if it doesn't make you happy."

25 "Once I overheard a kid who got one of my bikes say, 'A bike is like a book; it opens up a whole new world.' That's how I feel, too. It made me happy to know that kid felt that way. That's why I do it."

---

5 **snowballed:** got bigger quickly or got harder to control

6 **foster home:** a home where a child is taken care of for a period of time by someone who is not a parent or legal guardian

Main ideas:

Work with a partner. Read the statements and decide which three represent the main ideas of Reading One. Then discuss the reasons for your choices.

1. Justin paid $6.50 for the first bike he fixed up.
2. Justin needed to find a way to get a lot of used bikes.
3. Justin was able to fix up and donate hundreds of bikes because of the support of his parents and community.
4. Justin's hobby was bike racing.
5. Justin is a special boy because he likes to help others.
6. After the newspaper article, people called Justin and offered him their old bikes.

Details

The chart lists some benefits of doing community service. Complete the chart with examples of how Justin Lebo benefited from his experience.

THE BENEFITS OF COMMUNITY SERVICE	EXAMPLES OF JUSTIN LEBO
Encourages people to use their free time constructively	*Justin spent his free time in the summer making bicycles for the children at the Kilbarchan Home for Boys.*
Gives a sense of satisfaction; builds self-esteem	
Opens volunteers' eyes to the great variety of people in need by providing opportunities to meet new and different types of people	
One successful community service experience leads to performing other services	
Volunteers learn they can help solve real social problems and needs	
Helps people to find out who they are, what their interests are, and what they are good at	

Practice time

Here is the link to your extra reading:

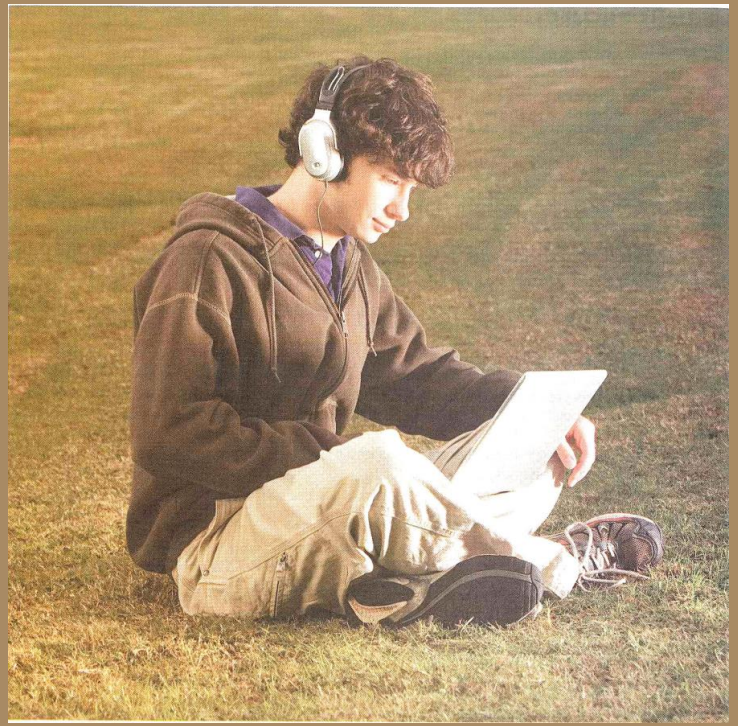
Lesson 4

Education

Technology

Reading 1

Teaching to the world
from central New Jersey



TEACHING TO THE WORLD FROM CENTRAL NEW JERSEY

By Mitchell Duneier

1 A few months ago, just as the campus of Princeton University had grown nearly silent after commencement, 40,000 students from 113 countries arrived here via the Internet to take a free course in introductory sociology. The noncredit Princeton offering came about through a collaboration between Coursera, a new venture in online learning, and 16 universities, including my own.

2 When my class was announced last spring, I was both excited and nervous. Unlike computer science and other subjects in which the answers are pretty much the same around the globe, sociology can be very different depending on the country that you come from. As letters and e-mail messages began arriving in **anticipation** of my course, I wondered how I, an American professor, could relate my subject to people I didn't know from so many different societies.

3 Would my lectures become yet another example of American ethnocentrism[3] and imperialism as I presented my sociological concepts like so many measuring sticks for the experiences of others around the world? Was it really possible, I asked myself, to provide quality education to tens of thousands of students in more than 100 countries at the same time? And in a way that would respond to the **diversity** of viewpoints represented from six continents?

4 My concerns grew deeper as I sat before the cold eye of the camera to record my first lecture. With nobody to ask me a question, or give me bored looks, or laugh at my jokes, I had no clues as to how the students might be responding. Staring into this void, it was hard for me to imagine that anyone was listening. Can we even call these "lectures" when there is no audience within the speaker's view? Aren't those interpersonal cues—those knowing nods and furrowed brows—that go

[3] **ethnocentrism:** based on the idea that your own race, nation, group, etc. is better than any other; used in order to show disapproval

from the audience to the professor as **crucial** to the definition of a lecture as the cues that go from the lecturer to the audience?

5 My opening discussion of C. Wright Mills's classic 1959 book, *The Sociological Imagination*, was a close reading of the text, in which I reviewed a key chapter line by line. I asked students to follow along in their own copies, as I do in the lecture hall. When I give this lecture on the Princeton campus, I usually receive a few penetrating questions. In this case, however, within a few hours of posting the online version, the course forums came alive with hundreds of comments and questions. Several days later there were thousands.

6 Although it was impossible for me to read even a fraction of the pages of students' comments as they engaged with one another, the software allowed me to take note of those that generated the most discussion. I was quickly able to see the **issues** that were most meaningful to my students.

7 In addition to the course lectures, I arranged live exchanges **via** a video chat room, in which six to eight students from around the world—some selected from the online class, others volunteers here at Princeton—participated with me in a seminar-style discussion of the readings while thousands of their online classmates listened in to the live stream or to recordings later. During these weekly sessions, I found that I was able to direct the discussion to issues that had been raised in the online postings.

8 Along with two Princeton students, our online seminar included university students from Nepal, Siberia, Iran, and Nigeria, a travel agent from Georgia, a civil servant from Singapore, and a fireman from Philadelphia. Their comments often revealed precisely how American sociology's **assumptions** about social life need to be **analyzed** and reconstructed in light of experiences elsewhere.

9 With so much volume, my audience became as visible to me as the students in a traditional lecture hall. This happened as I got to know them by sampling their comments on the forums and in the live, seminar-style discussions. As I developed a sense for them as people, I could imagine their nods and, increasingly, their critical questions. Within three weeks I had received more feedback on my sociological ideas than I had in a career of teaching, which **significantly** influenced each of my **subsequent** lectures and seminars.

10 Before the class began, I had played down this kind of teaching as inevitably a pale reflection of on-campus learning, both in terms of student-faculty interaction and the residential-college experience. Yet as I got to know some of my students, I came to feel that the difference was not of the sort I had imagined. For most of them, the choice was not between an online course and a traditional university. It was, as one student put it, "a choice between online class versus no class."

11 Nor had I imagined the **virtual** and real-time continuous interaction among the students. There were spontaneous and continuing in-person study groups in coffee shops in Katmandu and in pubs in London. Many people developed dialogues after following one another's posts on various subjects, while others got to know those with a common particular interest, such as racial differences in IQ, the prisoner abuses that took place at Abu Ghraib, or ethnocentrism—**all** topics covered in the lectures.

12 As one of hundreds who posted in the past few days wrote, "It has been an incredible experience for me, one that has not only taught me sociology, but the ways in which other cultures think, feel, and respond. I have many new 'friends' via this class. . . ." Another wrote, "It started as intellectual activity but

(continued on next page)

it's ending in an indescribable emotional relationship with all my classmates."

13 This is my cue. As I prepare to re-enter the lecture hall at Princeton this September and go back online in February, I am asking myself how I can translate the benefits of online technology to **enhance** the dialogue with and among my on-campus students, and between them and my online students around the globe. I had begun worrying about how I could bring the New Jersey campus experience to them; I ended by thinking about how to bring the world back to the classroom in Princeton.

Mitchell Duneier is a professor of sociology at Princeton University.

Main ideas

Reading One discusses professor Duneier's feelings and concerns before, during, and after his MOOC. Circle the sentence that best answers the question. Share your answers with a partner.

1. **Before:** What was Professor Duneier's biggest concern about teaching the online course?
   - **a.** No one would laugh at his jokes or be able to make eye contact with him.
   - **b.** It might not be possible to provide quality education to students from more than 100 countries.
   - **c.** Students wouldn't do the reading or participate in the forums because the course was free.
2. **During:** How did student participation affect Professor Duneier's feelings about his new course?
   - **a.** Professor Duneier was overwhelmed by the number of student comments and so wasn't sure what issues were important to the students.
   - **b.** Professor Duneier didn't know when students had a problem understanding him because of the lack of interpersonal cues.
   - **c.** Student feedback influenced the direction Professor Duneier took in subsequent video chats.
3. **After:** What was the most important conclusion that Professor Duneier drew about online teaching after teaching this course?
   - **a.** There were many benefits to online teaching that he would like to incorporate into his on-campus classes.
   - **b.** It was a pale reflection of on-campus learning.
   - **c.** For some students, the choice was an online class or no class at all.

Details

Read each statement. Decide if it is **T** (true) or **F** (false) according to the reading. Write the number of the paragraph that supports your answer. If the statement is false, change it to make it true. Discuss your answers with a partner.

T 1. Professor Duneier realized that teaching sociology to students from many different societies would not be as easy as teaching them computer science.
paragraph: 2

___ 2. Before the first class even had ended, it was obvious from the number of comments and questions that students were interested.
paragraph: _____

___ 3. The fact that Professor Duneier recorded his lectures in an empty classroom made it easy because no one would interrupt or distract him.
paragraph: _____

___ 4. Although it was impossible to answer all the student comments and questions, he did answer the majority of them.
paragraph: _____

___ 5. All the participants in the online seminar were Princeton students.
paragraph: _____

___ 6. Because the course was delivered over the Internet, Professor Duneier felt disconnected from his students.
paragraph: _____

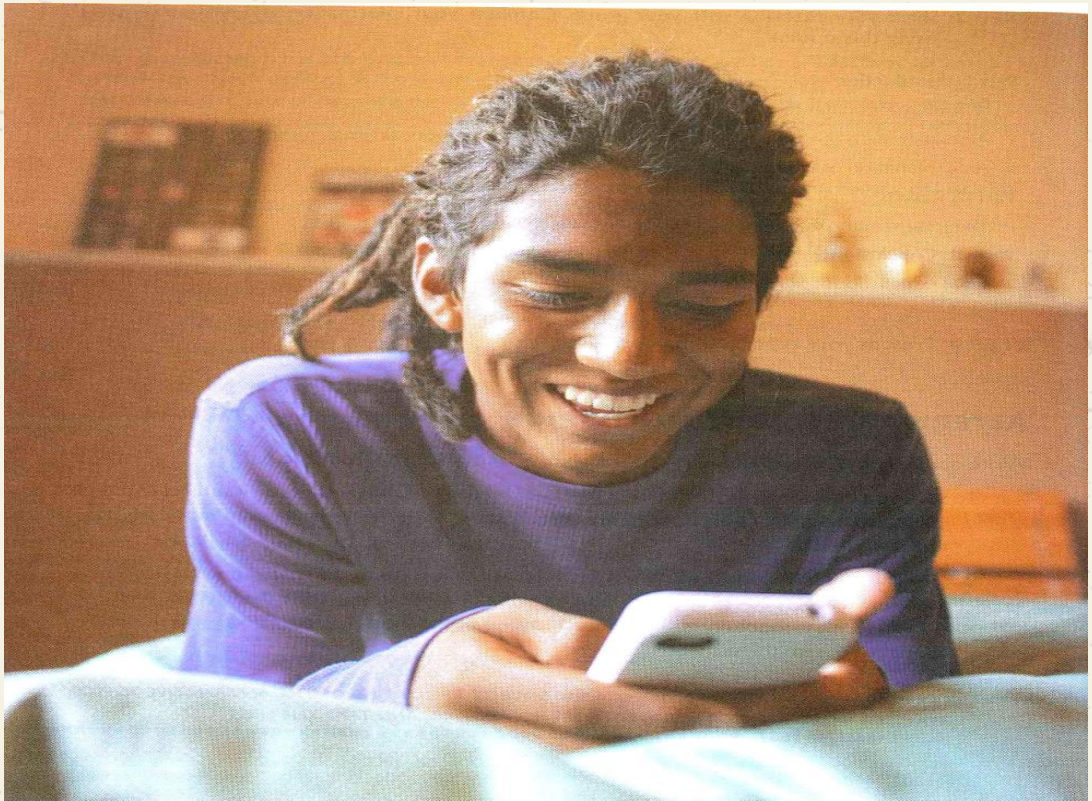
___ 7. Students in the class did not remain anonymous to each other.
paragraph: _____

___ 8. Professor Duneier's next online course will be in September.
paragraph: _____

Practice time

Here is the link to your extra reading: https://forms.gle/ZDaDrp1iK3Tvr9M2A

Reading 2: Addicted to your smartphone?



Addicted to Your Smartphone?

Here's What to Do. Why smartphones hook us in, plus tips on reclaiming your time and concentration

By Susan Davis

1 I'll admit it: I check my smartphone compulsively. And the more I use it, the more often the **urge** to look at it hits me.

2 In the orthodontist's office. Walking my kids to school. In meetings. Even while making breakfast. Sometimes it is in my hand before I even know what I'm searching for. Sometimes I tap the screen absentmindedly—looking at my e-mail, a local blogger, my calendar, and Twitter.

3 I'm not the only one struggling with this very modern compulsion. According to a 2012 survey by the Pew Research Center, 46% of all American adults now own a smartphone—up a whopping 25% from 2011.

4 And smartphone use can get very heavy. In a study of 1,600 managers and professionals, Leslie Perlow, PhD, the Konosuke Matsushita professor of leadership at the Harvard Business School, found that:

- 70% said they check their smartphone within an hour of getting up.
- 56% check their phone within an hour of going to sleep.

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- 48% check over the weekend, including on Friday and Saturday nights.
- 51% check continuously during vacation.
- 44% said they would experience "a great deal of **anxiety**" if they lost their phone and couldn't replace it for a week.

5 "The amount of time that people are spending with the new technology, the apparent preoccupation, raises the question 'why?'" says Peter DeLisi, academic dean of the information technology leadership program at Santa Clara University in California. "When you start seeing that people have to text when they're driving, even though they clearly know that they're endangering their lives and the lives of others, we really have to ask what is so compelling about this new medium?"

Hook or Habit?

6 Whether smartphones really "hook" users into **dependency** remains unclear.

7 But "we already know that the Internet and certain forms of computer use are addictive," says David Greenfield, PhD, a West Hartford, Conn., psychologist and author of *Virtual Addiction: Help for Netheads, Cyber Freaks, and Those Who Love Them*.

8 "And while we're not seeing actual smartphone addictions now," Greenfield says, "the potential is certainly there."

9 A true addiction entails a growing tolerance to a substance (think drugs or alcohol) so you need more to get "high," uncomfortable symptoms during **withdrawal**, and a harmful impact on your life, Greenfield says.

10 Computer technologies can be addictive, he says, because they're "psychoactive." That is, they alter mood and often **trigger** enjoyable feelings.

11 E-mail, in particular, gives us satisfaction due to what psychologists call "variable ratio reinforcement." That is, we never know when we'll get a satisfying e-mail, so we keep checking, over and over again. "It's like slot machines," Greenfield says. "We're seeking that pleasurable hit."

12 Smartphones, of course, allow us to seek rewards (including videos, Twitter feeds, and news updates, in addition to e-mail) anytime and anywhere. Is such behavior unhealthy?

13 "That really depends on whether it's disrupting your work or family life," Greenfield says.

14 Such a disruption could be small—like ignoring your friend over lunch to post a Facebook status about how much you're enjoying lunch with your friend.

15 Or it could be big—like tuning out a distressed spouse or colleagues in a meeting to check e-mail, or feeling increasingly stressed by the fact that everyone else seems to be on call 24/7, so perhaps we should be, too.

16 Other researchers are seeing clear signs of **dysfunction**, if not an "addiction."

17 According to a 2011 study published in the journal *Personal and Ubiquitous Computing*, people aren't addicted to smartphones themselves as much as they are addicted to "checking habits" that develop with phone use—including repeatedly (and very quickly) checking for news updates, e-mails, or social media connections.

18 That study found that certain environmental triggers—like being bored or listening to a lecture—trigger the habits. And while the average user checks his or her smartphone 35 times a day—for about 30 seconds each time, when the information rewards are greater (e.g., having contact info linked to the contact's whereabouts), users check even *more* often.

The Interrupted Life

19 Besides creating a compulsion, smartphones pose other dangers to our mental life, says Nicholas Carr, author of *The Shallows: What the Internet Is Doing to Our Brains*.

20 "The smartphone, through its small size, ease of use, proliferation of free or cheap apps, and constant connectivity, changes our relationship with computers in a way that goes well beyond what we experienced with laptops," he says. That's because people keep their smartphones near them "from the moment they wake up until the moment they go to bed," and throughout that time the **devices** provide an almost continuous stream of messages and alerts as well as easy access to a myriad[1] of compelling information sources.

21 "By design," he says, "it's an environment of almost constant interruptions and distractions. The smartphone, more than any other gadget,[2] steals from us the opportunity to maintain our attention, to engage in contemplation and reflection, or even to be alone with our thoughts."

22 Carr, who writes extensively in *The Shallows* about the way that computer technology in general may be **diminishing** our ability to concentrate and think deeply, does not have a smartphone.

23 "One thing my research made clear is that human beings have a deep, primitive desire to know everything that's going on around them," he says.

24 "That instinct probably helped us survive when we were cavemen and cavewomen. I'm sure one of the main reasons people tend to be so **compulsive** in their use of smartphones is that they can't stand the idea that there may be a new bit of information out there that they haven't seen. I know that I'm not strong enough to resist that **temptation**, so I've decided to shun[3] the device altogether."

(continued on next page)

Managing Your Smartphone Use

25 Can't give up your phone altogether? Experts suggest these steps to control your usage:

- **Be conscious** of the situations and emotions that make you want to check your phone. Is it boredom? Loneliness? Anxiety? Maybe something else would soothe you.
- **Be strong** when your phone beeps or rings. You don't always have to answer it. In fact, you can avoid temptation by turning off the alert signals.
- **Be disciplined** about not using your device in certain situations (such as when you're with children, driving, or in a meeting) or at certain hours (for instance, between 9 P.M. and 7 A.M.). "You'll be surprised and pleased to rediscover the pleasures of being in control of your attention," Carr says.

26 One group of business people at The Boston Group, a consulting firm, discovered just that when they participated in an experiment run by Perlow.

27 As described in her book, *Sleeping with Your Smartphone*, the group found that taking regular "predictable time off" (PTO) from their PDAs resulted in increased efficiency and collaboration, heightened job satisfaction, and better work-life balance.

28 Four years after her initial experiment, Perlow reports, 86% of the consulting staff in the firm's Northeast offices—including Boston, New York, and Washington, D.C.—were on teams engaged in similar PTO experiments.

29 To manage my own smartphone well, more smartly, I **weaned** myself **away from** it.

30 I started by not checking it for 15 minutes at a time, then 30, then 60 (unless I was dealing with an urgent situation).

31 I decided to avoid using the web browser on the smartphone unless I truly needed information (such as an address or phone number).

32 And I swore off using social media on it entirely. I also made a firm commitment to not text, e-mail, or surf the web on my smartphone while driving.

33 The result? Even after a few days of this self-discipline, I found that I was concentrating better, more aware of my surroundings, and more relaxed—and I was more aware of when I was looking for something specific, as opposed to just looking for some kind of connection.

Main ideas

Reading One is divided into four sections. Write one or two sentences that summarize each part of the article. Use your own words.

Part I: (*paragraphs 1–5*)
What are the signs of compulsive use of smartphones?

_____

_____

Part II: Hook or Habit? (*paragraphs 6–18*)
Is smartphone usage an addiction? Explain.

_____

_____

Part III: The Interrupted Life (*paragraphs 19–24*)
Explain how smartphones are a problem for our mental life.

_____

_____

Part IV: Managing Your Smartphone Use (*paragraphs 25–33*)
How can you control your usage?

_____

_____

Details

Circle the best answer according to the text.

1. People text while they are driving even though they know
   a. they might get a ticket.
   b. it is difficult to text and drive at the same time.
   c. they are putting their lives in danger.

2. Computer technologies can be considered addictive because
   a. they can change your mood and cause enjoyable feelings.
   b. they cause you to suffer withdrawal symptoms if you are not able to use them.
   c. they interfere with concentrating on more important activities.

3. Dr. Greenfield says that
   a. smartphone addiction is a reality because 44% of managers and professionals now experience anxiety about losing their smartphone.
   b. smartphone addiction is possible, but he hasn't seen it yet.
   c. there are currently many smartphone addicts.

4. Smartphone usage can be considered unhealthy if
   a. it is caused by "variable ratio reinforcement."
   b. you use it to work on the weekends.
   c. it disrupts your work or family life.

5. According to the journal *Personal and Ubiquitous Computing*, people aren't addicted to smartphones themselves, but rather to
   a. checking habits.
   b. social media.
   c. using them while listening to lectures.

6. According to the journal *Personal and Ubiquitous Computing*, checking habits include checking for all of the following except
   a. e-mails.
   b. GPS directions.
   c. news updates.

7. Nicholas Carr believes our relationship with smartphones is different from our relationship with computers, even laptops, for all the following reasons except that
   a. apps are free or cheap.
   b. we constantly have them with us.
   c. we can use them to access social media.

8. Carr believes that humans have a deep primitive desire to know everything that is going on around them. This instinct is/was especially helpful when
   a. checking social media.
   b. trying to survive in primitive situations.
   c. getting news updates.

Practice time

Here is the link to your extra reading:

Achievement test

Instructor's contact

Email:
hothinhuhufl@gmail.com