

English A: language and literature – Higher level – Paper 1
Anglais A : langue et littérature – Niveau supérieur – Épreuve 1
Inglés A: lengua y literatura – Nivel superior – Prueba 1

Monday 7 May 2018 (afternoon)
Lundi 7 mai 2018 (après-midi)
Lunes 7 de mayo de 2018 (tarde)

2 hours / 2 heures / 2 horas

Instructions to candidates

- Do not open this examination paper until instructed to do so.
- Question 1 consists of two texts for comparative analysis.
- Question 2 consists of two texts for comparative analysis.
- Choose either question 1 or question 2. Write one comparative textual analysis.
- The maximum mark for this examination paper is **[20 marks]**.

Instructions destinées aux candidats

- N'ouvrez pas cette épreuve avant d'y être autorisé(e).
- La question 1 comporte deux textes pour l'analyse comparative.
- La question 2 comporte deux textes pour l'analyse comparative.
- Choisissez soit la question 1, soit la question 2. Rédigez une analyse comparative de textes.
- Le nombre maximum de points pour cette épreuve d'examen est de **[20 points]**.

Instrucciones para los alumnos

- No abra esta prueba hasta que se lo autoricen.
- En la pregunta 1 hay dos textos para el análisis comparativo.
- En la pregunta 2 hay dos textos para el análisis comparativo.
- Elija la pregunta 1 o la pregunta 2. Escriba un análisis comparativo de los textos.
- La puntuación máxima para esta prueba de examen es **[20 puntos]**.

Choose either question 1 or question 2.

- 1. Analyse, compare and contrast the following two texts. Include comments on the similarities and differences between the texts and the significance of context, audience, purpose and formal and stylistic features.

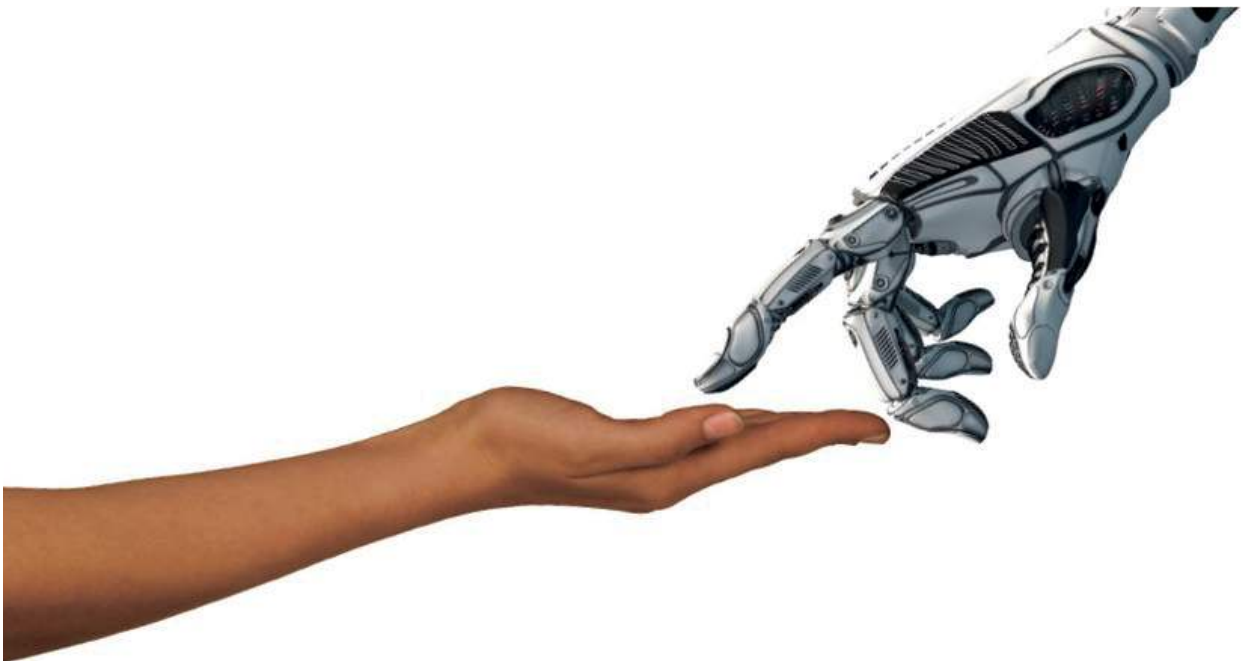
Text A

FEATURE ROBOTICS, SCIENCE & SOCIETY

For robots, artificial intelligence gets physical

To work with humans, machines need to sense the world around them

BY MEGHAN ROSEN 5:16PM, NOVEMBER 2, 2016



ROBOT AWAKENING By giving robots physical intelligence, researchers hope to build machines that can work alongside humans.

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In a high-ceilinged laboratory at Children’s National Health System in Washington, D.C., a gleaming white robot stitches up pig intestines.

- 5 The thin pink tissue dangles like a deflated balloon from a sturdy plastic loop. Two bulky cameras watch from above as the bot weaves green thread in and out, slowly sewing together two sections. Like an experienced human surgeon, the robot places each suture deftly, precisely — and with intelligence.

Or something close to it.

For robots, artificial intelligence means more than just “brains”. Sure, computers can learn how to recognize faces or beat humans in strategy games. But the body matters too. In humans, eyes and ears and skin pick up cues from the environment, like the glow of a campfire or the patter of falling raindrops. People use these cues to take action: to dodge a wayward spark or huddle close under an umbrella.

Part of intelligence is “walking around and picking things up and opening doors and stuff,” says Cornell computer scientist Bart Selman. It “has to do with our perception and our physical being”. For machines to function fully on their own, without humans calling the shots, getting physical is essential. Today’s robots aren’t there yet — not even close — but amping up¹ the senses could change that.

“If we’re going to have robots in the world, in our home, interacting with us and exploring the environment, they absolutely have to have sensing,” says Stanford roboticist Mark Cutkosky. He and a group of like-minded scientists are making sensors for robotic feet and fingers and skin — and are even helping robots learn how to use their bodies, like babies first grasping how to squeeze a parent’s finger.

The goal is to build robots that can make decisions based on what they’re sensing around them — robots that can gauge the force needed to push open a door or figure out how to step carefully on a slick sidewalk. Eventually, such robots could work like humans, perhaps even caring for the elderly.

Such machines of the future are a far cry from that shiny white surgery robot in the D.C. lab, essentially an arm atop a cart. But today’s fledgling² sensing robots mark the slow awakening of machines to the world around them, and themselves.

“By adding just a little bit of awareness to the machine,” says pediatric surgeon Peter Kim of the children’s hospital, “there’s a huge amount of benefit to gain.”

Meghan Rosen, Science News, November 2, 2016. Used with permission.

Delicate touch

A surgical robot (left, shown practicing on a silicone pad with the texture of human tissue) is guided by fluorescent dots marked by a researcher (top right). The bot uses a 3-D camera and near-infrared imaging plus preprogrammed surgical knowledge to map out its suturing plan (bottom right — blue dots show stitches, green dots are knots and white dots are the researcher’s fluorescent marks).

RYAN DECKER/CHILDREN'S NATL. HEALTH SYST.; BOTH ON RIGHT: AZAD SHADEMAN ET AL./SCIENCE TRANSL. MED. 2016

Images in sidebar:

Supervised autonomous robotic soft tissue surgery, Azad Shademan, Ryan S. Decker, Jusin D. Opfermann, Axel Krieger and Peter C. W. Kim, Sheikh Zayed Institute for Pediatric Surgical Innovation, Children’s National Health System, 111 Michigan Avenue Northwest, Washington, DC 20010, USA.

Header image:

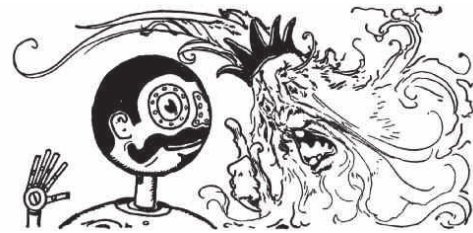
cherezoff/Shutterstock
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¹ amping up: increasing the power or force

² fledgling: emergent

Text B

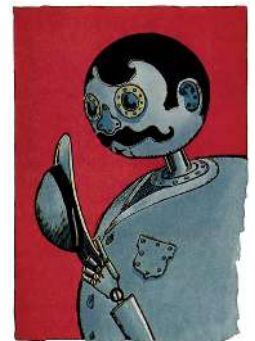
TIKTOK AND THE NOME KING



HE Nome¹ King was unpleasantly angry. He had carelessly bitten his tongue at breakfast and it still hurt; so he roared and raved and stamped around in his underground palace in a way that rendered him very disagreeable.

5 It so happened that on this unfortunate day Tiktok, the Clockwork Man, visited the Nome King to ask a favor. Tiktok lived in the Land of Oz, and although he was an active and important person, he was made entirely of metal. Machinery within him, something like the works of a clock, made him move; other machinery made him talk; still other machinery made him think.

Although so cleverly constructed, the Clockwork Man was far from perfect. Three separate keys wound up his motion machinery, his speech works, and his thoughts. One or more of these contrivances was likely to run down at a critical moment, leaving poor Tiktok helpless. Also some of his parts were wearing out, through much use, and just now his thought machinery needed repair. The skillful little Wizard of Oz had tinkered with Tiktok's thoughts without being able to get them properly regulated, so he had advised the
15 Clockwork Man to go to the Nome King and secure a new set of springs, which would render his thoughts more elastic and responsive.



“Be careful what you say to the Nome King,” warned the Wizard. “He has a bad temper and the least little thing makes him angry.”
Tiktok promised, and the Wizard wound his machinery and set him walking in the direction of
20 the Nome King's dominions, just across the desert from the Land of Oz. He ran down just as he reached the entrance to the underground palace, and there Kaliko, the Nome King's Chief Steward, found him and wound him up again.
“I want to see the King,” said Tiktok, in his jerky voice.
“Well,” remarked Kaliko, “it may be safe for a cast-iron person like you to face his Majesty this
25 morning; but you must announce yourself, for should I show my face inside the jewel-studded cavern where the King is now raving, I'd soon look like a dish of mashed potatoes, and be of no further use to anyone.”

“I'm not a-fraid,” said Tiktok.
“Then walk in and make yourself at home,” answered Kaliko, and threw open
30 the door of the King's cavern.



Tiktok promptly walked in and faced the astonished Nome King, to whom he said: “Good morn-ing. I want two new steel springs for my thought-works and a new cog-wheel for my speech-pro-du-cer. How a-bout it, your Maj-es-ty?”
The Nome King growled a menacing growl and his eyes were red with rage.
35 “How dare you enter my presence?” he shouted.
“I dare an-y-thing,” said Tiktok. “I'm not a-fraid of a fat Nome.”

This was true, yet an unwise speech. Had Tiktok's thoughts been in good working order he would have said something else. The angry Nome King quickly caught up his heavy mace² and hurled it straight at Tiktok. When it struck the metal man's breast, the force of the blow burst the bolts which held the plates of his body together and they clattered to the floor in a score of pieces. Hundreds and hundreds of wheels, pins, cogs and springs filled the air like a cloud and then rattled like hail upon the floor. Where Tiktok had stood was now only a scrap-heap and the Nome King was so amazed by the terrible effect of his blow that he stared in wonder.



Extract from *The Little Wizard Stories of Oz*³, by L. Frank Baum (1913)

¹ Nome: simplified spelling of Gnome

² mace: a monarch's ceremonial weapon symbolizing authority

³ The Little Wizard Stories of Oz: collection of children's stories

- 2. Analyse, compare and contrast the following two texts. Include comments on the similarities and differences between the texts and the significance of context, audience, purpose and formal and stylistic features.

Text C

The screenshot shows the top portion of a news article. At the top, the title 'High Country News' is displayed in a large, serif font, with the subtitle 'THE IMPORTANT ISSUES AND STORIES THAT DEFINE THE AMERICAN WEST' underneath it. Below this is a dark horizontal bar with the text 'ENERGY & INDUSTRY' in white. The main title of the article, 'The Silence of the Bees', is in a large, bold, sans-serif font. Below the title is a subtitle in italics: 'The perilous existence of a migratory beekeeper amid a great bee die-off'. At the bottom of the header section, there is a line with the author's name 'Hannah Nordhaus', the date 'March 19, 2007', and the text 'From the print edition'. To the right of this line are two buttons: 'PRINT' and 'SHARE'.

By the time John Miller realized just how many bees were dying, the almonds were in bloom and there was nothing to be done. It was February 2005, and the hives should have been singing with activity, plump brown honeybees working doggedly to carry pollen from blossom to blossom. Instead they were wandering in drunken circles at the base of the hive doors, wingless, desiccated, sluggish. Miller is accustomed to death on a large scale. Even when things are going well, a hive can lose 1,000 bees a day. In a matter of weeks, Miller lost almost half of his 13,000 hives – around 300 million bees.

When it happened, Miller was in California’s Central Valley, where each February, when the almond trees burst into extravagant pink-and-white bloom, hundreds of beekeepers descend with billions of bees. More than 580,000 acres of almonds flower simultaneously there, and wild pollinators such as bumblebees, beetles, bats and wasps simply cannot transport enough pollen from tree to tree. Instead, almond growers depend on traveling beekeepers who, like retirees, winter in warm places such as California and Florida, and head north to the Dakotas in the summer, where fields of alfalfa and clover produce the most coveted honey.

This annual bee migration isn’t just a curiosity; it’s the glue that holds much of modern agriculture together. Without the bees’ pollination services, California’s almond trees – the state’s top export crop – would produce 40 pounds of almonds per acre; with bees, they can generate 2,400 pounds. Honeybees provide the same service for more than 100 other crops, from lettuce to cranberries to oranges to canola, up and down the West Coast.

20 Miller likes to call the annual pilgrimage of the beekeepers the “native migrant tour,” and he
likes to call himself the tour’s “padrone¹”. He is not the biggest beekeeper in the United States,
nor is he the most politically connected – South Dakota’s Richard Adee, with his 70,000 hives
wins that distinction. But Miller does, like the gentle, dark Carniolan bees he tends, have
impeccable breeding. His apian² pedigree dates back to 1894, when his great-grandfather,
25 a farmer named Nephi Ephraim Miller, traded a few bushels of oats for seven boxes of bees.
Nephi found he had a talent for beekeeping, and in 1907, he traveled from Utah to California
to learn more efficient ways to process his swelling supplies of beeswax. While there, he
noticed that California bees gathered nectar long after those in Utah had huddled in for winter.
It occurred to him that if he shipped his bees somewhere warm in the cold months, he might
30 halve his winter losses and double his honey production. This innovation paved the way for
migratory beekeeping, which permitted the harvest of previously inconceivable amounts of
honey. Nephi Miller was the first to enlist rail cars for long distance transport, and in only a few
years he produced the first million-pound crop of honey, brought beekeeping into the industrial
age and inspired generations of beekeepers to follow suit. He was, in short, the Henry Ford³ of
35 the apiaries.

Today, some elements of a commercial beekeeper’s life remain the same. John Miller’s bees
ply some of the same fields that hosted his great-grandfather’s hives. He sells his honey on
a handshake to the same processors his grandfather used and competes with the sons of the
same men his father vied against. He spends 300 days a year with his bees and gets stung
40 almost every day, as many as 50 times on a bad day. Just the same, he counts bees among
his most reliable companions. “I understand bees,” he says, “I don’t understand people very
well.”

Recently however, even the simple task of understanding has become more difficult. The
beekeeper’s biggest enemy in recent years has been a miniature, blood-red arachnid called the
45 varroa mite. A remarkably adaptive, ticklike creature, the mite burrows into the unborn brood
and adults alike, feeding, as a tick does, on the bee’s body fluids. It is, said Miller, a sinister
predation that slowly saps the strength and vigor from a hive, either killing the brood outright or
causing deformities that weaken adult bees and make them more susceptible to viruses. And
this mite is – besides labor, pasture, honey prices, pollination prices, bacteria, fungi, unpleasant
50 neighbors and other invading insects – what beekeepers think most about these days. “This is
going to be the challenge of my career, there is no question about that. My grandfather never
heard of it; my dad was barely aware of it; it occupies much of my problem-solving time. This
varroa mite,” said Miller, “swaggers like a colossus⁴ across beekeeping in North America.”

Adapted from an article in the magazine of *High Country News*⁵ (March 19 2007)

Text: © Hannah Nordhaus

¹ padrone: master

² apian: relating to bees

³ Henry Ford: American industrialist who was the first to mass produce automobiles

⁴ colossus: giant

⁵ High Country News: print and online magazine that covers the important issues
and stories that define the American West

Text D



HOME ACT ABOUT DONATE



Join the generation that saves our bees



Save Britain's bees. Donate to get your Bee Saver Kit now

Our bees are dying out fast and a huge reason for this is the loss of their natural habitat. They've lost 97% of their grassland habitats in the past 60 years. But disaster can be averted.

Right now, people are working together to help create bee-friendly spaces all over the country - and you can too.

Simply make a donation to Friends of the Earth today and we'll send you a Bee Saver Kit, packed with everything you need to fight for our buzzy little friends.



[Make a donation](#) ↓

What's in the kit?

A beautiful pack of wildflower seeds and simple information for you to easily create your own bee haven. These also make a great gift for a friend.



Bee guide

Learn how you can save bees where you live.



British wildflower seeds

Grow bee food.



Bee ID

See which species of bees are visiting you.



Garden planner

Find flowers bees love.

...all wrapped up in a handy Bee Cause folder to keep everything organised.

Why bees matter

Bees pollinate flowers, plants and crops that support other species (including humans). Without bees, our economy and the future wellbeing of our children and grandchildren would be at risk.

That's why it's so worrying that 20 bee species have become extinct in the UK since 1900 and a further 35 are on the threatened species list.

Three reasons Britain's bees need your help today:

- The loss of habitat is the most pressing problem facing British bees: 97% of our vital grasslands have been lost in the past 60 years.
- Bees pollinate 75% of our main food crops worldwide, including some of our favourite produce like apples, strawberries and tomatoes.
- Scientists estimate that it would cost over £1.8 billion every single year to pollinate UK crops by hand.



How we're helping

Planting new wildflower spaces to provide food and shelter.

Educating young people about the importance of bees.

Coordinating the efforts of Britain's Bee Savers.

The bees need YOU

We can't do this alone. Please donate £15 today to get your Bee Saver Kit. Your donation will help to fund research, educate people and mobilise more Bee Savers like you to carpet the country in wild flowers.



Order by December 19th to ensure delivery by Christmas

- 1 Choose amount
- 2 Your details
- 3 Payment details



I will donate:

£ 15

I'd like a bee saver kit

Step 2: Your details →

Adapted from the Bee Cause Appeal from the Friends of the Earth website (2016)