

MESTRADO EM CIÊNCIAS DA SAÚDE 2013

Prova de Inglês

Sexta feira dia 18 de janeiro de 2013

08h00 às 11h00

PART 1

Answer questions 1-6 with reference to Text 1. There is one and only one correct answer to each question.

Q1. The title of the article tells us that it is:

- A. about the process of getting older
- B. about dating
- C. out of date
- D. about discrimination against older people

Q2. Which of the following statements is true according to Paragraph 1?

- A. Virgin blood can be used to stave off the ageing process
- B. Nowadays, human beings have longer lives than at any other time in history
- C. There is good reason to believe that people will soon be able to live forever
- D. There is one and only one reason why human longevity is on the increase

Q3. The word “hitting” at the beginning of Paragraph 2 could be replaced by which of the following without altering the meaning?

- A. Reaching
- B. Smiting
- C. Falling short of
- D. Whacking

Q4. According to Paragraph 2, which of the following pairs of statements are both true?

- A. (i) 100 years ago a major breakthrough was achieved in combating ageing
(ii) Supercentenarians are people aged 110 or over
- B. (i) in the past not many people lived to be 100
(ii) people aged over 110 should be excluded from studies of ageing
- C. (i) in the past people believed milestones had the power to preserve their health
(ii) people aged over 110 are a danger to the gene pool transmitted to future generations
- D. (i) in the past not many people lived to be 100
(ii) it might be more useful for those conducting research into ageing to confine their studies to those aged 110 and more

Q5. Which two ways of increasing longevity are mentioned in Paragraph 3?

- A. Dieting AND bringing stem cells back to life using electrical power
- B. Putting strict limits on food intake AND treatment using stem cells
- C. Eating a healthy balanced diet AND regenerating the stems of cells
- D. Regularly cleaning the gut AND keeping an open mind

Q6. What do you understand by the term 'slippery concept' in Paragraph 4?

- A. A concept that cannot be precisely defined because it differs from one individual to another
- B. A concept that is dangerous to work with and which should be avoided
- C. An erroneous concept that may give rise to misleading results
- D. A concept developed by Eva Kahana that the author of the present article does not agree with

TEXT 1

AGEING

from Nature Outlook 6 December 2012, Vol. 492, Issue No. 7427

1. Ageing is inevitable. Yet for centuries people have tried to slow or stop it, from bathing in the blood of virgin girls to concocting an elixir of life. These days, anti-ageing research is on a more scientific footing. And while we are no closer to finding the fountain of youth, humans — for a variety of reasons — are living longer than ever before.
2. Hitting the biologically arbitrary 100-year milestone used to be the preserve of the lucky few, who would often reach it in rude health. In theory, studying these centenarians might reveal the secrets of healthy ageing. But as life expectancy increases, more people are reaching their eleventh decade, muddying the gene pool. Might more valuable data be gleaned from the supercentenarians who reach 110?
3. Scientific efforts to extend lifespan are progressing on several fronts. A short-lived species can evolve into a long-lived one, and researchers are keen to find out how. Studies in other species have already shown that a severely restricted diet can add years of healthy living. Diet affects ageing in humans too — how our food influences our gut microbes, and how they in turn affect our health and longevity, is under investigation. Another line of enquiry focuses on harnessing the regenerative powers of stem cells.
4. But what does healthy ageing mean? Sociologist Eva Kahana talks about this “slippery concept”, which she says is different for each individual. With the threat of Alzheimer's disease looming large, there is a lack of data on how the brain changes over time — a deficit that a new long-term study aims to correct. In the meantime, for those of us who need a little help in our later years, new technologies can support, predict and possibly prevent some of the worst health problems associated with ageing.

PART 2

Answer questions 7-13 with reference to Text 2. There is one and only one correct answer to each question.

Q7. The Finch Report is

- A. A special edition of the journal paying homage to the work of Janet Finch
- B. A committee put together by Janet Finch to investigate the funding of research in the UK
- C. An in-depth analysis of the social and economic problems facing modern Britain
- D. An official British report looking into the question of open source academic literature

Q8. What is the transition referred to in the first sentence of Paragraph 3?

- A. A move from physical collections in libraries to online access
- B. A shift of mood regarding the ethics of open source online materials
- C. A rapid decline in the quality of the majority of academic research
- D. A transition from libraries paying for journals to researchers themselves and funding councils paying to publish articles

Q9. Paragraph 5 suggests that:

- A. The repositories of British universities are understaffed
- B. arXiv is an extremely sophisticated server
- C. 40% of UK libraries produce their own research papers
- D. It should be possible to store and process raw data very cheaply

Q10. According to Paragraph 6, how much money does the UK government allocate for higher education research?

- A. \$2,260
- B. £175 million
- C. Over £5 bn
- D. 100.000

Q11. In Paragraph 7 it is argued that:

- A. Publishers are famous for their openness
- B. Publishers of journals make huge profits for their investors that is not used to further research
- C. Intellectual activity can reduce publishing costs
- D. The public tends to believe that publishers are out only to make a profit and add little of value

Q12. Which of the following describes the trend reported in Paragraph 8?

- A. The quantity of articles published by academics has gone up, while funding for libraries has dropped
- B. The number of journals produced has declined and therefore funds for libraries have been cut off
- C. The quality of published articles has declined so much that libraries can save money by cancelling their subscriptions
- D. A number of academic publishers are calling for more funding for libraries.

Q13. In the title of this article:

- A. Openness' is a noun and 'costs' is a verb
- B. Openness' is a verb and 'costs' is a noun
- C. Openness' and 'costs' are both nouns
- D. Openness' and 'costs' are both verbs

TEXT 2

Openness costs

from Nature Volume 486 28 June 2012

Two reports highlight key aspects of the global trend towards open access to research results: who will pay, and how much, to supply what to whom?

1. Britain has become involved in something of a national debate recently over access to the research literature. And within the past week, two reports have appeared that will be relevant to researchers everywhere. The Royal Society published an analysis of openness in scientific data. And a committee set up by the UK government reported on how access could be enhanced, and how policy-makers could promote a gradual shift towards publishing research papers in journals that allow or require authors to pay article publishing charges (APCs) up front. The published paper would then be freely available to all from the moment of publication. That is a shift that Nature in principle supports.
2. The UK government's report, widely referred to as the Finch report after Janet Finch, who chaired the committee that delivered it, examines in depth the issues facing the United Kingdom. The country's funding structure in principle enables it more readily than many to shift some of the funds currently spent on university library subscriptions to a stream for APCs partly funded by research funding councils.
3. The report is also timely in an international context, because funders elsewhere are thinking about this transition. All are aware of the complexities that Finch highlights, and in practice it may take several years for progress to be made towards mandated open access. But the mood to make the shift is strong.
4. A key issue is the cost of publishing, and here the parallels between the Finch report and the Royal Society report are striking. Both make the point that scientific output, whether research papers or research data, needs to be rendered usable, and that the costs of curation, hosting, editing and enrichment with metadata, and the continual renewal of such activities, must all be met.
5. In its advocacy of open data, the Royal Society report does not estimate potential costs but provides examples of their likely scale. The preprint server arXiv, which does little more than host papers sent to it in raw form, requires six full-time staff. The Worldwide Protein Databank and the UK Data Archive each require a multi-million-dollar budget and around 65 full-time staff. (By acute contrast, a survey of UK universities revealed that they deploy on average 1.4 full-time staff to run their institutional repositories, and that only 40% of such repositories receive research data.)
6. The Finch report's attention to national financial models provides an important component for debate. The report models (albeit with highly uncertain assumptions) scenarios in a transition that includes both subscriptions and author-paid open access, also taking into account assumed international shifts in policy. UK researchers publish well over 100,000 articles a year. In one example, assuming that 50% of these are published fully open access at an average APC of £1,450 (US\$2,260), the transition would be cost-neutral to the United Kingdom. Under more pessimistic assumptions about international uptake, and if the average APC were £2,200, the additional cost to the UK higher-education sector is estimated at £70 million, in a current annual expenditure on journals of £175 million in a research budget of more than £5 billion. (Papers published in highly selective journals such as Nature, whose costs would point towards

much higher APCs, would represent a small proportion of the national output.)

7. Publishers in such an environment will need all the more to demonstrate that they add value to the research process. This sits alongside their need to deliver a reasonable profit—whether to fund learned-society activities or to reduce their publishing charges (the aim of the Public Library of Science) or, like many suppliers of services and equipment to researchers, to deliver a return to their investors. The perception of publishers as profiteers is strong, and understanding of the value they add is weak. Not noted for their transparency, publishers will have to work hard to develop trust amid a fundamental shift in their customer base.
8. The transition poses a particular challenge to universities. The Finch report rightly concludes that universities will need to set up dedicated funds for APCs. Issues of principle and practice in the deployment of such funds will take time to become established, especially in highly decentralized universities. As the number of papers published by their researchers has increased over the past few years, so the proportion of university funds devoted to libraries has declined. And yet, as the Royal Society report clearly demonstrates, the information obligations of these institutions, both internal and external, can only grow.

PART 3

Answer questions 14-20 with reference to Text 3. There is one and only one correct answer to each question.

Q14. The competition in Austria mentioned in the first paragraph is used by the author to:

- A. Demonstrate why jargon is important and not to be feared
- B. Exemplify the negative attitude regarding jargon held by people who write about science
- C. Characterized different types of science jargon
- D. Indicate that the article as a whole is intended for children

Q15. Which of the following would be an example of the kind of academic jargon the author disapproves of in Paragraph 3?

- A. Needless passive phrasing
- B. E. Coli may cause serious illness
- C. Jones et al. report findings similar to those of the present study
- D. Stars are often studied by astronomers

Q16. Why, in the author's opinion, is a distinction between the terms 'photometry' and 'spectrometry' necessary?

- A. Because spectrometry has recently been superseded by photometry
- B. Because different instruments are used
- C. Because one measures how intense the light is, while the other investigates how light is related to its source
- D. Because it is bad style to repeat words

Q17. What does the author mean by 'hack away at' in Paragraph 7?

- A. plagiarize
- B. replace
- C. cut and change
- D. ignore

Q18. The word 'perk' at the beginning of Paragraph 8 could be replaced by which of the following without altering the meaning?

- A. gift
- B. advantage
- C. bias
- D. rise

Q19. The author's main argument is that:

- A. jargon is necessary to enhance the prestige of authors and researchers
- B. jargon is necessary because of the complexity of the world that science studies
- C. jargon can and should in most cases be replaced by more colloquial terms
- D. jargon often fails to accurately reflect some aspects of the natural world

Q20. Which one of the following terms used in the text is NOT an example of jargon?

- A. credit default swap
- B. pyrolysis
- C. tranche
- D. flame

TEXT 3

Writers should not fear jargon

from *Nature* Volume 487, 26 July 2012

1. Who needs jargon? Last month a physics PhD student at the University of Innsbruck, Austria, won a competition to explain the concept of a flame in words that an 11-year-old could understand. Ben Ames, the winner, made a 7.5-minute video, which introduced words such as 'oxidation' and 'pyrolysis', only to parody them.
2. The very premise of this contest speaks to the aversion we science writers have for jargon. Many seem to assume that the pompous, sterile language of scientific literature has been designed to prevent our understanding it. Reading the stuff seems a kind of sadistic chore. Translating it? Unspeakable. So you can imagine the unpopularity of my belief that jargon is not only integral to scientific discourse but also has a place in public discussion.
3. Certainly, there is a lot in academic writing that I really can't defend — needless passive phrasing, for instance — but I also think a flip rejection of jargon reflects a greater hostility towards difficult language that pervades modern culture.
4. When faced with any jargon — scientific, business-speak, legalese — people tend to presume that every term could be substituted with something more colloquial. At first, it might seem unnecessary for economists to use the French word 'tranche' instead of 'layer', 'slice' or 'cut'. But common synonyms are problematic because they can be swapped and easily confused for each other.
5. Specialized terms capture the complexity and specificity of scientific concepts. Consider astronomy, in which both 'photometry' and 'spectroscopy' denote techniques that could be described in a jargon-free way as 'methods of studying light'.
6. Yet photometry is the measurement of light's intensity and spectroscopy is the study of its relationship to its source. Both are complex, important and highly specific techniques. No other words in the English language encapsulate their meaning quite as well, and if they are dismissed as jargon, then that meaning is lost.
7. Scientific literature abounds with distinctions that can seem pedantic. Consider the 'intrinsically photosensitive retinal ganglion cell' — or 'ipRGC'. The term refers to a specific type of neuron located in the eye, and although the phrase is no fun to parse, every word in it is important. A 'ganglion', loosely defined, is a mass of tissue, often found in the eye, so 'cell' refers to a specific part of that tissue. Not all ganglia are found in the retina, thus 'retinal' is justified. And not all retinal ganglia are 'intrinsically photosensitive', so that stays, too. This is perhaps the hardest truth for the more idealistic science writers to swallow. It would take paragraphs of explanation to make all of the other scientific distinctions contained in the term 'ipRGC'. Many science writers would hack away at the term (they call this process 'distilling'), finally calling it, perhaps, a 'special kind of ganglion' or a 'neuron located in the eye'. Such wording is easier to understand but it does not present the whole truth. I am not arguing that science writers should always use jargon, but I do want to point out what can be lost when they do not.
8. The truth tends to be complicated, and here jargon offers its most obvious perk: compression. There is emotional compression in much writing, perhaps best seen in this (perhaps apocryphal) work by Ernest Hemingway: "For sale: baby shoes, never worn." Technical writers use jargon to compress information. A reluctance to use and engage with it can have serious consequences. Consider terms such as 'credit default swap' —

there is a whole backwards school of thought that suggests that these terms were designed simply to confuse and bore people into apathy and inaction. To me, this seems like an oblique justification for not caring enough, and highlights a general reluctance to labour for meaning.

9. Jargon requires work from a general readership. But it also requires work from those who use it. Organic and physical chemists speak entirely different languages, as do extragalactic and stellar astronomers, and glaciologists and hydrologists. These linguistic divisions are not created out of the desire to alienate with lofty and overcomplicated language, they are a natural consequence of getting at the unthinkable complexity of the natural universe. To this purpose, jargon is a necessity, as is the labour required to understand it.
10. Other words are just as labour intensive as jargon. It takes real work to understand the meanings of words such as 'portentous' and 'pretentious' or 'voracious' and 'veracious'; or to make the small but meaningful distinction between 'impel' and 'compel'.
11. I find it troubling that the same antipathy that some writers express towards jargon has taken root in the public's general attitude towards erudite language. I submit that this is no coincidence. People seem to resent not just specialized language, but any language that requires a large degree of labour to understand, appreciate and use. When hearing someone complaining of having to consult a dictionary — especially when that consultation does not even involve moving from the computer in front of them — I am overcome with the desire to grab that person's lapels and shake them until their teeth rattle. Why are people so unwilling to work for the pleasures and insights that language harbours? When writers avoid jargon unquestioningly, readers start to think that it serves no purpose. The world increases in complexity every day, and we should not let shrink our capacity to describe it.

PROVA DE INGLÊS

Sexta feira dia 18 de janeiro de 2013

08h00 às 11h00

MESTRADO EM CIÊNCIAS DA SAÚDE 2013

Nome do candidato: _____

RG do candidato: _____

CPF do candidato: _____

Question	Answer				Question	Answer			
1	A	B	C	D	11	A	B	C	D
2	A	B	C	D	12	A	B	C	D
3	A	B	C	D	13	A	B	C	D
4	A	B	C	D	14	A	B	C	D
5	A	B	C	D	15	A	B	C	D
6	A	B	C	D	16	A	B	C	D
7	A	B	C	D	17	A	B	C	D
8	A	B	C	D	18	A	B	C	D
9	A	B	C	D	19	A	B	C	D
10	A	B	C	D	20	A	B	C	D