

PAPER 1

READING

GENERAL DESCRIPTION

Paper format	The paper contains four parts, with a range of texts and accompanying comprehension tasks. A text may consist of several short pieces.
Timing	1 hour 15 minutes.
No. of parts	4.
No. of questions	Approximately 45.
Task types	Multiple matching, multiple-choice, gapped text.
Text types	From the following: newspapers, magazines, journals, non-literary books, leaflets, brochures, etc.
Length of texts	450–1200 words per text: approximately 3,000 words overall.
Answer format	For all parts of this paper, candidates indicate their answers by shading the correct lozenges on an answer sheet.
Marks	Parts 1 and 4 – each correct answer receives 1 mark. Parts 2 and 3 – each correct answer receives 2 marks.

STRUCTURE AND TASKS

PART 1

Task type and focus	Multiple matching. Specific information.
Format	A single-page text or several short texts preceded by multiple matching questions. Candidates must match a prompt to elements in the text.
No. of Qs	12–18.

PART 2

Task type and focus	Gapped text. Text structure.
Format	A text from which paragraphs have been removed and placed in jumbled order after the text. Candidates must decide from where in the text the paragraphs have been removed.
No. of Qs	6 or 7.

PART 3

Task type and focus	Multiple-choice. Detail, gist, opinion or attitude.
Format	A text followed by four-option multiple-choice questions.
No. of Qs	5–7.

PART 4

Task type and focus	Multiple matching. Specific information.
Format	A double-page text or several short texts preceded by multiple matching questions. Candidates must match a prompt to elements in the text.
No. of Qs	12–22.

The four parts of the Reading paper

■ PART 1 – MULTIPLE MATCHING

This part tests the candidate's ability to locate specific information in a text.



Sample task and answer key: pages 10 and 15.



Each correct answer in Part 1 receives 1 mark.

The task requires candidates to scan a single page of text, which may be continuous or divided into sections, or may consist of a group of short texts. Candidates are required to match questions with the relevant information from the text. There may be one or two sets of questions.

Some of the options will be correct for more than one question, and there may be more than one correct answer to some questions; if so, the instructions to candidates will indicate this. The range of possible answers may be presented in the form of a list of, for example, names of people or places, titles of books or films or types of occupation.

The questions for the multiple matching task are printed before the text so that the candidate knows what to look for in the text. Once they have completed the task and checked their answers, candidates should transfer their answers to the answer sheet.

■ PART 2 – GAPPED TEXT

This part tests candidates' understanding of how texts are structured and their ability to follow text development.



Sample task and answer key: pages 11 and 15.



Each correct answer in Part 2 receives 2 marks.

The task requires candidates to select from a number of choices the paragraphs which fit the gaps in a text; only one answer being correct in each case. The task consists of a single-page gapped text followed by the extracts from the text and one extra paragraph which does not fit in any of the gaps.

Candidates need to read the gapped text first in order to gain an overall idea of the structure and the meaning of the text, and to notice carefully the information and ideas before and after each gap as well as throughout the whole of the gapped text. Then they should decide which extracts fit the gaps, writing the appropriate letter in each gap. They should remember that each letter may only be used once and that there is one extract which they will not need to use.

When they have made their selection and checked each choice

carefully, they should transfer their answers to the answer sheet.

■ PART 3 – MULTIPLE-CHOICE

This part tests candidates' detailed understanding of a text, including the opinions and attitudes expressed in it.



Sample task and answer key: pages 12 and 15.



Each correct answer in Part 3 receives 2 marks.

Candidates need to read the text closely in order to distinguish between, for example, apparently similar viewpoints, outcomes, or reasons. The task consists of a single-page text followed by a number of questions; the questions are presented in the same order as the information in the text so that candidates can follow the development of the text. The final question may depend on interpretation of the text as a whole, e.g. the writer's purpose, attitude or opinion.

Candidates should read each question very carefully, as well as the four possible answers. The questions can be answered correctly only by close reference to the text. Candidates should select one option for each question and mark it in some way, e.g. by circling the letter A, B, C or D on the question paper. Once they are satisfied that they have made the appropriate selections, they should transfer their answers to the answer sheet.

■ PART 4 – MULTIPLE MATCHING

This part tests the candidate's ability to locate specific information in a text.



Sample task and answer key: pages 13–14 and 15.



Each correct answer in Part 4 receives 1 mark.

The task requires candidates to scan a two-page text; this may be continuous or made up of a group of shorter texts or sections of text. Candidates should fold out the second page of the text so that all the information is available to them simultaneously.

As for Part 1, some of the options will be correct for more than one question, and there may be more than one correct answer to some questions; if so, the instructions to candidates will indicate this. The range of possible answers may be presented in the form of a list of, for example, names of people or places, titles of books or films or types of occupation.

The questions for the multiple matching task are printed before the text so that the candidate knows what to look for in the text. Once they have completed the task and checked their answers, candidates should transfer their answers to the answer sheet.

Preparation

General

- Make sure the students read as widely as possible both in class and at home. Classroom reading can include a range of reading texts from coursebooks and reading-skills books at CAE level. Encourage students to interact fully with each text by focusing on any pre-reading questions. These stimulate interest in the topic dealt with by the text and train students in prediction techniques.
- It is helpful to introduce a programme of reading at home. As part of the weekly homework assignments, an idea might be to introduce a reading scheme which involves the students in providing verbal or written reviews on the texts they have read. These could include: unabridged short stories or novels, non-fiction, newspaper and magazine articles, etc. Where possible students should be encouraged to follow up on their hobbies and interests by reading magazines about sport, computers, fashion, etc. in English. If these magazines are not readily available locally, they can probably be accessed on the Internet. Research in these areas could also lead to a series of short class talks or articles for a class project. A class or school magazine may also encourage interest in reading.
- It is important to make sure the students are familiar with the format of the Reading paper. It will be helpful to spend time going through past papers. The Reading paper has a standard structure and format so that students will know, in general terms, what to expect in each part of the paper, although the number of questions within a task may vary.
- Students should be encouraged to read a text without thinking that they need to understand every word. They are not allowed to use a dictionary in the examination and they should be trained to try to guess the meaning of unknown words from the context. Students often spend precious time worrying about the text at word level rather than trying to get a more global view of what it is about.
- Students need to read the title and sub-title of each reading text. This is meant to give them an idea of what to expect from the text; it will tell them who has written the piece and what it is about. If there is a visual, it is usually included to help with a reference in the text that the students may not be familiar with, for example, a photo of a certain animal or place. Students are allowed to make notes on the question paper but these notes aren't marked.
- It is important that students are familiar with the instructions on the front page of the question paper, and for each part of the test. Students should also be familiar with the technique of indicating their answer on the separate answer sheet so that they can do this quickly and accurately. The students need to be shown how to do this and have practice doing this in a timed exercise. They need to think about the relative merits of transferring their answers on to the answer sheet at the end of each task or waiting until the end of the

paper. If they find it difficult to complete the four tasks in the time allowed, it may be wiser to transfer answers after each task.

- When the students are familiar with the different task types, it is a good idea to discuss which part(s) take them longer to complete. Following this discussion the teacher can suggest possible timings for each task. Students need to be reminded that each task is worth approximately equal marks; 50% of the marks are allocated to the two multiple matching tasks, while the other two tasks (multiple-choice and gapped text) account for the remaining 50%. The students at this level need to process large quantities of text in a defined time-scale and therefore they need practice in planning their time carefully.

By part

■ PART 1

- Your students will need practice in skimming and scanning texts quickly in order to prepare for the multiple matching tasks in Part 1 and Part 4. They should practise scanning texts for the particular information required and not feel that they must read every word in the text. It is also important that you give them enough practice in timing their reading.
- Draw students' attention to the particular wording of questions since these are intended to lead the reader to specific information and to disregard irrelevant information. It can be helpful for your students to underline key words in the questions as this helps when trying to find the information in the text which provides the answers.
- Discourage your students from selecting an answer solely on the basis of matching a word in the question with a word in the text, since careful reading of a particular part of the text is required to ensure an accurate match in terms of meaning.
- Give your students plenty of opportunity to read articles and reviews where different people discuss work, books, hobbies, etc. Ask students to prepare their own questions, perhaps as a homework exercise to be used later in class. This will help them gain a better understanding of how the test is constructed and will also give them some insight into what clues they need to look for when doing Parts 1 and 4 in the examination.

■ PART 2

- You should encourage your students to read the text as a whole, and not to focus on each gap separately. They need to understand that an idea of the structure and the development of the theme of the text is necessary before starting to do the task. Students frequently make the wrong choices by selecting options which fit the text before the gap, and neglecting to check that the text after the gap follows on smoothly.
- Sometimes students will need to choose carefully between two extracts as possible answers and will need practice in making decisions about which is the most logical extract to fill

the particular gap. Give your students plenty of practice in recognising a wide range of linguistic devices which mark the logical and cohesive development of a text, e.g. words and phrases indicating time, cause and effect, contrasting arguments, pronouns, repetition and use of verb tenses.

■ You should alert your students to the dangers of approaching the gapped-text task as an exercise requiring them merely to identify extracts from the text and sections in the text containing the same words, including names and dates. The task is designed to test understanding of the development of ideas, opinions and events rather than the superficial recognition of individual words.

■ PART 3

■ You should encourage your students to read the whole text before reading the multiple-choice questions. As three out of the four options are incorrect, there is not much point in trying to absorb them all before tackling the text. It is much more important to train students to check each option against the evidence of the text.

■ The questions in Part 3 follow the order of the text, possibly with a global question at the end. It is often useful to ask students to underline the part of the text where they found the answer and then justify it to the rest of the class. It may also prove useful to identify the information which the distractors are based on.

■ Ask your students to check the questions which take the form of incomplete sentences very carefully; the whole sentence has to match what is written in the text and not just the phrase in option A, B, C or D. You should also alert them to the fact that an option may be plausible, but not actually answer the question and that careful study of the questions and text is very important.

■ Make sure that students read texts in which opinions, attitudes and feelings are expressed, e.g. interviews with famous people talking about how they began their careers and what made them successful, or reviews of a particular theatre performance. The multiple-choice questions in this part are often based on opinions and feelings.

■ As in the other parts of the test, it is important that students avoid matching words in the text with words in the question or option.

■ PART 4

■ Part 4 of the Reading paper complements Part 1; both are multiple matching tasks, testing students' ability to locate specific information in a text. The advice on preparation for Part 1 also applies to Part 4. However, you should make sure that your students are aware of the need to fold out the second page of the text when they do the task.

PAPER 1: READING

Part 1 (Questions 1–12)

3

Emotional Intelligence – The Key to Success

Daniel Goleman examines the 'people skills' that are essential for a place at the top of your profession

A The rules for work are changing. We are being judged by a new yardstick – not just by how clever we are, or by our training and expertise, but also by how well we handle ourselves and each other. This yardstick is increasingly used in choosing who will be hired and who will not, who will be passed over and who will not. The new rules can be used to indicate who is likely to become a star performer and who is most prone to mediocrity. And, no matter what field we work in currently, they measure the traits that are crucial to our marketability for future jobs. These rules have little to do with what we were told at school was important. The ability to do well in examinations is largely irrelevant to this standard. The new measure takes it for granted that we all have enough intellectual ability and technical know-how to do our jobs. It focuses instead on social skills and personal qualities, such as initiative and empathy, adaptability and persuasiveness – the 'people skills' that make up what is now commonly referred to as emotional intelligence.

B In a time when few guarantees of job security have led to the very concept of a 'job' being rapidly replaced by 'portable skills', personal qualities begin to play an important role in the workplace. Talked about loosely for decades under a variety of names, from 'character' and 'personality' to 'soft skills', there is, at last, a more precise understanding of these human talents as well as a new name for them. 'Emotional intelligence' is generally defined as the ability to monitor and regulate one's own and others' feelings, and to use feelings to guide thought and action. In our work-life it comprises five basic elements: self-awareness, self-regulation, motivation, empathy and adeptness in social relationships. There is a common assumption that it simply means 'being nice'. However, at strategic moments it may demand not 'being nice', but rather, for example, bluntly confronting someone with the uncomfortable truth. Nor does emotional intelligence mean giving free rein to feelings – 'letting it all hang out'. Rather, it means managing feelings so that they are expressed appropriately and effectively, enabling people to work together smoothly towards their common goal.

C More and more businesses are seeing that encouraging emotional intelligence skills is a vital component of management philosophy. And the less straightforward the job, the more emotional intelligence matters – if only because a deficiency in these abilities can hinder the use of whatever technical expertise or intellect a person may have. There are many examples of people who have risen to the top notwithstanding flaws in emotional intelligence, but as work becomes more complex and collaborative, companies where people work together best have a competitive edge. In the new workplace, with its emphasis on teamwork and a strong customer orientation, this crucial set of emotional competencies is becoming increasingly essential for excellence in every job and in every part of the world.

D Whereas one's IQ undergoes few changes, emotional intelligence continues to develop as we go through life and learn from our experiences; our competence in it can keep growing. In fact, studies that have measured people's emotional intelligence through the years show that most people grow more adept at handling their own emotions and impulses, at motivating themselves and at honing their empathy and social adroitness. There is an old-fashioned word for this growth in emotional intelligence: maturity. Not only can emotional intelligence be learnt, but individually we can add these skills to our toolkit for survival. This is especially relevant at a time when it seems a contradiction to put the words 'job' and 'stability' together. Emotional intelligence is no magic formula for uncompetitive organisations, no guarantee of more market share or a healthier bottom line. But if the human ingredient is ignored, then nothing else works as well as it might.

2

Part 1

Answer questions 1–12 by referring to the newspaper article about emotional intelligence on page 3. Indicate your answers on the separate answer sheet.

For questions 1–12, answer by choosing from the sections of the article (A–D). Some of the choices may be required more than once.

In which section is the following mentioned?

- | | |
|--|----------|
| the significance of emotional intelligence in work that is challenging | 1 |
| increased accuracy in the way emotional intelligence is described | 2 |
| the means by which we are assessed at work having become more comprehensive | 3 |
| the fact that emotional intelligence can be combined with other skills to improve people's ability to cope at work | 4 |
| areas in which emotional intelligence cannot be expected to offer solutions | 5 |
| people having succeeded despite inadequacies in emotional intelligence | 6 |
| the assumption that people have the academic skills to perform their jobs well | 7 |
| the negative effect that a lack of emotional intelligence can have on a person's other skills | 8 |
| the means of predicting who will excel in the workplace | 9 |
| the reason why organisations promote emotional intelligence in the workplace | 10 |
| misconceptions about what emotional intelligence involves | 11 |
| the kind of staff relations that ensure an organisation has an advantage over its rivals | 12 |

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Part 2

For questions 13–18, you must choose which of the extracts A–G on page 5 fit into the numbered gaps in the following magazine article. There is one extra paragraph which does not fit in any of the gaps. Indicate your answers on the separate answer sheet.

Beginner Takes All

Even before it was published, The Horse Whisperer was the hottest book of the year. A first novel by British screenwriter Nicholas Evans, it has earned its author record-breaking sums. He talks here about his inspiration and his triumph

The first months of the year were not kind to Nicholas Evans, screenwriter, producer and aspiring director. The year began badly when Life and Limb, a film project he had been working on for months, fell through 'almost overnight'. His disappointment mingled with stomach-churning worry; it had been two years since he had earned any money and the promise of that film had been the only buffer between him and an increasingly irate bank manager.

Although he was acting very much on impulse, the seeds for the story had been with him for some time, sown by a farrier he met on Dartmoor while staying with a friend. The farrier had told him the story of a docile horse that had turned, no one knew why, into a fiend. Its owners were desperate until they heard of a gypsy who, simply by talking to the animal, transformed its temperament in a matter of hours. Such men, the farrier said, were known as 'horse whisperers'.

'It was a funny time,' he says now. 'I was observing people, but essentially I was alone and I really felt as though my life was falling apart. I'd tried for ten years to make a go of it as a film-maker, and here I was, hugely in debt and wondering how I was going to feed the children, and thinking maybe it was all just folly.'

When pushed, he ventured that Evans might get \$30,000 as an advance on the book. 'I had in mind how much I needed to pay off a bit of the

A Evans' imagination was captured. He began researching the subject with a view to writing a screenplay – he was, after all, a film-maker. But disillusionment with the film world following the demise of Life and Limb prompted him to write the story as a book. And so throughout the spring he drove across the US, stopping at ranches and learning about horses and the men who work with them.

B 'It's all been such a fairy tale so far, I don't want to spoil it. Writing at that level is a very tough business, and I don't want to become an employee of these people who I like and who have paid me so much money. I'd hate to find myself writing a draft or two and then have them say, 'Thanks Nick, but now we'll bring in so-and-so'.'

C 'We couldn't believe it, we sat there with our jaws gaping. We'd never sent the manuscript to New York, we still don't know how it got there,' Evans says. Nor did they send it to Hollywood, but within that same week the major studios were fighting over it. 'My agent in the UK wisely involved an agent over there and when he phoned us to say, 'I think we can get \$3 million outright,' we laughed in disbelief.'

D As a screenwriter, he had yearned for the freedom of novelists and, when he had it, found himself in the middle of this immense and terrifying plain without the support of screenplay rules to guide me.' But he carries us smoothly through. Even so, he remains baffled as to why the story has captured imaginations in the mind-blowing way that it has.

E He thought that again towards the end of August, by which time he had returned home and written the first half of the book. 'At that point the bank manager was getting really very heavy with us, and I needed to know whether it was worth going on. I plucked up the courage to show it to a friend who was a literary agent; he read it and said it was "fine".'

F A wise man, finding himself in Evans' position, would have got a job. He could have gone back to being a television executive, or begun a television project that had been on hold. Instead, he made a decision that most people, Evans included, would consider insane. He bought a ticket to America and set off for three months to research his first novel.

G In October, together with the first two hundred pages of the novel, this was sent to seven UK publishers on the eve of their departure for the annual spending spree at the internationally renowned Frankfurt Book Fair. Within days his agent was on the telephone to report that he had just turned down the first offer of \$75,000. 'I said, "You what?" And he said, "It's OK, I just sense something is happening".'

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PAPER 1: READING

Part 3 (Questions 19–24)

7

- 19 When she arrived at the workshop, the writer
- A was not sure if her first impression of Hurst was accurate.
 B was offended by the way Hurst introduced himself.
 C thought that Hurst was pretending to have a lot to do.
 D thought it was obvious that Hurst did not want to speak to her.
- 20 Hurst has few problems selling his furniture because he
- A advertises locally.
 B is known to be a skilled craftsman.
 C uses only natural materials.
 D has a reputation for being fair.
- 21 What does Hurst think has led to the decline in the craft of cabinet-making?
- A It is a difficult skill to learn.
 B It is only popular in rural areas.
 C Consumers will accept poor quality furniture.
 D Simple designs do not appeal to modern tastes.
- 22 The writer says that when Hurst describes his 'talent', he
- A has a tendency to exaggerate.
 B reveals a natural sense of humour.
 C becomes more animated than he usually is.
 D appears more arrogant than he really is.
- 23 Hurst believes that it is essential for craftsmen to
- A create original furniture.
 B exhibit to a wide audience.
 C produce functional designs.
 D invest extra time in perfecting their work.
- 24 The writer's final impression of Hurst is that he
- A has an unusual attitude to his work.
 B believes in the special nature of his work.
 C enjoys being interviewed about his work.
 D has the ability to put his work into perspective.

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Part 3

Read the following magazine article and answer questions 19–24 on page 7. On your answer sheet, indicate the letter A, B, C or D against the number of each question, 19–24. Give only one answer to each question. Indicate your answers on the separate answer sheet.

The Cabinet-Maker

Charles Hurst makes a living from perfectly crafted furniture.

Joanna Watt meets him

Charles Hurst gives the impression of being a man in a hurry. I arrive at his workshop, tucked under a railway arch in East London, and am greeted with a quick handshake and the words: 'Well, fire away then!' Whether this brusqueness is real or a front hiding a shy streak is not immediately apparent. But a glance around the workshop reveals that Hurst is obviously busy, with good reason not to waste a minute of his time.

The arched space is full of half-made pieces of furniture and planks of wood in an amazing array of natural colours. Hurst has been a cabinet-maker for ten years and has built up a very nice reputation for himself. His order book is always full for several months in advance, despite the fact that he does not really promote himself. Word has spread that if you want a decent cupboard or table, bookcase or kitchen units, Hurst is your man.

Of course, finding a furniture-maker is not that taxing a task. Wherever you live in the countryside, the craft is alive and well. But finding a cabinet-maker who prides himself on making beautifully crafted furniture with clean, simple lines is less easy. 'There are few real cabinet-makers now. People call themselves furniture-makers,' Hurst says wearily. As a craftsman who sets himself exacting standards, he is continually disappointed by some contemporary furniture. 'I am amazed by what some furniture-makers get away with, and saddened by what people will put up with.' He rails against shoddy, mass-produced furniture, and craftsmen who churn out second-rate pieces.

Such a quest for perfection is obviously a key to Hurst's success. That and his talent. This man is not coy about his ability. Indeed, his blatant self-confidence is as surprising as his initial brusque manner. 'I have a huge natural ability,' he says, with a deadpan expression. 'I have always been good at making things. If it were not for the self-deprecating mood into which he slipped towards the end of our interview, I would have believed his conceit to be wholly genuine.'

Hurst is self-taught. So how did he learn his craft? 'I asked the right questions and picked it all up,' he says nonchalantly. Almost all of his commissions come from private individuals ('I used to do some commercial work for companies but it was soul-destroying'). Some clients have returned time and again. 'You end up doing the whole of their house. That is very satisfying.' But he is honest enough to admit that relationships with clients do not always run smoothly. 'The most infuriating clients are those who don't know what they want, and then decide they do when it's too late ... my favourite clients are the exacting ones.'

If Hurst has every reason to be pleased with himself, he is also gracious in his praise for others — where it is due. With a sudden shift of modesty, he says: 'There are people far better than me. I can admire other people. After all, I wasn't trained at Parnham' (the leading college of furniture design). However, he is also unremittingly critical of those craftsmen who 'are trying to be artists and take a year to make one piece.' He also has little time for degree shows, in which students exhibit their work but at the same time are 'trying to make fashion statements. That can be pretentious. A piece of furniture is not about making a statement. It has to be something that people really can use.'

Confident Hurst may be, even brusque, but you could never call him or his work pretentious. Indeed, his parting shot displays a welcome down-to-earth approach to his craft and a streak of humility strangely at odds with his earlier self-confidence. 'After all, I am only making furniture,' he says as I make my exit.

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9

Dorothy w h o ?

The only British woman scientist to win the Nobel prize should be a household name in her own country, says Georgina Ferry, but she is little known

A

For the past four years, I have been subjecting friends and acquaintances to the Dorothy Hodgkin test. It's very simple: when asked what I am working on, I tell them I am writing the first biography of Dorothy Hodgkin. If their eyes light up, and they say things like 'Surely there's one already?' they have passed.

Why should people in Britain know about Dorothy Hodgkin? The fact that she is the only British woman scientist to have won a Nobel prize ought to be enough. Anyone who held the same distinction in literature would be a household name. But Hodgkin, who died in 1994, was a remarkable individual by any standards, as many-faceted as the crystals she studied. Her life reflects some of the greatest upheavals of the 20th century: among them, the advancement of women's education and the globalisation of science.

When I began my research, I set out to read some scientific biographies. One of Hodgkin's friends recommended a new biography of Linus Pauling. Pauling was a close friend and contemporary of Hodgkin, worked in the same branch of science and shared a commitment to campaigning against nuclear weapons. I hurried to the main bookshop in the university town where I live, only to discover that not a single biography of Pauling was on the shelves. I now realise I was naive to be surprised that Pauling was not deemed sufficiently interesting to British readers, even though he was the most influential chemist of the 20th century and a winner of Nobel prizes for both chemistry and peace.

B

Even scientists themselves have doubted the value of the scientific biography. 'The lives of all scientists, considered as lives, invariably make dull reading', wrote the late Peter Medawar, another Nobel laureate, who laid most of the scientific groundwork that now makes organ transplants possible.

If scientists propagate this negative view, it is hardly surprising if publishers and booksellers share it. Treating scientists differently from everybody else as biographical subjects is one of the outstanding symptoms of the 'two cultures' mentality, the belief that there is an unbridgeable divide of understanding between the arts and sciences, still prevalent in the literary world. Few but the towering giants of science make it into the biography sections of bookshops.

Of course it is nonsense to say scientists, as a group, lead less interesting lives than artists and writers, or actors, or politicians. For some, the fastidiousness involved in maintaining scientific credibility extends to any kind of media appearance. A leading geneticist once told me he was happy to be interviewed about his work, but did not want to be quoted directly or photographed, because he did not want to be perceived as 'self-promoting'.

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Part 4

Answer questions 25–45 by referring to the newspaper article on pages 9–10 about scientific biographies. Indicate your answers on the separate answer sheet.

For questions 25–45, answer by choosing from the sections of the article A–D. Some of the choices may be required more than once.

Which section mentions the following?

- the continuing general scarcity of biographies of scientists 25
- an increase in the number of ways scientists are featured in the media 26
- certain parallels between the lives of two people 27
- the fact that science can become accessible to the non-scientist 28
- the changing nature of books about scientists 29
- an attitude which is common to scientists and people working in the book trade 30
- the lack of trust people sometimes have in scientists 31
- someone whose scientific research went much further than others had believed possible 32
- someone whose life mirrors historical developments 33
- biographies which include the less positive aspects of a scientist's life 34
- the lessons to be taken from someone else's life 35
- growing public interest in the everyday lives of brilliant people 36
- the greatest difficulty in writing the biography of a scientist 37
- someone who was modest about the interest of their own life to others 38
- an achievement that would gain more general recognition if it were in another field 39
- the fact that most people's comprehension of science does not go beyond the basics 40
- the idea that people who study in different disciplines cannot be of interest to one another 41
- the fact that people are not ashamed if they are unaware of the names of great scientists 42
- an attitude which dissuades people from following a scientific career 43
- an expectation that was too optimistic 44
- the absence of personal information in most scientific biographies 45

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PAPER 1: READING

Part 4 (Questions 25–45)

10

C

The avoidance of the personal conveys a false impression of the enterprise of science that discourages young people from joining in, and fosters more public suspicion than it dispels.

Fortunately, gaps are appearing in the smokescreen. Contemporary scientists now regularly appear in the public eye in contexts other than the straightforward scientific interview. For instance, Professor Richard Dawkins presents prizes to winners of a TV quiz, and geneticist Steve Jones advertises cars on television. No doubt these activities have raised eyebrows in laboratories but they have done more to make scientists recognisable as people than any number of academic papers.

The publishing world is also undergoing a transformation. Scientific biographies and autobiographies, if they appeared at all, used to be rather scholarly but dull and over-reverent. The life which the scientist in question led outside work – marriage, children, things most people regard as fairly central to their existence – was often dismissed in a couple of paragraphs. That changed with Richard Feynman's *Surely You're Joking, Mr Feynman?*, the hilarious and affecting memoir of a man who also happened to be one of the century's greatest theoretical physicists.

More recently, even the greatest names in science, such as Isaac Newton, Charles Darwin, Albert Einstein and Marie Curie have been allowed to appear with all their flaws clearly visible. To the reader, it does not matter that Einstein's relationship with his family is 'irrelevant' to his General Theory of Relativity. The question of how creative genius copes with emotional ups and downs, trivial practicalities, the social demands of ordinary life, is absorbing in its own right.

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Dorothy Hodgkin was devoted to her scientific work. Her most important successes were solving the structure of penicillin and vitamin B12, which won her the Nobel prize for chemistry in 1964, and of insulin, which her group solved in 1969. In each case she pushed the technique into realms of complexity others deemed unreachable at the time.

But she also had three children to whom she was devoted and was married to a frequently absent husband with a career as a historian. Her personal life is not strictly relevant to her work as a scientist, but surely we can all learn from her capacity to unite the disparate threads of her life into a coherent whole. There is much in her life of universal interest, but it would be disloyal of me to imply that this does not include the science itself. Scientific inquiry was the passion of Hodgkin's life, as it has to be for any successful scientist.

How to communicate the nature of this passion is the hardest task for the scientific biographer. Most readers are not equipped with enough fundamental scientific concepts to grasp more complex ideas without a lot of explanation. Understanding scientific ideas is not really any more difficult than reading Shakespeare or learning a foreign language – it just takes application. It is sad to think that educated people, who would be embarrassed if they failed to recognise the name of some distinguished literary or artistic figure, continue to live in happy ignorance of the rich heritage represented by scientists such as Dorothy Hodgkin.

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