

You should spend about 20 minutes on Questions 1-13, which are based on Reading Passage 1 below

CHEWING GUM IN THE STONE AGE

Chewing gum may seem like a modern habit but that is apparently not quite the case. Scientists have recovered DNA that is nearly 10,000 years old from gum that was chewed by people in Scandinavia during the Mesolithic – or Stone Age – period. This gum was used as glue to make tools – the chewing is believed to have helped make it more pliable and sticky. They may not have chewed it for pleasure, but recreational chewing of resin and gum has been known of since ancient times. The gum itself was found at Huseby Klev, a Mesolithic site in western Sweden.

It's difficult to find DNA from ancient specimens because it is so often degraded. Most samples of ancient DNA are obtained from bones or teeth. Such remains are rare and precious, so grinding them into powder to extract DNA is rarely encouraged. Material that is meant to be chewed but not swallowed has been found in many sites, but is often disregarded during excavations. The knowledge that human DNA can be obtained from bits of old chewing gum is a breakthrough that offers fascinating possibilities for future work. Through this seemingly inconsequential scrap of ancient debris come several fascinating insights into life 9,800 years ago.

Diverse and resourceful

The researchers sequenced the entire genomes of three individuals who had chewed gum and made tools on the site and compared them with contemporary genomes from 10 other sites, spread across Europe from Samara in Russia to La Brana in Spain. Their stone tools largely consisted of small flakes of flint, called microliths, carefully shaped and glued into wooden or bone hafts. Harpoon points made of bone with small barbs of flint glued in have also been found and arrowheads made of flint that have been carefully shaped by the technique of pressure flaking.

Scientists had assumed these Scandinavian hunter gatherers had mostly arrived in western Sweden from Eastern Europe, as the tools almost entirely originated from there. However, the genetic evidence suggests they were more diverse. These prehistoric people were genetically Scandinavian but more closely related to people from further west and south than to eastern populations, even though they favored a style of tool-making prevalent in the East. This shows it's not always safe to make assumptions about where ancient people come from based on their culture.

Fluid gender roles

Two of the three individuals whose genomes were successfully sequenced were female. There has been a perception among some archaeologists that females in prehistory were relegated to a purely domestic role and had little to do with “masculine” tasks such as making tools. These findings suggest that gender roles were rather more fluid, clearly supporting the idea that females were involved in the prehistoric tool industry. The fact that some of the eight samples of mastic that were found had impressions of milk teeth in them also suggests that some of those chewing the mastic were between five and 18 years of age. It would be unthinkable in modern times to allow a child of five loose with these sharp and dangerous hunting tools. In perspective though, life expectancy was around 30 years, so a teenager would not only be considered fully adult but probably have a family of their own.

Familiar environment

The gum that was chewed by the tool makers at Huseby Klev was birch pitch, a dark, sticky substance, similar to tar, that is distilled from birch bark by heating it to around 420 degrees Celsius without letting air get to it. Because it's very viscous (it is solid and rubbery at ambient temperature) it can be used to waterproof objects and as a glue. It also tells us something about the environment

in which the people lived – birch woods rather than pine forest. This suggests the people lived in an environment similar to parts of Scotland today, where birch woodland is prevalent. Agriculture had started elsewhere, but there's nothing to say that these people were practising it. The presence of bones and tools place them as hunter gatherers. The harpoons suggest that life at Hulseby Klev revolved around hunting marine mammals and fish. One can imagine that the birch pitch would be good for waterproofing boats made from animal hide, or even birch bark canoes.

This research gives us a greater insight into the lives and origins of our recent ancestors. Like all good research, this opens up a whole raft of new questions. If females were making tools, were they also using them to hunt? What was the life of a Mesolithic child in Scandinavia like? Did Mesolithic people chew gum for recreational, hygienic and medicinal reasons, as other cultures did? Why did Scandinavian populations continue to use the Eastern European technologies rather than a mixture of Eastern and Western? Some of these questions will never have answers, but every new finding sheds a tiny beam of light onto the distant past.

Questions 1-5

Choose if the following statements are **True, False or Not Given**

1. Grinding of bones and teeth to obtain DNA is encouraged.
2. Pressure flaking technique was used to shape arrowheads.
3. Findings suggest that males played an important role in domestic tasks.
4. Tool makers at Hulseby Klev used birch pitch as chewing gum and as glue.
5. The Scandinavian hunter gatherers had mostly migrated from Eastern Europe to Sweden.

Questions 6-13

Complete the sentences below

Choose **NO MORE THAN THREE WORDS AND /OR A NUMBER** from the passage for each answer

6. Gum was used as glue after chewing as it was believed chewing made it ____ and sticky.
7. Microliths were small flakes of ____ found in stone tools of the Stone Age.
8. Impressions of milk teeth found in some samples suggested that they were between ____ and (9) ____ years of age.
10. Life expectancy in those times was around ____.
11. The gum used by toolmakers at Hulseby Klev was similar to _____. It was distilled from (12) _____ and used to (13) _____ objects.

You should spend about 20 minutes on Questions 14-26, which are based on Reading Passage 2 below

WOMEN IN POWER

The few women who are CEOs of the largest U.S. companies typically make more money than their male counterparts but aren't close to the top of the leader-board for pay packages. The median pay package for female CEOs in the 2018 fiscal year was \$12.7 million, compared with \$11.2 million for men, according to data analyzed by Equilar for The Associated Press. That reflects a raise of \$680,000 for the same group of female CEOs from a year before, versus a raise of \$540,000 for the men. Median means half were larger, and half were smaller.

Still, of the 340 companies included in the analysis, only 19 were run by women. Plus, there is not a single woman on the overall list of the top 20 most highly paid CEOs. The top earner there — Discovery CEO David Zaslav — earned a pay package worth almost six times that of the most highly paid female CEO — Mary Barra of General Motors. She ranks 30th on the list overall. Barra tops the list of female CEOs with a pay package valued at nearly \$21.9 million, unchanged from the prior year. Lockheed Martin CEO Marillyn Hewson came in second with a compensation valued at \$21.5 million, up 7% from the prior year. And General Dynamics CEO Phebe Novakovic rounded out the top three with a compensation package worth \$20.7 million.

The AP's CEO compensation study, conducted by Equilar, includes pay data for 340 executives at S&P 500 companies who have served at least two full consecutive fiscal years at their respective companies and filed proxy statements during the traditional period of Jan. 1 to April 30. While women enter U.S. companies at roughly the same rate as men, experts say their ranks grow thinner at each step up the corporate ladder. There are a number of reasons for this, including unconscious bias, lack of mentorship, people hiring in their own image and more. This leaves few women in the pipeline to take the top seat when the time comes.

Catalyst, a nonprofit organization that focuses on women in business, said that only three times in history has a woman succeeded another woman as chief executive at a public traded company. "The rarity of these women, they are so exceptional," said Alison Cook, a professor of management at Utah State University who researches gender and diversity in the workplace. "Not that some of these men aren't exceptional also ... but these women have to be so incredible to have made it this far."

Comparing men's pay to women's as a group is a bit unfair, statistically speaking. The sample size is much smaller for women so any change among that group has an outsized impact. Lorraine Hariton, CEO of Catalyst, said that while the numbers appear discouraging year over year, gains are being made in the long run.

Women are becoming slowly more prevalent in CEO roles and pay is gradually becoming more commensurate. For example, the recently released list of Fortune 500 companies includes more women than ever before, 33, but largely due to appointments made in the past 12 months, according to Fortune magazine. And women are also incrementally becoming more common on the boards of companies, which helps usher in more women to executive leadership.

"It's a gradual trend in the right direction but much slower than what we would like to see," Hariton said. Hariton and Cook also both agree that the recent #metoo movement has helped raise awareness of the issue and brought more men into the conversation, in some cases spurring companies to look more closely and address their own practices. Additionally, Hariton said research shows consumers increasingly expect companies and CEOs to act on environmental and social issues, including diversity. "Companies need to address this not just because it is the right thing to do but to remain competitive," Hariton said. "Consumers are demanding it."

Questions 14-18

Complete the sentences below

Choose **NO MORE THAN THREE WORDS AND/OR A NUMBER** from the passage for each answer

In 2018, the median pay package for male CEOs was (14)_____ while female CEOs received a median pay package of (15)_____

The highest earning person is (16)_____, CEO of (17) _____

The recently released list of Fortune 500 companies includes (18) _____ women.

Read the passage and the statements below. Decide which one:

- Agrees with the writer **(Y)**
- Contradicts the writer **(N)**
- Information not found in the passage **(NG)**

19. A comparison of salaries received by men and women is unfair because women's salaries are increasing at a higher rate.

20. An unconscious bias against women slows their growth on the corporate ladder.

21. The salary of the highest paid female CEO remains unchanged from last year.

22. Women are getting higher salaries due to the #metoo movement.

23. The increase in median salary of male CEOs was higher as compared to that of female CEOs.

Questions 24-26

Look at the following phrases/words and match with the correct information (A-E).

24. Mary Barra

25. Equilar

26. Lorraine Hariton

A. Associated Press's CEO compensation study

B. CEO of Catalyst

C. Highest paid female CEO

D. CEO of General Dynamics

E. \$20.7 million pay package

You should spend about 20 minutes on Questions 27-40, which are based on Reading Passage 3 below

SHOULD INTERNET MULTINATIONALS HAVE POWERFUL COUNTRY MANAGERS?

In February 2019, an Indian parliamentary panel summoned Jack Dorsey, CEO of Twitter Inc. to explain what his company planned to do to on the subject of "safeguarding citizens' rights on social / online news media platforms." The panel's disinterest in meeting local top executives of Twitter reflects the larger-than life personas of celebrity CEOs of tech companies, but it also contains a powerful commentary on the perceived policy irrelevance of country managers. This was not always the case.

Traditionally, multinational corporations – of the kind that rose in prominence through mid-twentieth century with key capabilities in manufacturing and in marketing – bestowed significant power and prestige on their country managers, or subsidiary CEOs for specific geographies. In their glory days, country managers performed three critical functions within the multinational organization. These functions, highlighted in a 1992 Harvard Business Review article by Sumantra Ghoshal and Christopher Bartlett were: sensor of local opportunities and threats, builder of local capabilities, and contributor to headquarter strategy.

The history of one of India's best known and most admired multinational subsidiaries – Hindustan Unilever – provides fascinating insights into these different dimensions of the country manager's role. Constituted in 1956 from the integration of three Unilever companies in India, Hindustan Unilever (or, Hindustan Lever, as it was then called) quickly gained admiration for its exceptional management under difficult circumstances during India's post-independence years. Prakash Tandon – Hindustan Unilever's first Indian Chairman – conceptualized his company not merely as a subsidiary of a multinational, but as a pioneer of meritocratic and professional management in India. Tandon started Hindustan Unilever's management trainee program which went on to provide generations of capable managers who have not only run Hindustan Unilever and Unilever businesses outside India but have also provided a pool of talent for private and public sector enterprises in India.

Through the 1960s and 1970s, Hindustan Unilever's indigenous research and development program was crucial in helping the subsidiary management gain the respect of the host government and in persuading the parent corporation to grant them greater autonomy in making strategic choices. One of the best known success stories to emerge out of the research & development unit in India was the development of synthetic ingredients to substitute for (imported) soap-based ingredients in detergents. Hindustan Unilever's success in this initiative boosted the Government's import substitution policy in the 1960s and provided leverage to T Thomas, Chairman of Hindustan Unilever in the 1970s, in persuading the Government to allow Unilever to retain a majority stake in the subsidiary. Other multinationals, unable to stand up to the Government, exited the country (for example, Coca Cola) or reduced their stake below controlling levels. Thomas went on to become the first Asian on Unilever's Board of Directors and India had a voice in shaping Unilever's strategy ever since. Unilever's country managers in India have indeed been sensors of local opportunities, builders of local capabilities, and contributors to headquarter strategy.

Today, we have a new generation of internet multinationals like Facebook, Twitter, or Netflix. Even as some of them continue to use the designation of 'country manager' for an India-based senior executive, most view the position as unfitting in a world where technology has facilitated centralized decision making out of powerful headquarters. To understand this shift, we need to go back to the 1980s. In those years, a new generation of international management scholars – Prahalad, Ghoshal, Doz, and Bartlett – explained the organizational challenge for the multinational corporation as one defined by the tension between two impulses: the need for global integration, and the need for local responsiveness. The multinational needs global integration in order to develop and deploy an advantage around scale capabilities – in manufacturing, in research & development, and in marketing. The impulse towards global integration emphasizes standardization and centralization and places power in the hands of business heads or product chiefs in headquarters. However, the multinational also experiences an opposite impulse, that of local responsiveness. The multinational needs local responsiveness in order to be relevant to local customers, local intermediaries, local talent, and local governments. The impulse of local responsiveness reduces standardization and centralization across the multinational's expanse and places power in the hands of country managers located away from headquarters.

Global integration and local responsiveness are contradictory impulses, and it is rare for a multinational to successfully strike a balance between the two. It is more likely that the multinational will trade one off for the other. In many multinationals today, their organization design choices clearly reveal their preference – the impulse for global integration wins over the impulse for local responsiveness and country managers have little ability to make strategic choices in their geographies, or to influence strategy at the headquarters.

The rise of internet multinationals, driven by platform economics and increasing returns to scale has accelerated this relegation of country managers. The capabilities of country managers to sense opportunities are rendered irrelevant by high-powered consumer analytics capabilities at headquarters that no longer need country level intermediaries to access consumer data. At the same

time, the country manager's value addition in building the local organization is increasingly limited as the outsized global brand of the internet multinational needs little local nurturing in order to draw talent. In turn, the inability to add substantial value either in sensing local opportunities or in building the local organization limits the legitimacy provided to the country manager seeking to contribute to headquarter strategy.

Questions 27-29

Choose the correct answer (A,B,C,D)

27. Global integration places emphasis on:

- A. Giving power to country managers
- B. Local responsiveness
- C. Standardization and centralization
- D. Hiring local talent

28. Hindustan Unilever's management trainee program was started by:

- A. T Thomas
- B. Prakash Tandon
- C. Sumantra Ghoshal
- D. Christopher Bartlett

29. Which of the following helped Unilever retain a majority stake in their Indian subsidiary?

- A. Integration of three Unilever companies
- B. Development of synthetic ingredients in India to substitute for soap-based ingredients in detergents
- C. Starting a management training program to provide a pool of talent for private and public sector enterprises in India
- D. Appointing T Thomas as Chairman

Questions 30-34

Classify the following features as being true of

- A. Global integration
- B. Local responsiveness
- C. None of the two

- 30. Is needed to continue being relevant to customers of a local area
- 31. Is being preferred by multinationals today
- 32. Gives more power to country managers
- 33. The better strategy for multinationals
- 34. Gives prominence to centralization

Questions 35-40

*Complete the summary below with words taken from the reading passage. Choose **NO MORE THAN THREE WORDS** for each answer.*

Unilever came to India as Hindustan Unilever in the year (35) _____. It showed exemplary management during India's post-independence years. (36)_____ was the first Indian Chairman of the subsidiary who envisioned the company as having (37) _____ and professional management in India. He also started a (38)_____ program that helped prepare able managers. The company's

(39) _____ program helped the management win the respect of the Indian government and get more (40)_____ in making strategic decisions.