

Questions 20-29

Virtually every epoch of human civilization includes references to flight. From ancient winged deities to a score of myths, themes of flight occur repeatedly.

There were undoubtedly sporadic attempts to achieve human flight, probably in imitation of birds. The first credible mention of such efforts appeared in a book written in 1250, which referred to an ornithopter, a winged machine strapped to a person's arms. Based on the flapping motion of a bird's wings, an ornithopter would require a good deal of muscular energy from the arms of its human operator. Since this was not a practical source of mechanical power, it could not fly.

With the age-old problem of suitable power sources impeding early experiments, the first person to leave the surface of the Earth did so in the eighteenth century in a balloon. The first balloons were buoyed into and kept up in the air with air itself — hot air. The Montgolfier brothers had observed that warm air rose, and reasoned that if they could capture it in a lightweight bag, the bag would rise along with anything attached to it. They experimented with several small linen bags lined with paper to help retain the hot air. The first free flight in a balloon was made in 1783, a 25-minute journey totaling 8 kilometers.

Practical heavier-than-air flight evolved from fixed-wing aircraft in the form of gliders, which are motorless aircraft that are launched from high places. Gliding itself dated from the year 1000, when a Benedictine monk reportedly launched himself from a tower and flew more than 400 meters. However, structural and stability problems seemed to frustrate gliding enthusiasts until the early nineteenth century. With the addition of propellers and engines in the early twentieth century, airplanes at last became a reality.

20. What does the passage mainly discuss?

- (A) Early drawings of flying machines
- (B) The history of flight
- (C) The various problems with ornithopters
- (D) References to flight in ancient myths

21. The word "sporadic" in line 3 is closest in meaning to

- (A) scientific
- (B) successful
- (C) occasional
- (D) courageous

22. According to the passage, what was the problem with the ornithopter?

- (A) It was poorly constructed.
- (B) It could only hold one person.
- (C) It had to be launched from a high place.
- (D) It required more strength than a human could provide.

23. The word "it" in line 8 refers to

- (A) source
- (B) motion
- (C) ornithopter
- (D) power

24. The word "buoyed" in line 11 is closest in meaning to

- (A) collapsed
- (B) designed
- (C) attempted
- (D) raised

25. The word "it" in line 13 refers to

- (A) balloon
- (B) warm air
- (C) lightweight bag
- (D) paper

26. What can be inferred about gliders that were made before the nineteenth century?

- (A) They could not be easily transported.
- (B) They relied on hot air to lift them off of the ground.
- (C) They were not well designed.
- (D) They remained airborne for long periods of time.

27. Which of the following statements is supported by the passage?

- (A) Humans have always had a fascination with flying.
- (B) The success of human flight depended on imitating the flight of birds.
- (C) The evolution of flight has been a steady, consistent process.
- (D) Flying enthusiasts still prefer gliders to balloons.