

LEVELED Book • Z²

ADAPTIVE ATHLETES



MULTI
LEVEL
Z•Z¹•Z²

Written by David Dreier

ADAPTIVE ATHLETES



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Focus Question

In what ways are adaptive athletes great competitors?

Words to Know

ability
adaptive
amputated
competitive
disability
mobility

paralyzed
paraplegia
prestigious
rehabilitate
striving
venues

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Front cover: Basketball teams from Brazil and Australia face off at the 2008 Paralympic Games in Beijing, China.

Title page: China's Hu Daoliang (left) fences with the United States' Scott Rodgers during a match at the 2008 Paralympic Games.

Table of contents: The logo design of the 2012 Paralympic Games in London (main); One of the special coins designed to honor all the sports to be contested in the 2012 Olympics and Paralympics in London (inset).

Adaptive Athletes
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Correlation

LEVEL Z2	
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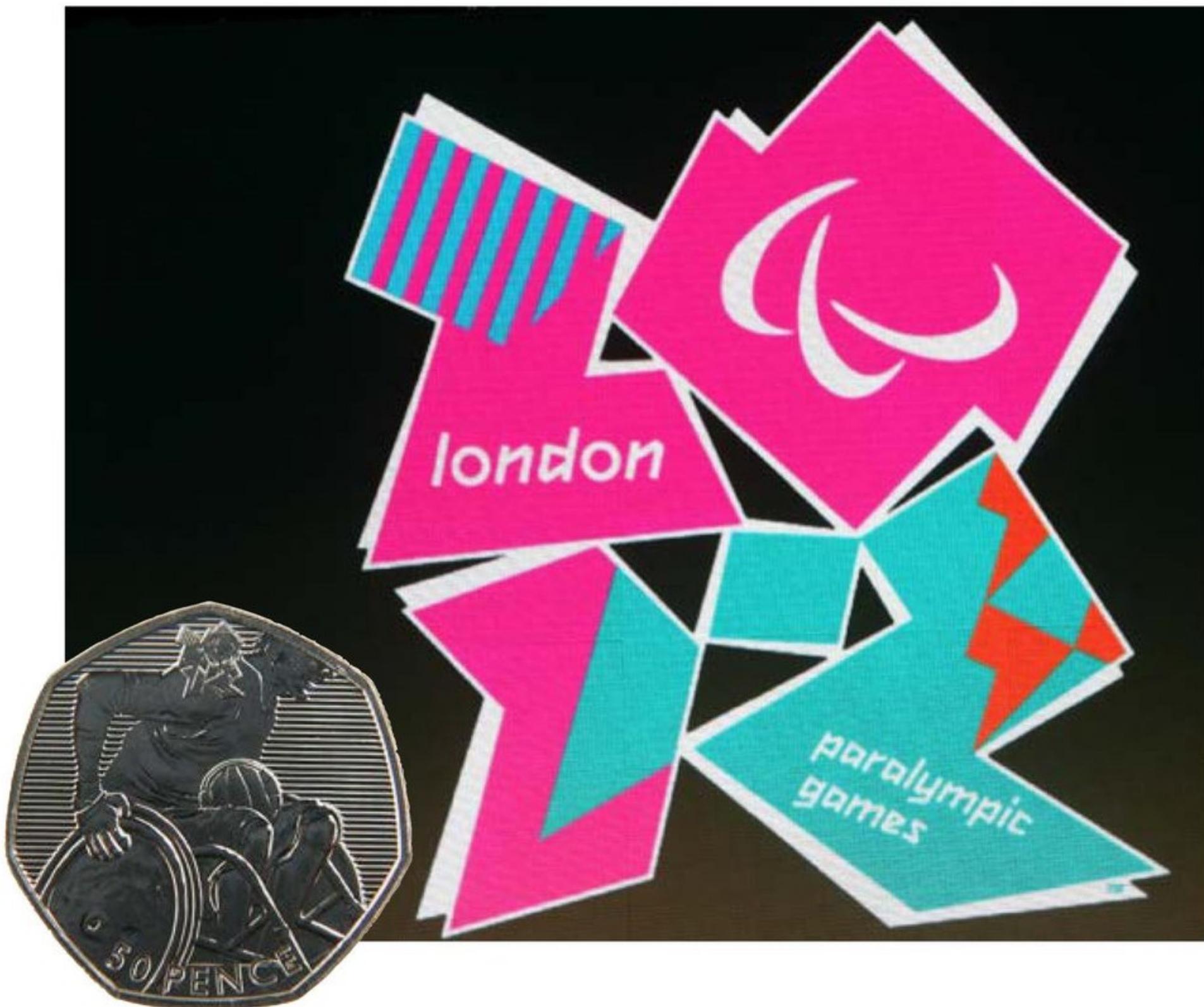


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Young dancers perform for the crowd during the Opening Ceremony of the 2008 Paralympic Games in Beijing, China.

Introduction

People have always admired athletes, particularly those special few who achieve a **competitive** level of **ability** in a sport. We admire natural talent as well as the ability to compete and win under pressure, but even athletes gifted with superior talent must hone their skills through training and practice. Successful athletes typically spend years developing the ability to run faster, swim farther, or throw a ball more accurately—always **striving** to be the best.

Athletic skill comes in many different forms. Swimmers, runners, and basketball players are athletes, as are weight lifters, equestrians, and cyclists.

Many athletes who have a physical or mental **disability** are top competitors, too. For years, most of these disabled athletes were prohibited from achieving their highest goal—Olympic



Prawat Wahoram of Thailand (right) at the finish line of the men's T54 5,000-meter race of the 2008 Beijing Paralympics. He won in 10 minutes, 22.38 seconds. Kurt Fearnley of Austria (left) finished second.

competition. Today, the Paralympic Games bring them to center stage!

Since 1960, athletes with physical disabilities have been able to compete in the Parallel Olympics, or Paralympics. The participants in these games are known as **adaptive** athletes. Some adaptive athletes are missing arms or legs, while others use wheelchairs for **mobility**, and some have limited vision or complete blindness. These elite athletes have shown that with desire and hard training, almost any physical limitation can be overcome.

The 2012 Paralympics, held in London, put the talents of outstanding adaptive athletes in the spotlight for all the world to see.

History of the Paralympics

The idea of the Olympic Games originated in ancient Greece, where athletic contests were held every four years from the 700s BC and perhaps earlier. A ruling Roman emperor abolished the games in AD 393, but more than 1,500 years later the Olympics were officially revived. Two hundred forty-one athletes from fourteen countries met in Athens, Greece, to compete in forty-three events.

The first Paralympics began about fifty years later. The Paralympics developed from a program in England to **rehabilitate** British veterans of World War II who had spinal injuries from combat. The program was the brainchild of a British neurologist, Sir Ludwig Guttmann.



Japan's Crown Prince Akihito (lower left) and Princess Michiko listen to Dr. Ludwig Guttmann address the competitors at the Opening Ceremony of the 1964 games in Tokyo, Japan.

Guttmann's goal was to eventually make his competition into a **prestigious** event equivalent to the Olympics, and that is exactly what happened. Nations around the world joined the Paralympic movement.

The first official Paralympic Games were held in 1960 in Rome, Italy, just after the Rome Summer Olympic Games.

The 1960 games included about four hundred athletes from twenty-three nations who competed in eight events, including archery, fencing, swimming, and basketball.

The Paralympic movement grew from there. Summer and Winter Paralympic Games have since been held every four years, usually in the same city as the Olympics.

In 1989, the International Paralympic Committee (IPC) was founded in Germany



Athletes from the United States and Israel compete in wheelchair basketball at the 1960 games, held in Rome, Italy.

to oversee the Paralympic movement and organize the games. Its mission is “to enable Paralympic athletes to achieve sporting excellence and inspire and excite the world.”



Philip Craven, president of the International Paralympic Committee, takes part in the 2008 Paralympic torch relay.

In 2001, the IPC forged an agreement with the International Olympic Committee (IOC). The two organizations ruled that the city hosting the Olympics would also host the Paralympics, formalizing what had already been done with six prior Paralympic Games.

The Paralympics originally had six participation categories: amputee, cerebral palsy, intellectual disability, wheelchair, visual impairment, and *les autres*. The term *les autres*, which is French for “the others,” included athletes with disabilities that did not fall into the other five groups.

Today, there are ten categories covering a range of physical, visual, and intellectual impairments. Within each category, athletes are classified by relative ability to compete in their sport of choice.

Over the years, a number of Paralympic athletes have distinguished themselves. Trischa Zorn, a blind American swimmer, is the most decorated Paralympian in history. From 1980 to 2004, she won 55 medals, 41 of them gold. The most decorated athlete in the Winter Games is polio survivor Ragnhild Myklebust of Norway. In cross-country races, relays, the biathlon, and ice sledge racing from 1988 through 2002, she won 27 medals, 22 of them gold.



Medal champ Trischa Zorn (left front) rests during training for the 2000 Paralympics held in Sydney, Australia.

The 2012 Summer Olympics and Paralympics in London

The 2012 London Paralympic Games were a huge event, with more than 4,000 athletes from at least 150 countries participating. Athletes competed in 503 events in 21 sports.

Bringing the Olympics and Paralympics to London was quite a competition in itself. In a lengthy bidding process, nine rival cities were reduced to five finalists: London, Madrid, Moscow, New York, and Paris.

For a while, it looked as though Paris was the front-runner, with London in second place. But as the evaluations continued, London's chances of getting the games gradually improved.

In July 2005, the IOC conducted four ballots to decide the winner. The first three ballots eliminated Moscow, Madrid, and New York, leaving London and Paris. In the final ballot, London received 54 votes, with Paris getting 50. The games were going to London! This was the third Olympics for London but its first time hosting the Paralympics.

Londoners celebrated when they learned of their city's victory, but their jubilation subsided by 2007, when they learned just how expensive

it was to host the games. The estimated total cost of constructing the **venues** and conducting the games was about 9.3 billion British pounds, or about 14 billion U.S. dollars. Of that amount, about 6 billion pounds (\$9 billion) was paid by the public as higher taxes.

The Olympic and Paralympic Games used the same venues in East London. The games' centerpiece was the new eighty-thousand-seat Olympic Stadium, located within an area called Olympic Park that was the setting for track and field events. Other new facilities in the Olympic Park included an aquatics center, a basketball arena, and a water polo arena.

The 2.5-square-kilometer (almost 1 sq. mi.) Olympic Park was once an industrial area with contaminated soil that was transformed into a green setting for many of the Olympic and Paralympic events. The creation of the Olympic Park was part of a program to rejuvenate a shabby, neglected section of East London.



Olympic Park, site of the 2012 Olympics and Paralympics in London

The Events

Athletes at the London Paralympic Games competed in 503 events in 21 sports.



Ernst van Dyk of South Africa won gold in the Men's Individual Road Race HC C final at the 2008 Beijing Paralympics with a time of 1:21:40.

Archery	Rowing
Athletics	Sailing
Boccia (lawn bowling)	Shooting
Cycling – Road	Swimming
Cycling – Track	Table Tennis
Equestrian	Sitting Volleyball
Soccer, 5-on-a-side	Wheelchair Basketball
Soccer, 7-on-a-side	Wheelchair Fencing
Goalball	Wheelchair Rugby
Judo	Wheelchair Tennis
Powerlifting	



Esther Vergeer

At the Top of Their Game

Many inspiring stories can be told about the athletes who participated in the 2012 London Paralympics. Here are four of them:

ESTHER VERGEER of the Netherlands became **paralyzed below the waist** at the age of eight. She was the world's top-ranked

wheelchair tennis player from 1999 to 2013, when she retired from competition. Vergeer was unbeaten for 10 years, during which time she accrued a winning streak of 470 matches.

Wheelchair racer **DAVID WEIR** is one of Great Britain's leading Paralympic athletes. Born with a disability, he needed metal braces on his legs



David Weir
(right)

to walk but later switched to a wheelchair. Weir soon became involved in wheelchair racing. He competed in the 2004 and 2008 Paralympics (in Athens and Beijing) and won six medals, two of them gold. At the London Paralympics, Weir took home four gold medals and had the honor of carrying his country's flag in the Closing Ceremony.

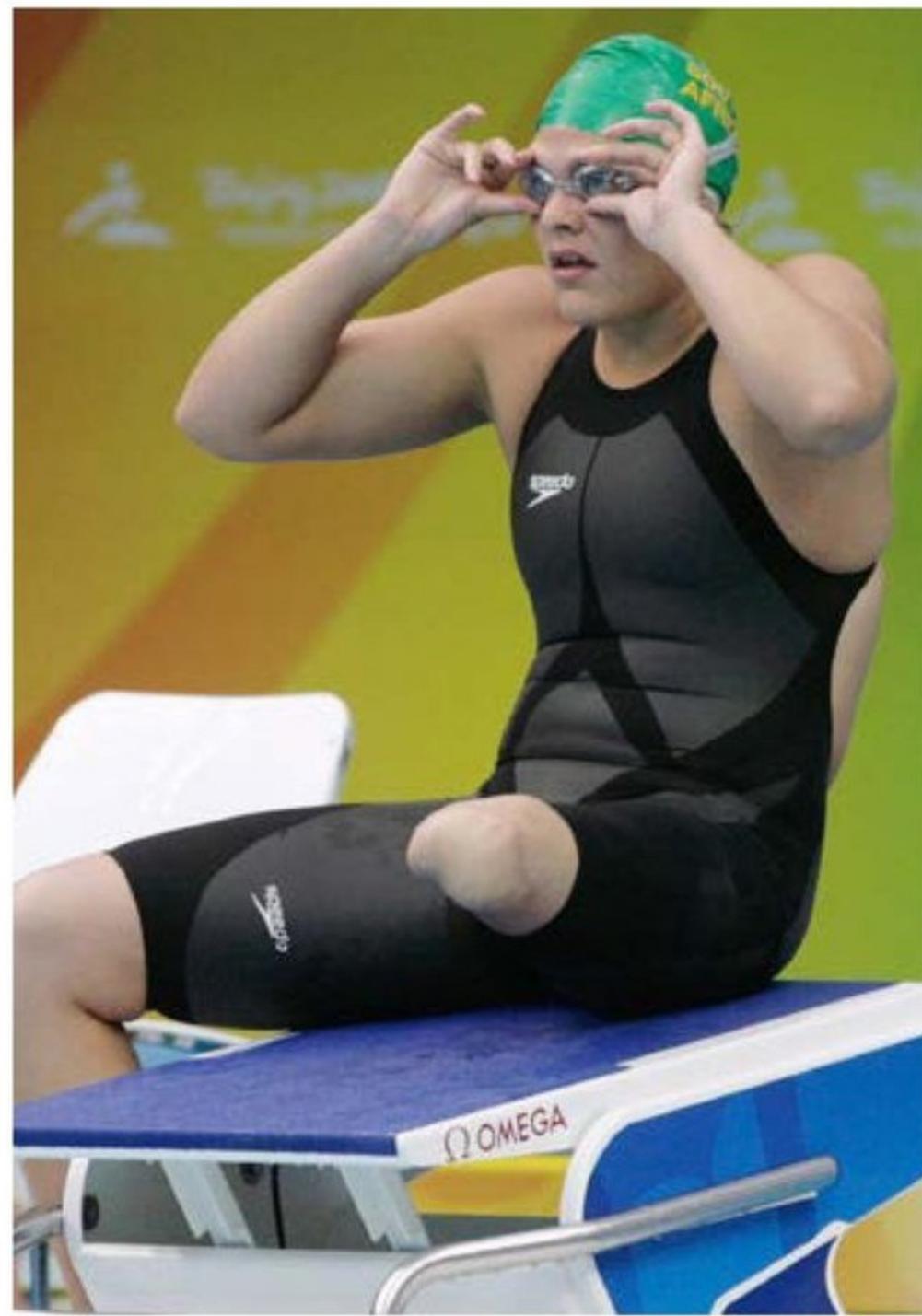
In 2005, TOM AGGAR of Great Britain had a spinal injury that left both legs paralyzed.

As part of his therapy, Aggar took up competitive rowing. In world championship events, he won gold medals in 2007, 2009, 2010, and 2011; he also won a gold medal at the 2008 Beijing Paralympics. After a disappointing fourth-place finish in London, Aggar won the World Cup in 2013.



Tom Aggar

NATALIE DU TOIT of South Africa began swimming competitively at age 14. When she was 17, her left leg was **amputated** at the knee after she was struck by an automobile. She resumed swimming three months later and competed at the 2004 Athens and 2008 Beijing Paralympics, winning 11 medals, 10 of them gold. Du Toit has the distinction of being the first amputee to compete in the regular Olympics. At the Beijing games, she finished 16th in the women's 16-km race. Du Toit won one silver and three gold medals at the London Paralympics and is now retired.



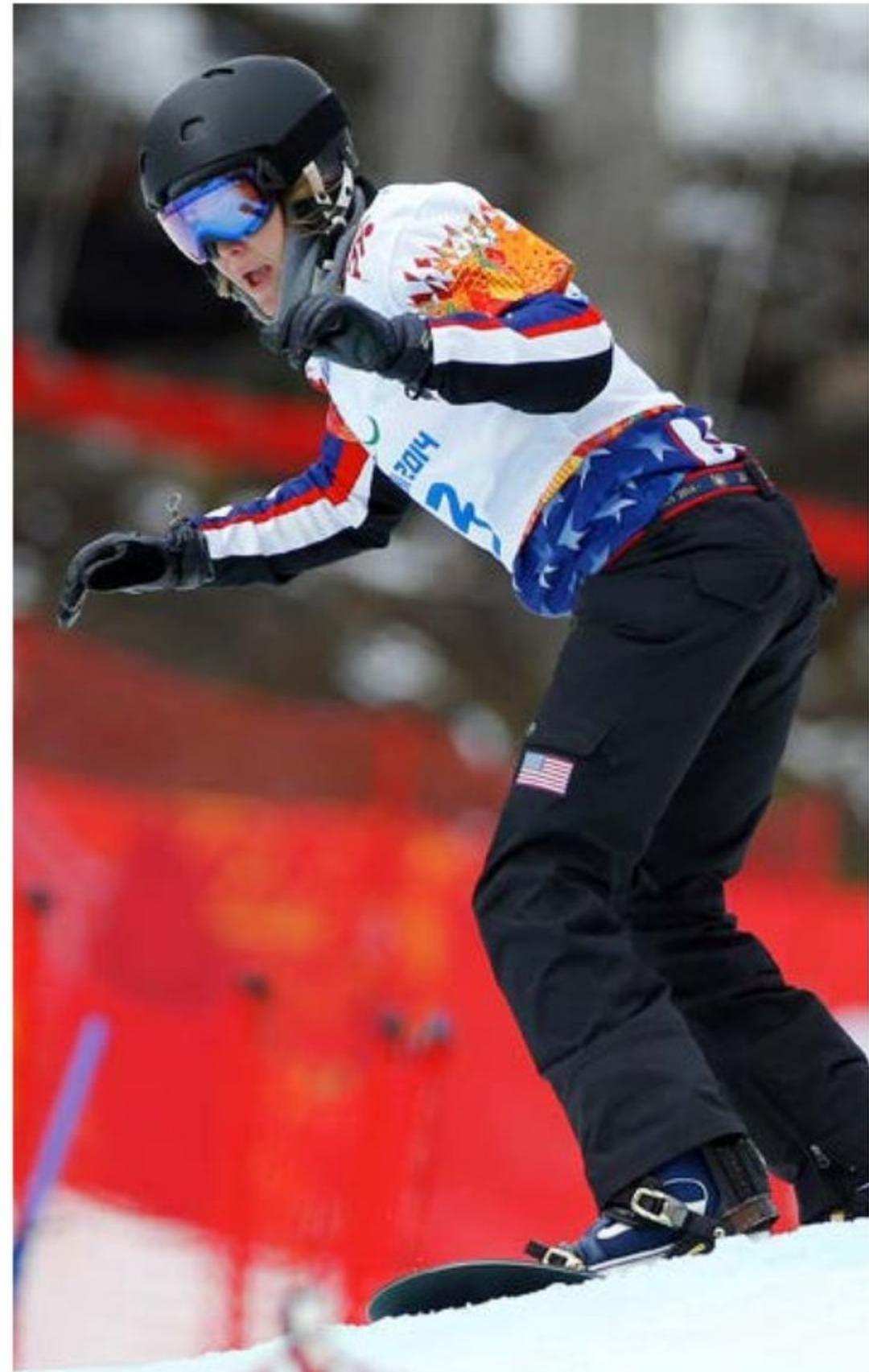
Natalie du Toit

Amy Purdy

Some Paralympians have been disabled for most of their lives. Others, like Tom Aggar and Natalie du Toit, have had to adapt to changes in their abilities later in life. One athlete who had to make an especially difficult adjustment is Amy Purdy.

Amy began snowboarding when she was 15 years old. When she was 19, she developed flu-like symptoms that were actually signs of an aggressive and deadly infection that spread quickly throughout her body. Amy's organs failed and the circulation to her legs stopped. Doctors had to amputate both of Amy's legs below the knee.

While recovering, Amy set her mind to making the most of her abilities. Just seven months after receiving prosthetic legs, Amy began snowboarding again.



Amy Purdy

More than anything, Amy wanted to excel in her sport. When her prosthetic legs and feet proved difficult to snowboard with, the determined double-amputee decided to build her own. Within a year, she was winning medals at major national snowboarding competitions.

Amy's success inspired her to help others like herself. In 2005, she cofounded an organization called Adaptive Action Sports, which introduces people with physical challenges to sports like snowboarding. Amy worked tirelessly to have adaptive snowboarding included in the Winter Paralympics.

In 2014, Amy's efforts finally achieved the desired outcome when adaptive snowboarding made its debut as a Paralympic event in Sochi, Russia. Amy not only won the battle to include snowboarding in the Paralympics, but she also won a bronze medal competing at those games.



Amy Purdy celebrates on the medal stand at the 2014 Winter Paralympics in Sochi.



Japan's Akiko Adachi saves the ball during a women's goalball match against Sweden at the 2008 Paralympic Games.

Blind Athletes

Athletes who are partially sighted or blind participate in a number of Paralympic sports.

The top sport for these Paralympians is goalball, the only sport in the Paralympics reserved exclusively for athletes with limited eyesight.

Each goalball team consists of three players who stand within fixed boundaries and try to throw a large rubber ball into the opposing team's goal. Jingling bells inside the ball cue players as to its location. All competitors must wear blackout masks so their vision is completely obscured.

Sound is also used to help guide track and field athletes who are blind or partially sighted. Spoken information, clapping, and electronic signals provide cues to competitors who cannot see. Whenever such sounds are being used in an event, the spectators are required to maintain absolute silence.

Runners also have guide runners who run in a lane next to them. The two runners are usually connected by a tether fastened loosely around their wrists. Track events longer than 400 meters allow a runner to have two alternating guides. In addition to receiving cues from the tether, runners may be aided by verbal information from their guide runner.



Octavio dos Santos (1036) of Angola and his sighted guide finish the men's T11 200-meter race at the 2008 Paralympics.



Australia's (yellow/green) Kieran Modra and his pilot, Tyson Lawrence (front), broke the world record and won the gold medal in the Men's Individual Pursuit event of the 2008 Paralympic Games.

In cycling events, visually impaired athletes use a two-seat bicycle with a pilot in the front seat. The athlete pedals the bike while the pilot steers it.

Guides are also used in another Paralympic sport—five-on-a-side soccer. Each team is allowed one guide, who stands on the sidelines and shouts instructions to the players. The ball is equipped with a noisemaking device so the players can locate it by sound.

Swimming events use people called “tappers,” who stand at both ends of the pool holding a long pole. They use the pole to tap the swimmers as they approach the wall. All swimmers must wear blackened goggles so that partially sighted swimmers do not have an advantage.

Exoskeletons

A device called an “exoskeleton” could give many people with disabilities an option for mobility and could someday play a part in the Paralympics.

An exoskeleton is a powered metal framework that surrounds part or all of the body. The power can be provided by a small gasoline engine or a battery pack.

Full-body exoskeletons are being developed for military use. The exoskeleton would enable the wearer to wield large weapons or carry heavy loads while on the move. Exoskeletons have other potential uses as well, such as allowing rescue workers to lift heavy debris.

The exoskeleton, nicknamed “Ekso,” at its public debut in London in October 2011. Originally developed for military use, the Ekso will now help people with spinal injuries to walk again.



Some exoskeletons, often referred to as robotic legs, are worn only on the lower part of the body. They are designed to make it possible for people with **paraplegia** to walk.



This lower-body exoskeleton, named eLEGS, is a bionic device that helps people with paraplegia stand and walk.

In 2011, a medal-winning Paralympic track and field athlete, Dave MacCalman of New Zealand, purchased a set of robotic legs. MacCalman had lost the use of his legs due to a spinal cord injury.

With his \$150,000 battery-powered robotic legs, MacCalman took his first steps in more than thirty years.

Perhaps robotic legs will someday be a common sight at the Paralympics.

Critical Thinking

What do you think would be the pros and cons of allowing athletes with robotic legs to compete in future Paralympic competitions?



The British tandem cycling pair of Aileen McGlynn (left) and sighted pilot Ellen Hunter pedaled for gold at the 2008 Paralympics in Beijing.

Achieving Excellence

From its humble beginnings in 1948, the Paralympics have grown to rival the Olympics in scope and spectacle. The Paralympic Games, just like the Olympic Games, offer an inspiring look at the human spirit at its best, showcasing top athletes achieving excellence in their chosen sports. Paralympic athletes are great examples of competitors who have been made able by their abilities rather than being hampered by their disabilities. Those abilities will shine at the Paralympic Games for years to come.

Glossary

ability (<i>n.</i>)	a skill or talent; the power to do something (p. 4)
adaptive (<i>adj.</i>)	able to change to fit a new or specific situation or environment (p. 5)
amputated (<i>v.</i>)	cut off; severed (p. 15)
competitive (<i>adj.</i>)	of or relating to a rivalry between individuals, teams, or businesses (p. 4)
disability (<i>n.</i>)	a physical or mental condition that limits a person's ability to do something (p. 4)
mobility (<i>n.</i>)	the ability to move from place to place (p. 5)
paralyzed (<i>adj.</i>)	made unable to move in one or more parts of the body (p. 13)
paraplegia (<i>n.</i>)	a condition caused by illness or injury in which the lower half of the body, including both legs, is left paralyzed (p. 22)
prestigious (<i>adj.</i>)	having honor, respect, or high standing (p. 7)
rehabilitate (<i>v.</i>)	to restore to health or normal activity (p. 6)
striving (<i>v.</i>)	making a serious effort to achieve something (p. 4)
venues (<i>n.</i>)	places where organized events are held (p. 11)

Adaptive Athletes

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Connections

Writing

Research a sport that is included in both the Paralympics and Olympics. Write a paragraph comparing and contrasting how athletes in both compete.

Social Studies

Using a world map, indicate the locations of the Olympics and Paralympics since 1980. Label the map with each city and year.

The logo for Reading A-Z features the word "Reading" in a large, bold, red sans-serif font. The letter "R" is stylized with a yellow sun-like graphic above it, having rays extending upwards and to the sides. To the right of "Reading" is a smaller, bold "A-Z".

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