YOU ARE "WONDERFULLY MADE"!

WHEN you reflect on the remarkable abilities of various animals, do you sometimes feel a twinge of envy? Perhaps you wish that you could soar like an albatross, swim like a dolphin, see like an eagle, or run like a cheetah.

Yes, animals have some amazing abilities. But so do we! Indeed, the human body has been described as the perfect machine. Of course, we are much more than a machine. We have creativity, curiosity, imagination, and ingenuity—qualities that move us to devise machines that enable us to do virtually anything we set our minds to. We can fly, even beyond the speed of sound; navigate above or below the surface of vast oceans; gaze some 14 billion light-years into space; peer into the living cell; and design medicines, therapies, and technologies that help us diagnose and treat diseases.

Even with little or no external assistance, healthy, well-trained humans are capable of doing astonishing things. At the Olympic Games, for example, gymnasts, high divers, ice-skaters, skiers, and others perform amazing feats with a level of agility, artistry, creativity, and grace that leave audiences enthralled.

Do you appreciate the special gifts that you have as a human? Granted, you may not be an Olympic athlete, but you have many gifts for which to be thankful. An ancient Bible writer expressed his appreciation to God in song: "I shall laud you because in a fear-inspiring way I am wonderfully made."* (Psalm 139:14) Why not think about that statement as you consider the articles that follow? They will examine in more detail some of the wonders of the human body, as well as other far more important traits that make us truly unique.

* Readers interested in the question of creation versus evolution might like to read the brochures *Was Life Created?* and *The Origin of Life—Five Questions Worth Asking.* These brochures may be obtained from Jehovah's Witnesses locally or from the publishers of this magazine.

BUILT TO CONSERVE ENERGY

Our upright stance is very energy efficient, for it demands little muscle action to sustain the vertical alignment of our body. In fact, we 'use only 7% more energy standing than when lying down,' says neuroscience researcher John R. Skoyles. He adds that a dog uses about 70 percent more energy when standing (on all fours) than when lying down.

APPRECIATE YOUR SPECIAL GIFTS

THE human body is outstandingly versatile. No animal has the sheer range of abilities that we humans do. One reason for our versatility is our upright stance, which not only expands our area of vision but also frees our arms and hands for any number of tasks. Imagine how our activities would be curtailed if we had to walk on all fours!

Another asset is our highly sophisticated sensory system, which will be the focus of this article. The system includes the hands, the ears, the eyes and, of course, our exceptional brain. Let's look at these individually.

The Human Hand

Our hands are beautiful instruments of amazing precision. With them we can thread a needle or swing an ax, paint a portrait or play the piano. Our hands are also highly sensitive. Even a brief touch may reveal whether a substance is fur, paper, skin, metal, water, or wood. Yes, our hands are much more than implements for grasping and manipulation. They are also a source of knowledge about our world. And they are a means of conveying warmth and affection.

Why is the human hand so adept, so expressive, so sensitive, and so versatile? The reasons are many. Consider four.

1. Our two hands have a total of more than 50 bones, about a quarter of all the bones in the body. The intricate assembly of the parts of the hand—the bones, the joints, the ligaments—gives the human hand extraordinary flexibility.

2. The hand has an opposable thumb mounted on a saddle joint, an ingenious configuration of two saddle-shaped surfaces at right angles to each other. This joint, along with the associated muscles and other tissues, gives the thumb amazing flexibility and strength.

3. Three sets of muscles control the hand. The two most powerful sets—the extensors and the flexors—are in the forearm and operate the fingers by means of tendons. How bulky and unwieldy the hand would be if these muscles were located in it! The third set, much smaller, which does lie within the hand, gives the fingers precision of movement.

4. Your fingers are, in effect, living sensors—the fingertips having about 2,500 receptors in just one sixth of a square inch (1 sq cm). Moreover, the receptors are varied, each kind having its own function, enabling you to feel texture, temperature, wetness, vibration, pressure, and pain. As a result, the human finger is the most sensitive touch sensor known.

Awake!®

THIS JOURNAL IS PUBLISHED for the enlightenment of the entire family. It shows how to cope with today's problems. It reports the news, tells about people in many lands, examines religion and science. But it does more. It probes beneath the surface and points to the real meaning behind current events, yet it always stays politically neutral and does not exalt one race above another. Most important, this magazine builds confidence in the Creator's promise of a peaceful and secure new world that is about to replace the present wicked, lawless system of things.

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The Human Ear

Although some animals can hear sound frequencies beyond the range of human hearing, the combination of a human's ears and brain is a formidable one, say audio experts. Our hearing enables us to determine loudness, pitch, and tone and to approximate the direction and distance of a sound source. The frequency range of a healthy human ear is roughly 20 to 20,000 hertz, or cycles of sound oscillation per second. The most sensitive region is in the 1,000 to 5,000 hertz range. Moreover, we may be able to detect a change of just one hertz from, say, 440 hertz to 441 hertz.

Indeed, a healthy ear is so sensitive that it can detect sounds when the vibration, or to-and-fro movement, of the air at the eardrum is less than the diameter of an atom! According to a university course on hearing, "the human hearing system is close to the theoretical physical limits of sensitivity. . . . There would be little point in being much more sensitive to sound, as all we would hear would be a 'hiss,'" the result of the random movement of the atoms and molecules that make up the air.

Eardrum vibrations are amplified mechanically by lever action and are transferred to the inner ear by means of the ossicles—tiny bones known as the hammer, the anvil, and the stapes. But what if your ears are suddenly struck by a deafening sound? In that event, they have a built-in protective mechanism in the form of muscle action that adjusts the ossicles to reduce the force of the sound. However, the ears are not equipped to deal with prolonged loud noise. Such exposure can permanently damage the hearing. So take good care of this "wonderfully made" gift from your Creator.—Psalm 139:14.

Languages: Afrikaans, Albanian, Amharic, Arabic, Armenian, Bislama, Bulgarian, Cebuano, Chichewa, Chinese (Simplified), Chinese (Traditional)◇ (audio Mandarin only), Chitonga, Cibemba, Croatian, Czech,◇ Danish,◇ Dutch,+◇ English,+◇ Estonian, Ewe, Fijian, Finnish,◇ French,+⊙◇ Georgian, German,+◇ Greek, Gujarati, Hebrew, Hiligaynon, Hindi, Hungarian, Icelandic, Igbo, Iloko, Indonesian, Italian,+◇ Japanese,+◇ Kannada, Kinyarwanda, Kirghiz, Kirundi, Korean,+◇ Latvian, Lingala, Lithuanian, Macedonian, Malagasy, Malayalam, Maltese, Myanmar, Norwegian,+◇ Polish,+◇ Portuguese,+⊙◇ Punjabi, Rarotongan, Romanian, Russian,+◇ Samoan, Sepedi, Serbian, Sesotho, Shona, Silozi, Sinhala, Slovak, Slovenian, Spanish,+◇ Swahili, Swedish,◇ Tagalog,◇ Tamil, Thai, Tok Pisin, Tongan, Tsonga, Tswana, Turkish, Ukrainian, Urdu, Vietnamese, Xhosa, Yoruba, Zulu

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Would you welcome more information or a free home Bible study? *Please send your request to Jehovah's Witnesses, using one of the addresses below. For a complete list of addresses, see www.watchtower.org/address.* ***America, United States of:*** 25 Columbia Heights, Brooklyn, NY 11201-2483. ***Australia:*** PO Box 280, Ingleburn, NSW 1890. ***Bahamas:*** PO Box N-1247, Nassau, NP. ***Britain:*** The Ridgeway, London NW7 1RN. ***Canada:*** PO Box 4100, Georgetown, ON L7G 4Y4. ***Germany:*** 65617 Selters. ***Guam:*** 143 Jehovah St, Barrigada, GU 96913. ***Guyana:*** 352-360 Tyrell St, Republic Park Phase 2 EBD. ***Jamaica:*** PO Box 103, Old Harbour, St. Catherine. ***Japan:*** 4-7-1 Nakashinden, Ebina City, Kanagawa-Pref, 243-0496. ***Puerto Rico:*** PO Box 3980, Guaynabo, PR 00970. ***South Africa:*** Private Bag X2067, Krugersdorp, 1740. ***Trinidad and Tobago:*** Lower Rapsey Street & Laxmi Lane, Curepe.

Your auditory system also helps you to detect a sound source. The secret lies in a number of factors, including the shell-like shape of the outer ear, its grooves, the separation of the two ears, and some computational brilliance on the part of your brain. Thus, if the intensity of a sound fades just slightly from ear to ear or if the sound reaches one ear just 30 millionths of a second before it reaches the other, your brain will promptly point your eyes toward the sound source.

Imagine if you had to make all those computations consciously! To be sure, you would have to know how to use very advanced mathematics—and with lightning speed! If an engineer were to design a "hearing" system that came even remotely close to the one your Creator gave you, he would receive many accolades. Yet, how often do you hear people give due credit to God for his awesome works? —Romans 1:20.

The Human Eye

Some researchers estimate that people who can see well gain approximately 80 percent of their information about the world through their eyes. In combination with our brain, our eyes enable us to see in full color, to track moving objects and images smoothly, to recognize patterns and shapes, and to see in three dimensions. Furthermore, we can see in varying degrees of light.

The latter involves a number of complementary mechanisms. For example, the pupil can expand from 0.06 inch to 0.3 inch (1.5 mm to 8 mm) in diameter, resulting in a possible 30-fold increase in the amount of light entering the eye. The light then passes through the lens, which focuses it onto the retina, concentrating the light energy by a factor of 100,000 times. So *never* look directly at the sun with the naked eye!

The retina, in turn, houses two types of photoreceptors—cones (approximately 6 million), which give us color vision and high resolution, and rods (120-140 million), which are more than a thousand times as sensitive as the cones and help us to see in dim light. Indeed, under optimal conditions, a rod can detect a single photon, or elementary particle of light!

Another adaptive mechanism involves retinal neurons linked to the cones and rods. These neurons adapt "in seconds and can improve night vision by a factor of 10 or more," says the American Optometric Association. "Neural adaptation is rather like having low-speed and high-speed film simultaneously available in your camera."

Engineers often design cameras, scanners, and computers, along with compatible software. But the degree of integration and the level of sophistication attained are vastly inferior to those of our sensory system. Ask yourself, 'Is it reasonable to attribute our vastly superior living sensory system to blind chance, as evolutionists do?' An ancient servant of God named Job knew little about the human body compared with what we know today. Even so, he felt impelled to say to God: "Your own hands have shaped me."—Job 10:8.

The Human Brain

With astonishing efficiency, the brain decodes the streams of signals pouring in through the nerves from the sense organs. Moreover, it links these signals with details stored in its memory. Thus, a certain smell may immediately trigger the brain to retrieve a long-forgotten experience or event. And if you see just a small part of something familiar —the tip of your cat's tail, for example—your brain will fill in the missing details so that you know your cat is nearby.

Of course, your brain was not preprogrammed with images of cats, just as it was not preprogrammed with the smell of a rose or the sound of running water or the feel of fur. Your brain learned these associations. The experiences of people who were born blind but have been given the ability to see, perhaps through surgery, make this evident.

Their brain had to learn to interpret the flood of visual signals now flowing to it. How do such people fare?

They soon report the ability to detect color, motion, and simple forms. But after that, progress varies. Children, especially the very young, continue to learn quite well. But that is not the case with adults. Even their ability to recognize faces remains highly impaired. And, tragically, a common feature with "cured" adults "is initial euphoria followed by disappointment and disorientation with the restored vision, often leading to severe depression," says the Koch Laboratory at the California Institute of Technology.

These facts help us to appreciate more fully the degree of healing that Jesus Christ performed during his ministry on earth. The blind and the deaf not only had their eyes and ears opened but also began to recognize the sights and sounds around them. Likewise, the mute spoke normally, which would have been especially amazing in the case of those who were born with this disability. (Matthew 15:30; Mark 8:22-25; Luke 7:21, 22) And we can be confident that none of the blind who were healed spiraled into depression. In fact, one healed man courageously defended Jesus, saying to Jesus' religious enemies: "From of old it has never been heard that anyone opened the eyes of one born blind. If this man were not from God, he could do nothing at all."—John 9:1-38.

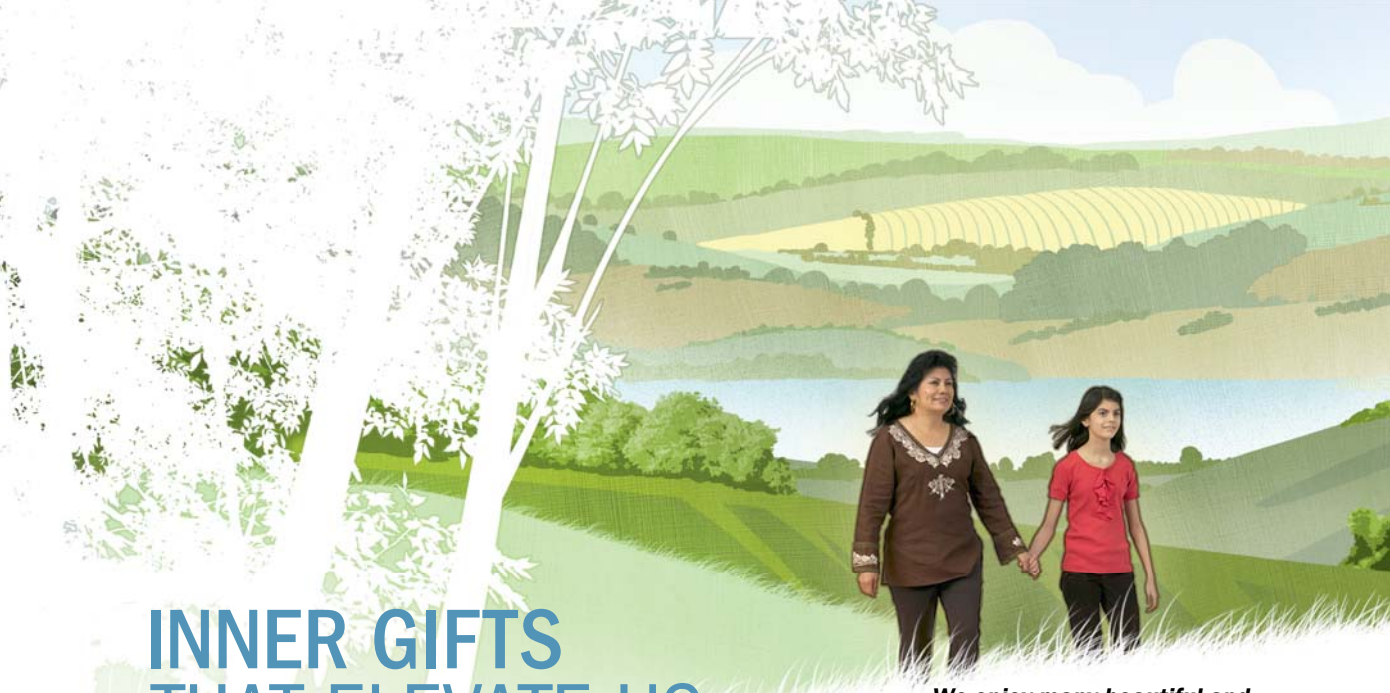
In the following article, we will examine some of our inner qualities, including courage and love. Have you wondered why humans alone have the potential to display such qualities? To be sure, the existence of such uniquely human traits has presented a major obstacle to people who wish to prove that we are merely highly evolved animals.

YOUR AMAZING BRAIN

How does your brain feel, hear, see, and smell? Scientists are baffled. "There is no hint in your brain as to how you see the words you are now reading," said scientist Gerald L. Schroeder.

He also wrote: "Revelation of the previously unimagined intricate workings of the brain has challenged the simplistic theory of life's random evolution." He continued: "Had Darwin known of the wisdom hidden within life, I have confidence that he would have proposed a very different theory."

Your brain interprets signals streaming in from the senses and links these with details stored in your memory



INNER GIFTS THAT ELEVATE US

We enjoy many beautiful and pleasurable things that are not essential for life

A 50-YEAR-OLD construction worker was waiting for his train at a New York City subway station. Nearby, a young man stumbled to the edge of the platform and fell onto the tracks just as a train was coming. Making a split-second decision, the construction worker leaped onto the tracks and held the other man down as the train passed safely over them both.

During the Nazi era, Jehovah's Witnesses in Europe refused to say "Heil Hitler!" because the German word *heil* means "salvation." Their deeply held belief was that Jesus Christ was their Savior and that "there is no salvation in anyone else." (Acts 4:12) For refusing to idolize Hitler, many were torn away from their home and sent to concentration camps, where they continued to hold to their Christian principles.

These examples show that a human can put the welfare of another—even a total stranger—before self and a respect for principles before personal freedom. Does such behavior reflect the notion that humans are simply highly evolved animals? Or does it suggest that we are a higher creation? Think about that as you reflect on the following questions:

- Why do we have a conscience, an inner sense of right and wrong?
- Why do we feel awe when we reflect on the wonders of creation?
- Why do we enjoy music, painting, poetry, and other art forms? After all, they are not essential for our survival.
- Why do people of virtually every culture manifest a desire to commune with a higher being?
- Why do we ask: 'Why am I here?' 'What is the purpose of life?'
- When someone dies, why do we engage in various ceremonies and rituals?
- And why is belief in an afterlife virtually universal? Is our inborn desire to live forever just an evolutionary hoax?

Where Answers Can Be Found

The most reasonable answers to these questions can be found in the most widely

Humans need more than food and water. They also need guidance from their Creator

available sacred text in the world—the Bible. Consider what it says about the following:

Human nature. Humankind was created "in God's image," meaning that we have the potential to reflect our Creator's qualities. (Genesis 1:27) Thus, the first man was a "son of God."—Luke 3:38.

Our need to love and be loved. "God is love," says 1 John 4:8. Formed in God's image, we need love from the cradle to the grave. If I "do not have love, I am nothing," wrote the Christian apostle Paul. (1 Corinthians 13:2) He also said: "Become imitators of God, as beloved children."—Ephesians 5:1.

Our spiritual need. "Man must live, not on bread alone, but on every utterance coming forth through Jehovah's mouth." (Matthew 4:4) God's utterances recorded in the Bible reveal his personality and his purpose for us. We cannot live truly meaningful lives in spiritual ignorance.

Why we die. "The wages sin pays is death, but the gift God gives is everlasting life." (Romans 6:23) Sin is a failure to live up to God's moral and spiritual standards. God, however, has purposed to remove sin, rehabilitate all who love and obey him, and grant them everlasting life in Paradise on earth.—Psalm 37:10, 11, 29; Luke 23:43.

Do you want to experience life to the full, perhaps developing talents that you never dreamed you could? Do you want to learn more about your Creator and his wonderful purpose for you? If so, then we invite you to examine the Bible, the source of spiritual truth. No other endeavor could give you greater happiness both now and in the future. —Matthew 5:3; John 17:3.

FROM INFANCY WE NEED LOVE

"Stimulation and love are the recipes the young brain calls for," says scientist Gerald L. Schroeder. How important, then, that parents heed the Bible injunction, given especially to mothers, for them "to love their children"!—Titus 2:4.