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## NEXT MEETING

Wednesday  
12<sup>th</sup> February 2025  
at 07.00 PM  
at Rotary Balbhavan



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# THE COCHIN ROTARIAN

## SURGERY OF THE BRAIN: WHERE HANDS TOUCH THE SOUL

*classification talk By Rtn. Dr. Tharun Krishna*



The human brain has long fascinated scholars, artists, and scientists alike. The intricate relationship between divine creation, evolution, and the extraordinary capabilities of the human mind forms the essence of our existence. In a riveting talk, Rtn. Dr. Tharun Krishna explored this relationship, weaving together history, art, science, and medicine to unravel the mysteries of the brain and its role in shaping humanity.

### The Hidden Message in Michelangelo's Fresco

Dr. Tharun began by examining the iconic fresco painted by Michelangelo on the ceiling of the Sistine Chapel. According to Biblical scripture, God created man in His own image. However, Michelangelo, a master of the Renaissance, seemingly embedded a deeper message within his artwork.

A closer look at the fresco of *The Creation of Adam* reveals an uncanny resemblance between God's surrounding figures and the shape of the human brain. This discovery, first published in *The Journal of the American Medical Association (JAMA)* in 1992 by Dr. Frank Meshberger, suggests that Michelangelo was emphasizing the divine gift of intellect and consciousness bestowed upon humankind.

## **Evolution and the Rise of Human Intelligence**

Science offers an alternative narrative to the biblical story of creation. The universe, as per the Big Bang theory, began 14 billion years ago, and life on Earth emerged around four billion years ago. The human journey, however, spans only six million years, a mere fraction of this vast timeline. The evolution of the nervous system, dating back 600 million years, is what eventually led to the development of intelligence.

One of the earliest thinkers to explore the brain's significance was Aristotle. Though he incorrectly believed the brain merely functioned as a cooling system for the body, he did note that humans have a disproportionately large brain relative to their body size. This ratio, known as the *brain-to-body mass ratio*, later became a key measure in assessing intelligence. Carl Sagan famously linked this ratio to cognitive abilities, demonstrating why species such as dolphins exhibit intelligence close to that of humans, despite their vastly different environments.

## **The Brain and Its Complex Functions**

Dr. Tharun elaborated on the division of the brain into hemispheres, each responsible for distinct functions. The right hemisphere governs creativity, emotion, and artistic ability, while the left hemisphere handles logic, reasoning, and mathematics. Notable figures such as Michelangelo likely had highly developed right brains, whereas Albert Einstein's strengths lay in the left hemisphere.

Furthermore, the brain is divided into four lobes—frontal, temporal, parietal, and occipital—each controlling different functions. Pioneering neurosurgeons like Wilder Penfield mapped these functions through electrical stimulation of the brain, discovering that different body parts are represented disproportionately. The hands and face, particularly the lips, occupy a significant portion of the motor cortex, highlighting their importance in speech and dexterity—two defining traits of human evolution.

## **Evolution and the Development of Human Dexterity**

The ability to walk upright (bipedalism) was a pivotal moment in human evolution. It freed the hands, allowing early humans to develop tools—an essential step in survival and later, technological advancement. The emergence of *Australopithecus afarensis*, commonly known as "Lucy," marked the transition from ape-like ancestors to *Homo sapiens*, the wise man.

## **The Delicate Art of Brain Surgery**

Dr. Tharun provided a glimpse into the delicate and high-stakes nature of neurosurgery. One remarkable case involved a 32-year-old

woman, a breast cancer survivor, who presented with seizures. An MRI revealed a metastasis in the left hemisphere of her brain, positioned beneath the motor cortex and the Broca's area—critical regions responsible for movement and speech. Operating on such a case required precision, as damaging these areas could leave the patient paralyzed or unable to communicate.

The solution? Awake brain surgery. Despite common perceptions, the brain itself does not feel pain, allowing neurosurgeons to perform intricate procedures while the patient remains conscious. This technique enables real-time feedback from the patient, ensuring that vital functions remain intact.

## **The Final Frontier of Human Understanding**

Despite the advancements in neuroscience, the workings of the human brain remain one of the greatest mysteries. Even Nobel Laureate Roger Penrose, who wished to pinpoint the location of human consciousness, admitted that much remains unknown. After 25 years of neurosurgical practice, Dr. Tharun echoes this sentiment—each surgery deepens the understanding of the brain but also highlights the vastness of what is yet to be discovered.

The brain is not just an organ; it is the seat of our thoughts, memories, emotions, and identity. Through his talk, Dr. Tharun Krishna painted a picture of human evolution, intellect, and the surgical mastery required to preserve this most vital of all creations. As we continue to explore the depths of neuroscience, we stand at the crossroads of art, science, and philosophy, where hands indeed touch the soul.



## ROTARY INTERNATIONAL PRESIDENTIAL MESSAGE

February 2025

This month, as we come together for the International Assembly and the Presidential Peace Conference, we celebrate *The Magic of Rotary* — a unique blend of global connection, vision, and action that empowers us to create lasting change.

One of the most inspiring examples is our Rotary Peace Fellowship program, a cornerstone of Rotary's mission to build a more peaceful and just world.

For more than 23 years, Rotary Peace Fellowships have been transforming communities. Our Rotary Peace Centers, hosted at leading universities around the globe, have educated over 1,800 fellows who now work in more than 140 countries.

These centers cultivate expertise in fields like conflict resolution, sustainable development, and peacebuilding, preparing fellows to tackle some of the world's most pressing challenges. This program exemplifies how Rotary turns vision into action, creating a ripple effect of hope and change.

This month during the Presidential Peace Conference, we celebrate a significant milestone with the opening of our newest peace center in Istanbul. This center will focus on training leaders to address peacebuilding challenges in the Middle East and North Africa, fur-



ther extending Rotary's impact.

Peace fellows are dedicated champions of transformation, addressing critical issues such as refugee resettlement, youth and women's empowerment, and reconciliation in conflict zones. Many founded vital organizations or hold leadership roles in governments, nongovernmental organizations, and international institutions like the United Nations and World Bank.

One inspiring story is that of Ntang Julius Meleng, a 2024 Rotary Peace Fellow at Makerere Univer-

sity in Uganda. Through his Social Change Initiative, Julius has worked to empower young people in Cameroon to take active roles in peacebuilding and leadership.

His project provided training in conflict prevention, civic engagement, and leadership to youths and community officials in areas affected by conflict, equipping people to drive sustainable peace efforts.

Julius harnessed Rotary's global network to overcome obstacles, including limited funding and security risks, and make a meaningful impact.

The Rotary Peace Fellowship gave Julius the tools and support to turn his vision into reality. His work embodies *The Magic of Rotary* — the transformative power of con-

necting people, sharing resources, and uniting for a common purpose.

As we reflect on the achievements of our peace fellows and celebrate Rotary's enduring commitment to peace, let us also recognize the role that everyone in our network of 1.2 million members plays in creating magic through service.

Together, we can amplify our impact, inspire new generations of leaders, and build a brighter, more peaceful future.

**Stephanie A. Urchick**  
*President 2024-25*

# WATER: AN INVALUABLE RESOURCE

By Rtn. Prathik Nayar

Water is the lifeblood of our planet, an invaluable resource that sustains life, supports ecosystems, and drives economies. Despite covering about 71% of the Earth's surface, only 2.5% of the planet's water is fresh, and even less is accessible for human use. As population growth, industrialization, and climate change place increasing pressure on water sources, the need for sustainable water management has never been more urgent.

## The Growing Water Crisis

Globally, billions of people face water scarcity. According to the United Nations, nearly 2.2 billion people lack access to safe drinking water, while over 4 billion experience severe water shortages for at least one month each year. Deforestation, pollution, and overuse of groundwater further exacerbate the crisis, leading to declining freshwater availability and deteriorating water quality.

## Water and Sustainable Development

Water plays a crucial role in achieving sustainable development. It is central to agriculture, industry, sanitation, and health. Without adequate water resources, food production declines, health risks increase, and economic development slows down. The United Nations' Sustainable Development Goal 6 (SDG 6) aims to ensure availability and sustainable management of water and sanitation for all. Achieving this goal requires global cooperation, innovative technologies, and strong policy frameworks.

## The Role of Communities and Organizations

Communities and organizations like Rotary have a pivotal role in addressing water-related challenges. Rotary International has been actively involved in water conservation initiatives, including providing clean water to underserved communities, supporting sanitation projects, and promoting education on water sustainabil-

ity. Locally, Rotary clubs can initiate rainwater harvesting projects, advocate for efficient water use, and support policies that prioritize water conservation.

## Individual Responsibility

Every individual can contribute to water conservation in simple but effective ways:

- **Reduce Water Waste:** Fix leaks, turn off taps when not in use, and use water-efficient appliances.
- **Harvest Rainwater:** Collect rainwater for domestic use and irrigation.
- **Protect Water Bodies:** Avoid dumping waste into rivers, lakes, and oceans.
- **Promote Awareness:** Educate others about the importance of water conservation.

Water is an irreplaceable resource that demands our immediate attention and collective action. As members of Rotary and responsible global citizens, we must champion water conservation efforts, advocate for sustain-

able policies, and inspire communities to safeguard this precious resource. Only through a shared commitment can we ensure that future generations inherit a world where clean and accessible water is a given, not a privilege.

By working together, we can make a difference—because every drop counts.



Rtn. PP M.K. Parameswaran  
Rtn. PP Shweta S. Vasudevan

06 Feb  
07 Feb



Rtn. PP V.R. Nair / Rtne. Dhanya

09 Feb

