Put on Your Thinking Cap

From the viewpoint of chemistry, what is this formula for?

Formula

1. 3 liters of water
2. A handful of pencil leads
3. A pile of match-heads
4. A small bar of soap
5. A small pack of fertilizer
6. A small nail
7. A pinch of magnesium, potassium and zinc

The method: Combine the raw materials at 37°C and wait for approx. 280 days for the finished product.

This is the formula for making a baby.

3 liters of water — 65% of the human body is water.

A handful of pencil leads — The main ingredient is carbon, carbon and water combine into carbohydrates

A pile of match-heads — The main ingredient is sulfur, sulfur is an important part of enzymes, proteins and muscles.

A small bar of soap — The main ingredient is fats, fats form the fatty part and connective tissue of the human body.

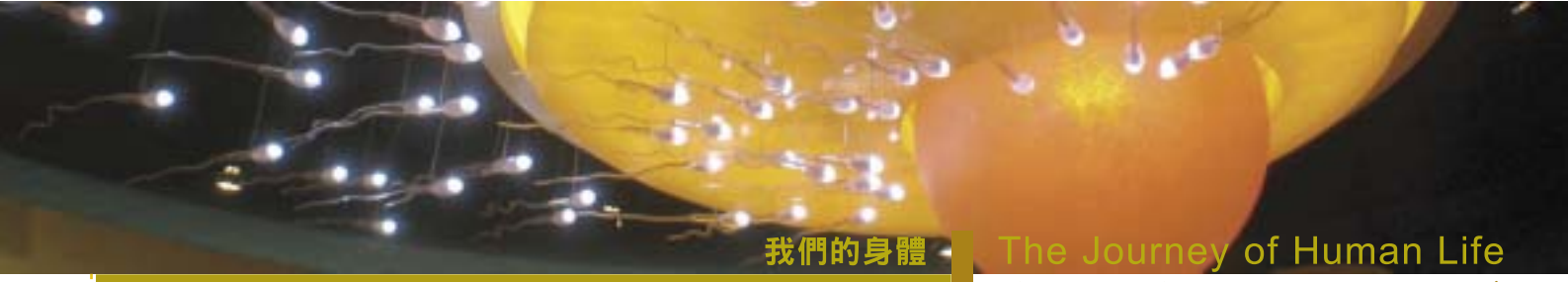
A small pack of fertilizer — The main ingredient is nitrogen, nitrogen is an important part of proteins.

A small nail — The main ingredient is iron, iron is an important constituent of haemoglobin in blood.

A small pinch of magnesium, potassium and zinc — Essential trace elements in the body

Due to chemical reactions, the above elements are slightly different from those in the human body.

BIRTH



Birth of the Human Body

A sperm and an egg are required to form a baby. The sperm and egg combine inside the mother's body to form the zygote; after about 2 days, the zygote develops into a morula consisting of 4~16 cells; after 5-6 days, the zygote develops into a blastocyst. The outer layer cells of the blastocyst (trophoblast) will develop into the placenta while the inner ball of cells develops into the fetus. After about 9 months, the fetus is fully developed and a baby emerges.

The development of human body

1st month Zygote develops into blastocyst.
2nd month Body shape and basic organs are beginning to develop and the heart starts beating.
3rd month The fetus becomes physically more defined and the organs can be seen.
4th month Internal organs have developed almost completely.
5th month Digestive system begins to function and hair starts to grow.
6th month Major organs have developed almost completely, the fetus starts to have sensation.
7th month Brain development continues and the eyes can open.
8th month Bones, muscles and nervous system continuously develops.
9th month All organs and tissues are well developed.

BIRTH

Is there anything wrong with these two pictures?

[The birth of Venus]
This painting describes how Roman Goddess of Beauty Venus was born in the sea.

[Adam and Eve]
The first man, Adam, and woman, Eve, created by God as described in the Bible.

Venus was born of the sea, Adam and Eve were created by God. None of them were from mother and had no umbilical cord. Thus, they shouldn't have the belly buttons. Did you guess right ?

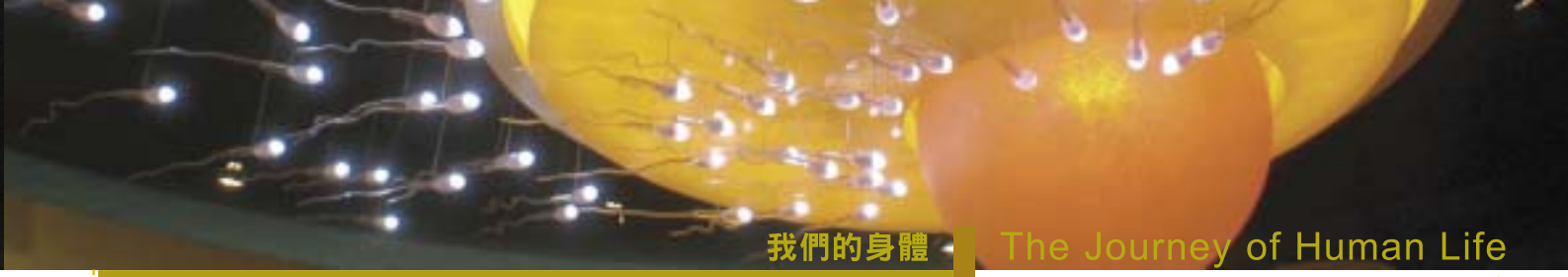
Competing for the Beginning of Life

In the beginning of life, only one out of millions of sperms will penetrate the egg and form the zygote. You are the winner of this competition!

Return to the Womb

A 6-month old fetus can hear the mother's heart beating at around 70 beats per minute. The mother can also use a Doppler device to hear the baby's heart beating at more than 150 beats per minute. Please sit in the chair and experience the heartbeats from the mother's womb.

BIRTH



The Blessings of Fertility

Summary：Divine Prayers and Customs
In most cultures, the propagation of life is the most important concern. People hope that the arrival of the next generation will bring blessings for the whole tribe, leading to the proliferation of numerous customs related to fertility.

Chinese Goddess of Birth

People in China believe the Goddess of Birth controls the beginning of life. Pregnant, laboring and married woman without children seek blessings from her.

Ancient Egyptian Goddess Heket

Heket, meaning "frog", was perceived by ancient Egyptians as the symbol of life and wealth. Heket was the wife of Sobek, the God of Nile, and also the symbol of germination after the flooding of the Nile. Therefore, pregnant women usually wore frog-shaped amulets.

Ancient Egyptian God Bes

Bes had a deformed face and was believed to be able to avert evil due to his frightening appearance. Bes was the protector of childbirth and was especially favored by pregnant women.

Ancient Egyptian Goddess Taweret

Taweret meant "magnificent being". With a frightening appearance of the head and body of a hippopotamus, tail of a crocodile and lion's legs, she was often used to ward off evil. Often found on household items or amulets to protect new born babies and mothers.

Hera

Hera was the sister and wife of Zeus. She was in charge of marriages and was often depicted with a pomegranate in hand, symbolizing fertility, blood and death. Even though she was in charge of marriages, she herself was not a good mother.

Akuaba

Pregnant women in Ashanti, Africa, usually carried a small blessed statue called Akuaba. They would decorate and feed it, hoping that their unborn baby would be as pretty as Akuaba. The Ashanti people had a maternal society, therefore most Akuabas have a female appearance.

In Nigeria and Benin, Africa, there is a high chance of having twins and the local people believe twins will bring good luck. If the newborn dies prematurely, the parents will make a statue of twins called 依貝吉. It is believed that the soul of the deceased baby will remain inside the statue and if the 依貝吉 is being cared for, it will bring good luck to the family and future generations.

Mother and Child

In many African tribes, the continuity of the tribe is of utmost importance. A reflection of this is the various statues related to fertility. The Yoruba people of Nigeria have a kind of mother and child statue that reflects their hope for many descendants, as the more descendants an individual has, the more prayers he/she will receive and therefore the higher his/her rank.

Dangers of Giving Birth

In the ancient society, giving birth was very dangerous. The baby could be a stillborn or die due to premature birth. Due to the risks involved, various rituals were performed to guarantee the safety of the mother and child. In ancient Mexican culture, there was a kind of clay figurine of a woman who died in labor.

BIRTH

The Unique You

Look around you, do they all look alike?
Think about everyone you know, are they all different in a particular way?
This is because we are all unique, having different faces and characteristics.
Try out the exhibit to see how you are different from others in terms of fingerprint, iris pattern, voice print and intelligence.

Fingerprint

Fingerprint is the characteristic pattern of the grooves and ridges on the first digit of each finger. It is unique to an individual, is permanent and has the ability to regrow after damage. Even the fingerprints of twins are not exact.
The contemporary fingerprint method consists of 2 sections and 8 classes.

（一） Numeric Section

1. W (dipper-like)
2. C (bag)
3. D (dustpan)
4. X (mixed)

（二） Non-numeric Section

5. A (arch)
6. T (tent)
7. R (R-loop)
8. U (L-loop)

Iris Pattern

Iris is the colored tissue surrounding the pupil of the eye. The iris patterns of the left and right eyes of an individual are different and the iris patterns between twins are also different.

Voice Print

Voice print is similar to fingerprint in that no two individual have the same voice pattern. The differences are due to the structure of the throat, oral and nasal cavity that are involved in vocalization. The phonation preferences of an individual also play a part.

BIRTH

Why Are You Unique?

Natural differences between individuals and differences in environmental factors all contribute to the uniqueness of an individual. Therefore, even though you may have a twin brother or sister, you are sill unique.

Blueprint of the Human Body – Genes

The human body is made of cells, proteins are an important constituent of cells and genes are the formulas of making proteins. Therefore, the genes are like the blueprint of a building, specifying how each part of the human body is to be constructed.

Deoxyribonucleic acid (DNA) is the language in which the formula of making proteins is specified. Its main constituents are Adenine (A), Thymine (T), Guanine (G) and Cytosine (C). Due to specific pairing between A-T and G-C, DNA forms a double helix structure.

Human Genome

The human genome contains important information that might help us overcome the problems we face from birth to death, in sickness and ageing. Under the leadership of the US government, the Human Genome Project began in 1990 and involved the efforts scientists from countries including Britain, France, Germany, China and Japan. Starting from 1998, Celera Genomics also joined the joint effort. A draft of the human genome was released in 2000 and the full human genome was released in 2003. The ultimate goal is to be able to understand the differences between individuals so that diseases and ageing can be overcome.

Your Unique Intelligence

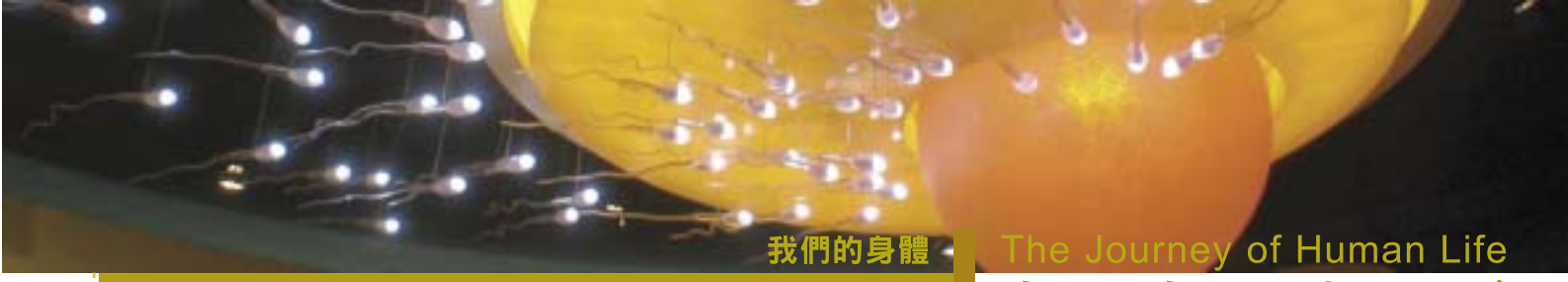
Dr. Howard Gardner from Harvard University proposed that everyone has eight different forms of intelligence. Please rotate the disk to explore your unique intelligence.

Logic-Mathematical Intelligence
Verbal-Linguistic Intelligence
Visual-Spatial Intelligence
Musical Intelligence
Kinesthetic Intelligence
Introspective Intelligence
Interpersonal Intelligence
Naturalist Intelligence

Regeneration of Human Tissues and Organs

A salamander can regrow its broken tail and a starfish can regenerate its broken foot. We humans too would like to be able regenerate our own tissues and organs through tissue engineering.

BIRTH



What If Human Organs Fail?

A person's organs were formed gradually while the person is still inside the mother's womb. If a person's organ fail, it cannot be regrown naturally, what can we do?

Method One – Organ Transplant

Organs can be transplanted from three sources. Using organs from the patient's own body is called autograft. Allograft is the use of organs from other people. The last is xenograft, which uses non-human's organs.

Method Two – Artificial Organ

An artificial organ is a machine made to imitate the functions of an organ. Artificial organs can be used by terminal patients while waiting for organ donation. Artificial organs can either be implanted into the body or installed externally.

The Phoenix Number Seven Artificial Heart

This artificial heart is developed in Taiwan. In 1996, a patient survived a 15-day wait for a donated heart by using this artificial heart.

AbioCor II

AbioCor II is developed by Abiomed in USA. It is the product of 30 years of research, development and testing. The plastic/titanium construction is completely self contained and is designed with a goal of 5-year reliability. Clinical trials are planned for 2007.

Method Three – Organ Regeneration

Organ regeneration is the growing of new organs for transplantation by using the patient's own stem cells.

Tissue Engineering – Technology to Rebuild the Human Body

Tissue engineering is the science of using cellular biology and engineering principles in order to repair and reconstruct damaged tissues and organs or the development of functional replacements.Commonly known facts such as the human's permanent teeth do not regrow and a person will be wheel-chair bound for life if the central nervous system is damaged will all change with the research and development of tissue engineering. The 3 essential elements of tissue engineering are 1. scaffolds, 2. cells and 3. signal factors, their interactions are as follows:

- Broken nerve.
- Using a tubular scaffold to reconnect broken ends of the nerve. The interior of the scaffold has grooves and adhesion molecules to facilitate the arrangement of cells in a particular direction.
- Introduce stem cells or mature cells (such as Schwann cells) into the tubular scaffold.
- Add transforming growth factors to speed up the growth of the cells and the elongation of the axons.
- Add signal factors for the cells to specialize into the desired mature cells and the development of axons and myelin sheath for a more complete repair.
- The tubular scaffold disintegrates and is absorbed by the body. The regeneration process is complete.

Characteristics of Ageing

Hair and nail: Black hair turns gray and becomes thinner; nails become rougher and thicker.

Brain: The brain might atrophy, but the nerve functions may not be affected.

Senses: The acuteness of the five senses deteriorates and slows, such as declining eyesight, loss of hearing … etc.

Skin: With the increase in age, the skin becomes thinner, creases, loses smoothness and elasticity.

Glands and hormones: Decrease in the level of hormones causes the lowering of hormonal responses in the body.

Immune system: Decrease in immune system function makes a person more vulnerable to diseases.

Lungs: With the increase in age, changes in the structure and function, such as a decrease in the lung capacity, take place.

Heart and blood vessels: The heart and related blood circulatory system gradually ages.

Muscles: After the prime at age 25, muscles decrease in bulk and shrink.

Kidneys and urethra: The declining function of the kidneys results in frequent urination, even incontinence, and benign prostate hyperplasia among men.

Digestive system: Due to the decrease in digestive enzyme secretion, digestion gradually slows.

Reproductive system: Elder women enter menopause; elder men have lower testosterone levels.

Bones and joints: The loss of calcium in bones after middle age makes osteoporosis or arthritis more likely.

Exercise Delays Ageing

Physical activity and exercise are vital to the elderly regardless of their physical and psychological conditions. Exercise helps to prevent coronary heart disease and lowers the risk of contracting hypertension.; both diseases are dangerous and commonly occur in the elderly. Also, studies show that both walking and jogging can delay the ageing process and improve the health status of the elderly.

Taijiquan

Practicing Taijiquan has the benefits of strengthening the cardiopulmonary system, keeping the body supple and increasing endurance.

Swimming

Swimming is a whole body aerobic sport, benefits include elevating cardiopulmonary function and alleviating painful joints.

Jogging

Jogging is also an aerobic sport, its benefits include increasing cardiopulmonary function, decreasing body fat and reducing cardiovascular disease.

Thinking Delays Ageing

Thinking can contribute to the maintenance of brain cells; activities such as reading, mathematical calculation, word puzzle, playing chess help the brain exercise constantly and slows down the degeneration of brain and intelligence, helping to fight against dementia (Alzheimer's disease).

Diet Delays Ageing

Ageing is a natural process and as a person ages, the metabolic rate slows and the required number of calories per day reduces. Poor diet can lead to a deterioration of health. Garlic, buckwheat, lemons, broccoli, tomato, asparagus, kiwi fruit, grape and tea all have anti-cancer and anti-oxidation properties, helping to delay ageing.

Choose Ways to Delay Ageing

There are two approaches to delay ageing, the natural approach and the artificial approach. The natural approach include maintaining a balanced diet, regular exercise and staying happy. The artificial approach include using medicine, surgery and cosmetics. The natural approach is cheaper and has less side-effects but require long term commitment; the artificial approach costs more and has higher risks but the effects are immediate. Which will you choose?

Meaningful Life in Old Age

Due to the advancement in medical treatment, the number of elderly people has increased. Please open the following panel to find out how life can be meaningful in old age.

1. Learning: Never too old to learn, learning new knowledge is the source of maintaining vitality and youth.
2. Volunteering: Helping and serving others is the foundation to happiness, to live is to feel the meaning of life.
3. Working: Independent senior citizens who keep on working are more self-confident.
4. Hobbies: Cultivate various interests such as sports, relaxation, singing, playing piano, chess, painting … etc.
5. Traveling: Healthy and relaxing travel helps to develop a more enthusiastic attitude to life.
6. Dallying with grandchildren: Looking after grandchildren or relishing in domestic bliss are precious moments to be cherished.

Life Expectancy in Taiwan

The life expectancy is also called the average lifespan and is an indication of the number of years a person is expected to live. The life expectancy in Taiwan has been rising year after year due to the advancement in medical treatments and improvement in living standards. The life expectancy in Taiwan is as follows:

1941 Male 45.8 years old Female 50.2 years old
1971 Male 67.2 years old Female 72 years old
2001 Male 73.6 years old Female 79.4 years old

If everyone is immortal, what will the world be like?

Population explosion
Depletion of resource
Generational conflicts
Death might become an obligation

Diagnostic Technologies to See Inside the Human Body

In 1895, German physicist Roentgen discovered the X-ray, which can penetrate the human body and clothes. This discovery has allowed doctors to look inside the human body and opens the door of medical imaging.

X-ray radiography

The X-ray discovered in 1895 can penetrate the body and display 2D images of bones. Due to the difference in density between organs and bones, different parts of the body have different intensities on X-ray images.

Ultrasound images

In 1950, medical science began to use high-frequency ultrasound that is not audible to check soft tissues like muscles, tendons and joints inside the body.

Heat-sensitive imaging

In 1960, medical science began the use of radiant heat of the body to make diagnosis. This is often used to detect cancer.

Computed Tomography (CT)

In 1972, medical science began to combine X-ray and computerized imaging to display 3D cross-sections of tissues and organs in the human body.

Magnetic Resonance Imaging (MRI)

In 1980, medical science started to use the electromagnetic induction to receive resonant magnetic signals from inside the body and produce 3D cross-sections images.

Positron Emission Tomography Scan (PET)

In 1987, medical science began administering radioactive substances into the body. By capturing images of chemical activities and metabolism of the tissues in the body, diseases such as cancer and neurological disorders can be detected.

Electroencephalography (EEG)

EEG monitors electrical signals in the brain. Changes in electrical signals in the brain during relaxation or tension can be detected, charted and used to determine the level of brain activity.

Traditional Diagnostics

What are you going to do when you do not feel well? Apart from western medicine, in places like China, Tibet and India, traditional medicine is also available! Traditional Chinese medicine is most suitable for treating chronic illnesses; Indian and Tibetan medicines integrate Buddhist ideals into the development of an effective system for diagnosing diseases. Many cultures in other parts of the world believe in supernatural therapies such as augur or incantation.

Chinese medicine and diagnostics

The basic methods of Chinese Diagnostics are look, smell, ask and feel.

1.Look: Observe any perceivable symptom of the body and excrement.

2.Smell: Interpret every sound and odor from the body in order to make diagnosis.

3.Ask: Inquire the patient or companion the symptoms and history of the disease and other related details.

4.Feel: Feeling of the pulse and touching particular parts of the body to grasp the changes inside or on the body due to diseases.

Indian medicine and diagnostics

Indian medicine is a vast and complex system, among which the Ayurveda is the most representative.

The idea behind the diagnostics is through the understanding of wind, gall and phlegm; inside the human body there are 7 constantly changing materials and 6 types of excrements, by observing these elements, a diagnosis can be made. The 6 basic diagnostic methods include:

Hear: Hear the sound of blood flow.

Feel: Touching the patient to find out the condition of the body such as cold, hot, rough, smooth, firm, soft … etc.

Look: Observe the general physical condition of the patient.

Taste: Taste the patient's excretion to determine the disease.

Smell: Smell the odor of the patient's body.

Ask: Inquire the lifestyle and diet of the patient, sometimes even the time, place and cause of becoming infected.

Tibetan medicine and diagnostics

"Thangka" is a common scroll in Tibetan Buddhism normally used in rituals. In the late 17th century, to facilitate the spread and usage of the "Four Medical Tantras", illustrations were systematically added to the Tibetan medical texts for easier understanding. Tibetan medicine originated in India and has similar diagnostics methods, they are:

Look: Observe the patient's physical condition, skin color and vitality.

Hear: Hear the sound of blood flow.

Feel: Touching the patient to find out the condition of the body such as cold, hot, rough, smooth, firm, soft … etc.

Smell: Smell the odor transpired from the patient's body, pus and ulcer to determine the condition.

Taste: Taste the patient's excretion to determine diseases such as urinary diseases.

Ask: Inquire about the lifestyle, diet and excretion of the patient before and after the illness, sometimes even the patient's socioeconomic status is asked to ascertain the cause of the disease.

Supernatural Therapies

The mouse augur

At some places along the Ivory Coast of western Africa, some geomancers use the mouse augur for divination. Daily routines, diagnosis and treatment of diseases are often the matters of concern. A wooden or clay jar with upper and lower compartments and a hole in the middle is used. The mouse is placed in the lower compartment and chicken bones or wooden sticks are placed in the upper compartment. The geomancer observes the pattern of the chicken bones or wooden sticks after the mouse has moved them in order to make predictions.

The nail statue

In Congo, Africa, there is a kind of statue with nails inserted. Magical medicines such as the blood of animals, plants and minerals are placed on the stomach or head of the statue. After rituals have been performed, the medicine becomes capable of protecting the patient. Inserting nails into the statue is a symbolic gesture to ward off diseases or harmful spirits. Sometimes, these statues can be used to curse the enemy.

Deity of Healthy Life

The Deity of Healthy Life, originally named Ben Wu, is the God of Medicine in Chinese folklore. Legend has it that strange phenomena took place while he was still in his mother 's womb; when he grew up, he wanted to help people and learnt magic to exorcise the demons of diseases. After his death, the Heavenly Jade Emperor heard accounts of him curing people and honored him as a deity.

Medication lots

The medication lots is commonly found in Buddhist or Taoist temples, on which the names of medication, dosages and applications are written.This lots is not only an important aspect of folk remedy, but also an important part of folk beliefs. Besides medication, some lots may persuade people to be merciful and others may include more powerful magical curses.

Technology to Preserve Lenin's Body

When Lenin died, the Soviet government preserved his body using a specially developed preservative. After numerous stages of cleaning and infusion of the preservative, Lenin's body was placed in a coffin maintained at 16 C and 70% humidity. Reach in and touch, can you sense his presence?

Brains of Drug Addicts and Normal People

Drugs addiction normally results in a damaged brain. The temporal lobe and frontal lobe of the drug addict's brain are more shriveled than the normal brain.

The Formalin Preservation Technique

Formalin is most often used in the preservation of medical and animal specimens. Formalin is first injected into the body through the main arteries and then the body is totally submerged in formalin to achieve preservation.

Lungs of Smokers and Air Pollution

Smoking can lead to diseases of the heart, bronchi and lungs. The lungs and heart on the left are from a smoker and have clearly shriveled; the belt-shaped cluster of black spots is due to long term inhalation of tar through smoking cigarettes. The lungs on the left have black deposits due to air pollution.

Plastination of the Human Body

The plastination process is carried out by first flushing away the formalin preservative and bleaching of the organ; acetone is then used to dehydrate the organ and remove fats; finally, the organ is infused with silicone polymers. Different silicone polymers are chosen depending on whether the German or American method is used. This exhibit is preserved using the American method, which can be carried out in room temperature and is faster.

DEATH

Cryopreservation of the Human Body

Cryopreservation or cryonics is the preservation of organ or body by subjecting it to the extremely low temperature of -196 C. Either the head or the whole body can be frozen and preserved. Both approaches aim to revive the individual in the future with a new body or with the individual's original body. Currently, this technique has not been performed successfully.

Buddhist Golden Body

In Buddhism, the body of an eminent monk is believed to be imperishable and is referred to as "Buddhist Golden Body". In southern China, even though the weather is humid, there are 10 such cases of imperishable bodies. Research suggests that this is due to the local practice of placing the deceased monk in a big urn and the body is then burnt if it shows signs of decay.

Buddhist Relic

This kind of Buddhist relic is collected from the ashes of Buddhist disciples. These crystalline beads are hard and can be classified according to whether the body was cremated or buried whole or by the color of the relic itself.

Maoi Kava Kava

Many indigenous people believe that the souls of the deceased will survive eternally. On Easter Island in South America, people carve statues like this to seek the blessings of ancestors. There are male and female statues and they are passed down from generation to generation. It is normally wrapped in tree bark and worshipped at home, only on important occasions will it be taken out and worn. This exhibit is a male Maoi Kava Kava.

DEATH

Masks and Burial Rituals

In some societies, the face of the dead is covered with a mask; some believe it can preserve the dignity of the individual; some believe it can help the deceased in the afterlife.

Egyptian Coffin Mask (664-525BC)

Besides placing masks directly on the mummy, ancient Egyptians also placed masks on the coffin. This mask is decorated with the sun and scarabs due to the power of the Sun god to create life. With this mask, the deceased will be protected by the Sun god and achieve immortality.

Egyptian Mummy Mask (644-332BC)

Ancient Egyptians normally cover the face of the mummy with a mask so that the soul will be able to come back and recognize the body. Masks of Kings like Tutankhamen were made of gold or silver whereas the masks of other royalty or the rich were made of plaster or linen and then painted.

Egyptian Mummy Bead Mask (664-525BC)

This mask is made of wooden beads. In ancient Egypt, this kind of masks was used to cover the face of the mummy. The mask resembles the face of the goddess Hathor therefore the deceased should be female.

Chimu/Lambayeque Funerary Mask (AD900-1400)

This ancient Inca mask from Peru is made of silver. It is painted red probably to symbolize blood; the two rectangular plaques suspending from the nose probably represent the breath of life. Such mask was used probably in the hope of reviving the deceased.

Tiahuanacan Golden Mask (AD900-1200)

This golden mask is from Peru. Based on the holes at the four corners, it was probably attached to fabric before being placed on the face of the deceased. The deceased was probably a powerful local ruler.

Burial Jades

Summary

The earliest Chinese jade artifacts could be dated back to the Neolithic Age. By the Han dynasty, jade became commonly used in areas such as memorial ceremony, honorary inauguration, funeral or burial rituals, daily life and also as ornaments. Jades used in the funeral or burial rituals are called burial jades and can be used to distinguish the hierarchy of an individual within the society.

Copper Threaded Jade Clothes

Jade clothes were worn by the Han emperors and royalty after death, representing the pursuit of an afterlife. The jade clothes were threaded with either gold, silver, copper or silk depending on the hierarchy of the deceased in the society. This particular artifact consists of more than 1300 pieces of jade threaded together by copper.

Jade Headrest

The custom of using jade headrests began in the Chou dynasty. There are 3 kinds of jade headrests, the first is the “engraved jade headrest”, the second is the “copper framed jade headrest” and the last is the “flaked jade headrest”. The first two are commonly found in the tombs of royalty and the last is normally found in the tombs of literati or officials.

Jade Cicada

In ancient Chinese funerals, the mouth of the deceased was stuffed with an object so that the deceased would not leave with an empty mouth. In late West Han dynasty, the object was shaped like a cicada to symbolize the resurrection of the deceased.

Jade Grip

In ancient Chinese funerals, a “strip of cloth” was normally placed in the hands of the deceased. Later, cloth was replaced with other materials such as wood, silk or jade.
mouth, anus and genital, the body would remain imperishable.

Nine-Opening Jade

In the ancient Chinese the nine openings of the deceased, especially that of an emperor or wealthy individual, were stuffed with jade objects. It was believed that by stuffing the ears, nose, eyes, mouth, anus and genital, the body would remain imperishable.

Round Jade

Round jade was an important ritual object as early as the late Neolithic Age. Its function was to make contact with heaven and later in the Han dynasty, it was used to assist the deceased to rise to heaven.

Half figure of a male Egyptian mummy — Reconstruction procedure

1. Use CT scan to collect data
2. Charting
3. Confirmation of bone structure
4. Placing the eye ball
5. Teeth construction
6. Adding muscles and soft tissues to the bones
7. Adding fatty tissue
8. Detailed characteristics
9. Skin pattern
10. Detailed overall modification
11. Obtaining the mold
12. Obtaining the figure
13. Planting the hair
14. Inserting the eye ball
15. Planting the eye lashes
16. Skin texture
17. Overall finish

DEATH

Reconstruction of the Head of an Egyptian Mummy

Half figure of a male Egyptian mummy — Reconstruction procedure

1. Use CT scan to collect data
2. Charting
3. Confirmation of bone structure
4. Placing the eye ball
5. Teeth construction
6. Adding muscles and soft tissues to the bones
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14. Inserting the eye ball
15. Planting the eye lashes
16. Skin texture
17. Overall finish

DEATH

The Role of Mummy in Egyptian Religion

The Ancient Egyptians believed that if the soul of the dead passed all judgments after death, the deceased would be resurrected through the body. Therefore, the main objective of mummification was to preserve the body of the deceased for resurrection. Initially, mummification was a privilege enjoyed only by the king and royalty, it was only till later that commoners were allowed to be mummified.

The mouth opening ceremony was the most important among all the funeral rituals, the goal was to release the soul of the dead from the body to be judged.

After the body was wrapped, protective talisman were placed over the chest of the body to ensure that the soul of the deceased could pass all the judgments.

Explanation of figures on the coffin

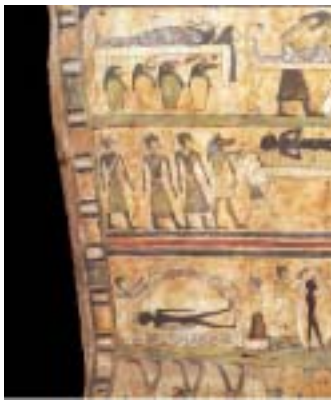
This is the most common pattern found on the coffins in ancient Egypt. The goddess below the necklace, holding a feather, is Maat. On her left is Isis, on her right is Nephthys. Below them are the four sons of Horus: Hapy, Imsety, Duwamutef and Kebehsenuef. The lower half of the coffin is covered with hieroglyphics, the words are basically the name of the deceased and simple prayers. On the back of the coffin is the standard Djed-column symbol. The word Djed means stability and eternity.

Mummification process

1. Technicians clean the body of the deceased, a small incision is made on the lower-left side of the stomach to removethe internal organs.
2. The liver, lungs, stomach and intestines are placed into canopic jars and stored together with the mummy. The heart must remain in the original location.
3. The brain is removed through the nose, medicine and herbs are placed inside the skull.
4. The body is disinfected with alcohol and resin is applied to prevent bugs and rotting.
5. Natron is placed inside and outside the body to dehydrate the body.
6. The body is stuffed with materials such as linen and the incision is closed.
7. For female mummy, the hair is braided, the eyes are replaced with precious stones and the body is coated with incense.
8. Layers of linen are wrapped around the body, starting from the fingers and toes to the four limbs and finally the body.

DEATH

1.Offering is made to the gods.
2.Ritual is performed and the canopic jars can be seen below the mummy.
3.The body is being processed into a mummy.
4.A liquid is poured over the body as preparation.



The mummification ritual as depicted on the coffin

Perspectives of Confucianism, Taoism and Schism on Life and Death

The Confucian view: Not knowing life, how is it possible to know death?
The Taoist view: Neither is life desired, nor is death detested.
The Buddhist view: Life is neither more nor less than death.

DEATH