

Life's Sunset

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ABSTRACT

Life has its own cycle- we are born, grow as kids, become adolescents, attain youth and drift to the evening of life and eventually fade into oblivion- death. This paper discusses Life's Evening i.e., old age. We shall explore different facets of old age—what physical and psychological changes usher in as we drift to old age. How do our body reflexes slow down and what changes happen in our brain and thinking processes? What weaknesses surface and what positives get associated with the advancement of age? What fears torment us during old age? Finally, we shall find out how to delay the onset of old age and how to reduce the pace of old age.

Keywords: *Old age, the evening of life, last stage of life, positives and negatives of old age, how to stop ageing, fears associated with old age*

Evenings are beautiful and sometimes mesmerizing!! Each of us, sometime or the other must have had fond memories of mesmerizing sunset view at a hill station. The orange sun spreads blissful orange rays bathing mankind with the pleasing experience of day closing - the end of the sun's journey. Cozy warmth in mother nature's lap is soothing!! The evening has the warmth treasured from noon- the youth of its existence and has the cool of morning-the childhood of its existence and is overwhelmed with memories of its journey from childhood and youth. Evening slowly drifts to death- the night wherein the day loses its identity.

The evening of life is well brought out in an article by someone anonymous¹

"The busy day of life is over. Its pleasures, its duties, and its anxieties have passed away. The sunshine and the shade, which alternately marked its path, have alike disappeared; and the soft tints of the evening are gathered over the sky.

The evening of life! Yes! life has its sunset hour, its twilight season. The dim eye, the silvered lock, and the feeble step — indicate that the closing period of earthly existence has arrived. How rapid has been the flight of time! How near must be the approach of eternity!

The gradual decline of health and strength is a kind and merciful preparative for the solemn change which awaits us. It seems to lessen the reluctance that our nature feels: to give up life;

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to wean us from the varied attractions of the earth; to soften the abrupt transition from the present to a future state of being.

*The evening of life! The evening is the time for **Rest**. The cares of the day are forgotten — and all is quiet. Life's closing hours should be distinguished by serenity and repose. You must not harass and perplex yourself now with occupations which were once both appropriate and necessary, nor repine because you are unable to exert yourself as in former days. Your strength is to sit still. Old age is the resting place in the journey of life, and the feverish heat of noontide is exchanged for the refreshing coolness of twilight.*

In the peaceful twilight hour, when we sit alone and commune with our own hearts, our thoughts naturally turn to the occurrences of the Past day. Little incidents, too trifling perhaps to speak about, are reviewed and dwelt upon; virtuous actions which have been performed — win the approval of conscience; and wanderings from duty — call forth feelings of regret; pleasing events and painful trials — have each a share in our pensive musings. Varied indeed, are the scenes that one day's panorama brings before our view.

And then we generally glance at the Future. We arrange our plans for the coming day; we look forward with glad expectance to the joys which are in store for us; or we shrink in fear and despondency from the troubles which seem associated with the morrow.”

Life's evening is well brought out in the above paragraphs. The evening symbolizes old age in a person's life. It is the most satisfying period carrying the nostalgia of the life lived. As dawn leads to evening so does childhood to old age. Kathy Gottberg² cites Frances Lear- “*The second half of one's life is meant to be better than the first half. The first half is finding out how you do it. And the second half is enjoying it.*” How correctly put!! Old age is the time when you enjoy what you accomplished in your youth. Your pooled savings in terms of your accumulated wisdom, your maturity and the accumulated bank balance put you in a position to harvest and enjoy what you had sown. Hasidic saying (Kathy Gottberg²) correctly elaborates it, “*For the unlearned, old age is winter; for the learned, it is the season of the harvest.*”

The above thoughts were hovering over my mind as my life's pace changed from the hectic routine of managing multi-locational manufacturing factories to a calm and serene life devoted to research and writing. What is it that I gained and what it is I am going to lose in the times to come? I observe many changes in my body and I wonder whether these changes happen to all who reach my age. My ideas and thinking have undergone a dramatic change from my young days. Does this also happen to all or is it only special to me? Why I am not able to react sharply when agitated but my inner self keeps me calm and my reactions are cool and logical? Is it my weakness or what people call maturity? I do not laugh aloud at apparently silly jokes, only my lips curl into a faint smile. Why is it that I fall behind others in stride while on a morning walk? Many things are not the same as they were! And above all the fear of death is assuming large proportions as I am adding years to my age. There are many unanswered questions on the evening of my life. Inquisitive as I am, I sat down to research and learn the truth about my twilight hour which is glowing at its peak- just as a burning oil lamp flares to maximum brightness before getting extinguished. Maybe death is approaching so before it reaches me let me reach for the answers to the unanswered questions. The quest to learn led me to this paper and here I am penning down my findings about the facets of life's sunset—the evening of life!!

The first thing I explored was what changes happen in us when we drift from youth to old age and here is what I discovered:

Changes brought by old age

The staff of Mayo Clinic³ give details about the changes that start happening in us as we move towards old age.

“You know that ageing will likely cause wrinkles and grey hair. But do you know how ageing will affect your teeth, heart and sexuality? Let us find out what changes to expect as you continue ageing:

*The first thing that gets affected is your **cardiovascular system**- The most common change in the cardiovascular system is the stiffening of the blood vessels and arteries, causing your heart to work harder to pump blood through them. The heart muscles change to adjust to the increased workload. Your heart rate at rest will stay about the same, but it won't increase during activities as much as it used to. These changes increase the risk of high blood pressure (hypertension) and other cardiovascular problems.*

*Simultaneously changes start happening in **bones, joints and muscles** - With age, bones tend to shrink in size and density, weakening them and making them more susceptible to fracture. You might even become a bit shorter. Muscles generally lose strength, endurance and flexibility — factors that can affect your coordination, stability and balance.*

*In some people, **the digestive system** deteriorates at the onset of old age- Age-related structural changes in the large intestine result in more constipation in older adults. Other contributing factors include a lack of exercise, not drinking enough fluids and a low-fibre diet. Medications, such as diuretics and iron supplements, and certain medical conditions, such as diabetes, also might contribute to constipation.*

*Apart from the digestive system even the **bladder and urinary tract** start showing abnormality- the bladder may become less elastic as you age, resulting in the need to urinate more often. Weakening of bladder muscles and pelvic floor muscles may make it difficult for you to empty your bladder completely or cause you to lose bladder control (urinary incontinence). In men, an enlarged or inflamed prostate also can cause difficulty emptying the bladder.*

*Other parts of the body that get affected are the **eyes and ears**--With age, you might have difficulty focusing on objects that are close up. You might become more sensitive to glare and have trouble adapting to different levels of light. Ageing also can affect your eye's lens, causing clouded vision (cataracts). Your hearing also might diminish. You might have difficulty hearing high frequencies or following a conversation in a crowded room.*

*In some people, even **teeth** show decay. Your gums might pull back from your teeth. Certain medications, such as those that treat allergies, asthma, high blood pressure and high cholesterol, also can cause dry mouth. As a result, your teeth and gums might become slightly more vulnerable to decay and infection.*

*Old age brings wrinkled skin- With age, your **skin** thins and becomes less elastic and more fragile, and fatty tissue just below the skin decreases. You might notice that you bruise more easily. Decreased production of natural oils might make your skin drier. Wrinkles, age spots and small growths called skin tags are more common.*

***Metabolism** slows down with advancement in age and if eating habits are not changed, you start putting on fat on your body and **weight increases**.*

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*Advanced age adversely **affects sexuality**- With age, sexual needs and performance might change. Illness or medication might affect your ability to enjoy sex. For women, vaginal dryness can make sex uncomfortable. For men, impotence might become a concern. It might take longer to get an erection, and erections might not be as firm as they used to be.*

The above authentic information cleared many of my doubts and I found that I had about 80% of the above symptoms of bodily changes. Maybe, in others also same symptoms must be occurring, percentages may vary but a majority of the above symptoms are likely in all old people. One thing which is missed in the above narration is that most old people are likely to have a disease which is life-long and they have to be on medication for the rest of their lives—be it diabetes or high blood pressure or thyroid and so on. Since bones become weak, arthritis may catch up and also people may suffer from muscle pain. The bodily deficiency in old age happens for all (only degree may vary), irrespective of caste and creed, poor or rich, wise or fool, good or evil etc.. because decay happens in all machines and our body is no exception. Our body which is nothing but a machine suffers deterioration over time and needs repairs from time. The timely repairs postpone the onset of old age but it certainly catches up.

MedlinePlus Medical Encyclopedia⁴ gives more insight into the changes in the human body with the onset of old age. It gives approximate chronological ages when the changes start happening:

*“The human body is made up of fat, lean tissue (muscles and organs), bones, and water. After age 30, people tend to lose lean tissues. Your muscles, liver, kidney, and other organs may lose some of their cells. This process of muscle loss is called **atrophy**. Bones may lose some of their minerals and become less dense (a condition called **osteopenia** in the early stages and **osteoporosis** in the later stages). Tissue loss reduces the amount of water in your body.*

The amount of body fat goes up steadily after age 30. Older people may have almost one-third more fat compared to when they were younger. Fat tissue builds up toward the centre of the body, including around the internal organs. However, the layer of fat under the skin gets smaller.

Fewer leg muscles and stiffer joints can make moving around harder. Excess body fat and changes in body shape can affect your balance. These body changes can make falls more likely.

Changes in total body weight vary for men and women. Men often gain weight until about age 55, and then begin to lose weight later in life. This may be related to a drop in the male sex hormone testosterone. Women usually gain weight until age 65, and then begin to lose weight. Weight loss later in life occurs partly because fat replaces lean muscle tissue, and fat weighs less than muscle.”

The changes in the body are visible with the passage of time. As you gain weight, your legs have to carry the excess weight and the whole load falls on your knees which reacts with a feeling of pain and does not permit more walking. The need is to walk more to reduce the fat and weight but paradoxically knees won't permit you to do this. So, we live with a dilemma—in my case, I could come out of this by taking the help of yoga which strengthened my knees and I could walk more and more to reduce the fat and weight. Another change is lack of sleep; you get up when the whole world sleeps. The days are longer for older people and they have

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fewer things to do. This affects them psychologically and may lead to depression unless they find some way to keep themselves busy. In my case, I took to researching and writing after my hectic professional life was over.

Apart from deterioration in bodily functions, mental faculties may also be showing signs of diminishing. As for me, I often tend to forget the names of people. As a writer, my thinking has sharpened but memory losses are frequent. Let us explore how our mental faculties get affected due to older age.

Psychological changes during life's evening

Nathan Wetherill Shock in Britannica⁵ gives some details on psychological changes in elderly people:

“The most outstanding psychological features of ageing are the impairment in short-term memory and cognition, resulting in slowed thinking and response. While these features may develop naturally as part of the ageing process, research suggests that long-term lifestyle factors—such as diet, exercise, and sleep habits—and disease play a critical role. Chronic disease, depression, and sleep problems negatively affect cognition. Depression, for example, is associated with a reduced density of synapses (neuron connections) in the brain and impairment of memory and thinking skills in the elderly. Likewise, insufficient sleep can affect memory.”

From my experience, I can vouch for the correctness of the above observation. Sometimes, I meet a person, converse with him, and can relate to previous dealings with him but can't recall his name. Many a time the face of a person is vividly clear in memory but the name is forgotten. I relate it to old age because this never happened in my younger years.

Apart from the above psychological limitation some more common psychological changes that we go through after the age of 50 are presented by Team Seniority⁶ of Seniority Live Green:

- ***Slower reaction time***-One of the most common psychological change associated with ageing is a slower reaction time. You start losing your reflexive abilities during your 30s and by the time you cross the age of 50, there is a significant decrease in your reaction time. This means that you tend to slow down with age.
- ***Decrease in attention span***-Your ability to concentrate on a particular task starts to decline in your 50s. After this, you are more likely to lose focus and experience a gradual decrease in your attention span.

I found that during morning walks, people younger than me always overtake me, meaning thereby that my body has slowed down. It is not only the body which slows down, even the brain tends to take more time to react.

With advancing age cognitive ageing also happens.

As you get older, you may notice changes in some of your thinking skills, including cognitive decline. Cognitive decline is the gradual loss of thinking abilities such as:

- learning
- remembering
- paying attention
- reasoning

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For some people, a small amount of cognitive decline occurs with age. But more significant changes can be a sign of a cognitive disorder. Injury, illness, and health habits can influence how much and how fast your cognitive abilities change over time.

Specialists generally recognize the following stages of cognitive ageing:

- **Subjective Cognitive Decline (SCD)**- You notice that some of your thinking abilities have begun to decline but not enough to interfere with how you function day to day.
- **Mild Cognitive Impairment (MCI)**- You experience a decline in your ability to reason, remember, use language, make judgements, and perceive the world around you accurately
- **Dementia**: You have trouble with activities of daily living. These include driving, paying bills, taking care of your living space, and caring for your body and your health. (Source: <https://www.healthline.com/health/cognitive-decline>)

As you grow older, normally, either no cognitive impairment occurs or at the most SCD (Subjective Cognitive Decline) affects you but MCI and Dementia are not tormenting a normal person during the ageing process. These are cognitive disorders.

It is not that all adverse things happen with the advancement of age; many psychological faculties get better through the advancing age as is brought out by Team Seniority⁶.

Old People play safe—As age advances, there is a reduction in the generation of dopamine levels in the brain. states that various studies have suggested that your dopamine levels may decrease by up to 10% through every decade of your adult life. These studies have also shown that decreased dopamine levels lead to an avoidance of risk-taking decisions. Therefore, one of the most beneficial psychological changes in old age is that your dopamine levels decrease over time. This allows you to avoid taking unnecessary risks and live a rather safe and secure lifestyle.

Improvement in decision-making skills-- Contrary to popular belief, your decision-making skills actually improve with old age. Yes, that's right. With all the experience that you have gained over the years, making decisions proves to be a much simpler task. This is one of the most helpful psychosocial changes in old age as it prevents you from overthinking or over-analyzing certain situations.

Better control over Emotions- Older adults are often found to have much better control over their emotions. This is because, when you cross the age of 50, you are more likely to look at the positive side of things. You can have a clear mindset over important factors and can communicate your feelings in a more practical manner.

Maturity is what makes you have better control over emotions and maturity normally comes with age advancement. Matured people are generally not impulsive and they act with proper thinking and this thinking makes them react with a pause.

As per Marlene Montanez⁷ *Maturity improves the ability to make good decisions. And with wise choices comes more stability in your life overall. Gone is the flurry of bad relationships, jiffy decisions, wild nights out and horrible jobs. As you settle down, life becomes that much more stable and, consequently, easier to handle. As we mature, not only do we learn to appreciate the finer things in life, but we also learn the difference between petty and important*

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things. Experience helps you learn what really matters, so it's easier to appreciate those things, fully focusing and enjoying them all the more.

These things give you better control over emotions making you emotionally stable which goes on to improve your relationships and younger people start respecting your age. Conflicts with others reduce because emotional stability helps in moving away from getting into petty quarrels and makes you deal with people in a better way.

Some more benefits during life's sunset is brought up by Devon Dings⁸

- ***We Have Much Clearer Priorities-*** *As we age and experience new things, we realize what matters — and what doesn't. Throughout our lives, we tend to worry and stress about things that are essentially out of our control or things that we have no pull on the outcome of. As we grow older, we are able to differentiate our needs from our wants while focusing on the matters and goals in our lives that are relevant.*
- ***We Don't Care As Much What Others Think-*** *The biggest regret that most of us are going to leave this world with is the fact that we cared so much about what others thought. As we come to understand what we can do and what is important to us, we are less likely to succumb to the negativity of others. It is when we realize that others' judgment isn't fatal that we will finally be able to start taking the chances and risks that we've held back from.*
- ***We Can Learn from Our Children and Grandchildren-*** *As we get to a certain age, we tend to feel like we have learned and obtained all the information that we will need. But as our world continues to grow and develop, we may find ourselves falling behind. The truth is, you will continue to learn from the generations that come after you. Our children and grandchildren, who have grown up in this new world, will have the capability to assist us and fill in any information gaps. We will have taught these individuals the necessities of living, and the skills required to survive, now they will assist us to do the same.*

Lucy⁸ adds some more positive aspects related to old age.

- ***Old age brings better Social Skills and More Empathy-*** *“Subjects in their 60s are better than younger ones at imagining different points of view, thinking of multiple resolutions and suggesting compromises and hence seniors may have acquired better social skills than their younger peers, they can be vulnerable to isolation.*
- ***Sense of Accomplishment:*** *Older people often have a healthy sense of pride that comes from their accomplishments. These accomplishments needn't be great feats. John Lennon's lyric, “A working class hero is something to be,” puts it well. Seemingly ordinary achievements like raising a healthy and happy child, being happily married, serving in defence of the nation, or retiring from a job in good standing after years of dedicated service, can be the foundation of pleasant contentment in old age.*
- ***A Happier Outlook-****It may surprise some, but studies show that seniors are among the happiest groups of people and that they are significantly happier than their middle-aged counterparts. The author of a study on the subject, Dr. Saverio Stranges, says, “This could be due to better-coping abilities. Older people tend to have internal mechanisms to deal better with hardship or negative*

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circumstances than those who are younger.” Another reason seniors may also be happier is that age means that they are “more comfortable being themselves.”

- ***More time available for dear loved ones and for pursuing your dreams:*** Retirement isn't inherently joyful or relaxing — it's how that time is used that makes it special. One of the best parts of retirement is spending time with family, friends and other loved ones. Also, it gives you an opportunity to pursue your dreams. Victorian novelist George Elliot wrote, “It's never too late to be what you might have become.” The time gained during retirement is an excellent opportunity to pursue dreams and passions that you might have put on hold. For instance, you can learn a new language, take that trip you've always dreamed of, or write the novel in your head that's been waiting to get out.

My own experience tempts me to say that when suddenly you are pushed from a hectic professional life to a life where you don't have fixed daily routine hours of work, you face an emptiness in life. I had the depressing experience of utter sadness when I did not know how to kill time; in fact, it so appeared that time was trying to kill me. I had all the time in the world at my leisure and I was at a loss as to what to do with my time. Then I got a spark for pursuing my ambition of pursuing research on life after death and other paranormal phenomena coming under the ambit of Parapsychology in which I had done an online advanced certificate course from the Australian Institute for Parapsychological Research. I got back my vigour and enthusiasm as I sank deeply into researching the topics of my interest and I could publish more than 30 research papers and could pen 9 books in a short period of three years from the date of retirement. There were no fixed hours of working so I could meet my son in Australia and could visit relatives as and when I felt bored. My despair vanished and I am leading a busy and happy life with a sense of achievement of success in my pursuits. I, now, have a happier outlook towards my life.

Summing up the positives of life's sunset we can observe how true are the following two quotes-

- “Getting old is like climbing a mountain; you get a little out of breath, but the view is much better!” ~Ingrid Bergman
- “We don't grow older, we grow riper.” ~Pablo Picasso

With this, we close our discussions on positive aspects of the evening of life and now we look at other aspects of old age.

One aspect of old age was the physiological and psychological changes that happen in old age, let us now explore what changes occur in the human brain as old age creeps in.

Brain and Old Age

Changes happen in our body as old age sets in, our hair turns grey, our eyesight is affected, muscles start becoming weak, skin gets wrinkled, knee pain starts, memory weakens and so on... Similarly, changes start happening in our brains. These changes are explained by Hannah Nichols⁹

“Brain ageing is inevitable to some extent, but it is not uniform; it affects everyone, or every brain, differently. Scientists are currently piecing together sections of the giant puzzle of brain research to determine how the brain subtly alters over time to cause these changes. General changes that researchers think occur during brain ageing include:

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- **Brain mass:** Shrinkage in the frontal lobe and hippocampus, which are areas involved in higher cognitive function and encoding new memories, starts at around the age of 60 or 70 years.

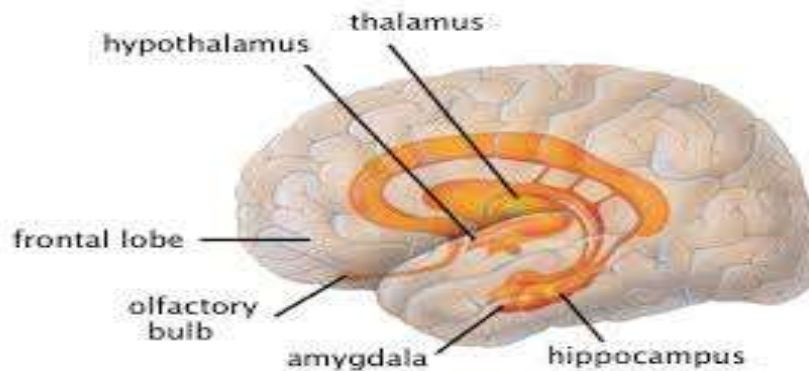


Figure 1: Some parts of the brain that get affected by Old age

- **Cortical density:** This refers to the thinning of the outer-ridged surface of the brain due to declining synaptic connections. Fewer connections may contribute to slower cognitive processing.
- **White matter:** White matter consists of myelinated nerve fibres that are bundled into tracts and carry nerve signals between brain cells. Researchers think that myelin shrinks with age, and, as a result, the processing is slower and cognitive function is reduced.
- **Neurotransmitter systems:** Researchers suggest that the brain generates fewer chemical messengers with age, and it is this decrease in dopamine, acetylcholine, serotonin, and norepinephrine activity that may play a role in declining cognition and memory and increasing depression.”
- **Stem cells in the hypothalamus control the ageing process:** In 2017, researchers from Albert Einstein College of Medicine in New York City, NY, revealed that control of the ageing process happens in Hypothalamus. Trusted Source in a mouse study revealed that stem cells in the brain's hypothalamus control how fast ageing occurs in the body. The research showed that the number of hypothalamic neural stem cells naturally declines over the life of the animal, and this decline accelerates ageing," says Dr. Dongsheng Cai, a professor of molecular pharmacology.

The brain areas-Frontal Lobe, Hippocampus and Hypothalamus control cognition in humans and during old age these areas get affected resulting in a decline in cognitive ability in people. Apart from a decline in cognitive ability, some more physical changes happen in the brain.

It has been widely found that the volume of the brain and/or its weight declines with age at a rate of around 5% per decade after age 40 with the actual rate of decline possibly increasing with age, particularly over age 70. It has been suggested that a decline in neuronal volume rather than number contributes to the changes in an ageing brain and that it may be related to sex with different areas most affected in men and women.¹²

According to R Peters¹³ brain changes do not occur to the same extent in all brain regions. That these brain changes are not uniform is supported by a longitudinal study, using two MRI scans separated by around one or two years, and by a review of cross-sectional studies. The latter included only those studies that compared younger (aged less than 30) and older (greater than

60) groups to compare wider age ranges and in contrast with much of the other work in this area. The review looked at volume and found that the prefrontal cortex was the most affected. The striatum came second with the analysis including over seven studies. The temporal lobe, cerebellar vermis, cerebellar hemispheres, and hippocampus also reduced volume and the prefrontal white matter also showed a reduction. The occipital cortex was the least affected. The prefrontal cortex is most affected.

Thus, we saw that several changes happen in the brain along with the changes appearing in other parts of the body. Let us now understand why, after all, does ageing occur and whether can we stop or reduce its pace?

Why do we age

Our body is a wonderful machine and like any machine wear and tear happens in the machine; it needs preventive maintenance in form of regular exercise and a good nutritional diet; breakdown maintenance in form of diseases warrants the need for specialists (the doctors), who repair the machine and set it in order. Over a period of time, the machine becomes old and loses its optimum efficiency when old age sets in i.e., life's evening. This, broadly, is the basic cause of ageing.

There are real biological causes behind ageing and several theories have come up to explain why we age. We shall look up some prominent theories. But before we dwell on the theories, we must understand that the factors causing ageing could be *intrinsic* (within the body) or could lie outside our bodies i.e., *extrinsic* causes like environmental factors or habits etc. Kirsten Nunez and Lauren Castiello¹⁴ explain these causes and also list down the various theories that explain why ageing happens:

Ageing can be categorized into two types i.e., intrinsic and extrinsic. Let us explore these

Intrinsic ageing vs. extrinsic ageing

- ***Intrinsic ageing*** is a genetically predetermined process that occurs naturally.
- ***Extrinsic ageing*** is a result of outside factors chosen by you, such as where you live, your stress levels, and your lifestyle habits (like smoking).
- ***Cellular aging***-Cellular ageing is due to *intrinsic* factors. It's related to the biological ageing of cells. The cells are the basic building blocks of the body. Your cells are programmed to divide, multiply, and perform basic biological functions. But the more cells divide, the older they get. In turn, cells eventually lose their ability to function properly. Cellular damage also increases as cells get older. This makes the cell less healthy, causing biological processes to fail. Cellular damage accumulates over time, too.

Damage-related and environmental ageing

Damage-related and environmental ageing is related to extrinsic factors. It refers to how our surroundings and lifestyle affect how we age.

This includes factors like:

- *air pollution*
- *tobacco smoke*
- *alcohol consumption*
- *malnutrition*
- *ultraviolet radiation (UV) exposure*

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Over time, these factors can damage our cells and contribute to ageing.

Theories on ageing

It's generally accepted that ageing is caused by multiple processes, rather than one reason. It's also likely that these processes interact and overlap with each other.

Here are some of the most prominent theories:

- **Gene theory.** *This theory suggests that specific genes turn “on” and “off” over time, causing ageing.*
- **Endocrine theory.** *According to this theory, ageing is caused by changes in hormones, which are produced by the endocrine system.*
- **Immunological theory.** *Also called the autoimmune theory, this is the idea that the immune response is designed to decline. The result is disease and ageing.*
- *These theories come under Programmed theories of ageing. Opposite to these theories are Error theories. These include*
- **Wear and tear theory.** *This is the idea that cells break down and become damaged over time. But critics argue that it doesn't account for the body's ability to repair.*
- **Genome instability theory.** *According to this theory, ageing happens because the body loses its ability to repair DNA damage.*
- **Cross-linkage theory.** *This theory claims that ageing is due to the buildup of cross-linked proteins, which damages cells and slow biological functions.*
- **Rate-of-living theory.** *Proponents of this theory say that an organism's rate of metabolism determines its lifespan. However, the theory lacks solid and consistent scientific evidence.*
- **Free radical theory.** *This theory suggests that ageing is due to the buildup of oxidative stress, which is caused by free radicals. But some say this theory fails to explain other types of cellular damage seen in ageing.*
- **Mitochondrial theory.** *As a variation of the free radical theory, this theory says that mitochondrial damage releases free radicals and causes ageing. The theory lacks hard scientific evidence.*

Another group of theories are Genetic theories- this theory proposes that ageing primarily depends on genetics. In other words, our life expectancy is regulated by the genes we got from our parents. These include

- **Telomere theory.** *Telomeres protect the ends of your chromosomes as they multiply. Over time, telomeres shorten, which is associated with disease and ageing.*
- **Programmed senescence theory.** *Cellular senescence occurs when cells stop dividing and growing but don't die. This theory suggests that this causes ageing.*
- **Stem cell theory.** *Stem cells can turn into other cells, which helps repair tissue and organs. But the function of stem cells declines over time, potentially contributing to ageing.*
- **Longevity gene theory.** *This is the idea that certain genes extend lifespan. More research is necessary.*

Next in line are Evolution theories-

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According to evolutionary theories, ageing is based on natural selection. It says that an organism begins ageing after they have reached its peak of reproduction and have passed down adaptive traits.

Evolutionary theories include:

- **Mutation accumulation.** This theory presumes that random mutations accumulate later in life.
- **Antagonistic pleiotropy.** According to this theory, genes that promote fertility early in life have negative effects later on.
- **Disposable soma theory.** The theory claims that when more metabolic resources are directed toward reproduction, less is put toward DNA repair. The result is cell damage and ageing.

Lastly, we have Biochemical Theories of ageing-

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Thus, there are several theories that float around to explain why we are ageing. However, the basic fact remains that as a machine depreciates and becomes old and finally gets scrapped so is our body which deteriorates and finally meets its end i.e., death.

My curious mind questions that while deterioration is going to happen as it happens in a machine, can we reduce the speed of deterioration as is done in machines by regular maintenance? We shall be concluding the paper after exploring how we can delay ageing.

Ways and means to reduce the speed of ageing

Proper maintenance through cleaning, oiling/ greasing, tightening of bolts/nuts, and electrical/mechanical maintenance keeps a machine going on and on and reduces its wear and tear and prolongs its life. Can we do some kind of maintenance to maintain the good shape of our body? What are the ways and means that we should adopt for keeping our body in shape and delaying the onset of ageing and reducing the speed of ageing?

Can we slow the effects of ageing? (Kirsten Nunez and Lauren Castiello¹⁴)

Though ageing is inevitable, it's possible to slow down some of the effects. You can do this by following healthy lifestyle habits.

Here's how to slow ageing:

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- **Eat a nutritious diet.** Focus on fruits, vegetables, whole grains, and lean protein. Limit processed foods.
- **Stay active.** Exercise reduces the physical and mental effects of ageing. Aim for 30 minutes a day, 5 days a week.
- **Avoid tobacco.** Tobacco speeds up ageing. Quitting is often difficult, but a doctor can help create a cessation plan that works for you.
- **Drink alcohol in moderation.** Alcohol increases your risk of chronic disease.
- **Attend regular checkups.** Routine checkups with a doctor are the best way to prevent or treat a disease early.
- **Know your family history.** Discuss your family's health history with your doctor to have appropriate screening or get early treatment for potential chronic diseases.
- **Engage your brain.** Protect your cognitive function by doing brain exercises.
- **Wear sunscreen.** Sunscreen protects your skin from UV radiation, which can lead to premature ageing.

The physical body will deteriorate at a slow speed by following the above practices.

Mental ageing could also be slowed down by learning to cope with the changes that are happening in our bodies. The tips for coping with these changes are provided by Help Guide¹⁵:

Focus on the things you're grateful for. The longer you live, the more you lose. But as you lose people and things, life becomes even more precious. When you stop taking things for granted, you appreciate and enjoy what you have even more.

Acknowledge and express your feelings. You may have a hard time showing emotions, perhaps feeling that such a display is inappropriate and weak. But burying your feelings can lead to anger, resentment, and depression. Don't deny what you're going through. Find healthy ways to process your feelings, perhaps by talking with a close friend or writing in a journal.

Accept the things you can't change. Many things in life are beyond our control. Rather than stressing out over them, focus on the things you can control such as the way you choose to react to problems. Face your limitations with dignity and a healthy dose of humour.

Look for the silver lining. As the saying goes, "What doesn't kill us makes us stronger." When facing major challenges, try to look at them as opportunities for personal growth. If your own poor choices contributed to a stressful situation, reflect on them and learn from your mistakes.

Take daily action to deal with life's challenges. When a challenge seems too big to handle, sweeping it under the carpet often appears the easiest option. But ignoring the problem doesn't make it go away; it allows both the problem and your anxiety to build. Instead, take things one small step at a time. Even a small step can go a long way to boosting your confidence and reminding you that you are not powerless.

Staying healthy through humour, laughter, and play-Laughter is strong medicine for both the body and the mind. It helps you stay balanced, energetic, joyful, and healthy at any age. A sense of humour helps you get through tough times, look outside yourself, laugh at the absurdities of life, and transcend difficulties.

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Apart from coping with the changes, we must try to find meaning and joy in life. This also will keep mental processes healthy and shall slow down the process of mental ageing. HelpGuide¹⁵ gives tips to find meaning and joy in life:

- **Pick up a long-neglected hobby** or try a new hobby. Taking a class or joining a club or sports team is a great way to pursue a hobby and expand your social network at the same time.
- **Learn something new**, such as an instrument, a foreign language, a new game, a new subject of study or a new sport. Learning new activities not only adds meaning and joy to life but can also help to maintain your brain health and prevent mental decline. It keeps you busy in a fruitful way and prevents depression due to emptiness in life.
- **Get involved in your community**. Try attending a local event or volunteering for a cause that's important to you. The meaning and purpose you find in helping others will enrich and expand your life. Community work can also be a great way of utilizing and passing on the skills you honed in your career—without the commitment or stress of regular employment.
- **Travel somewhere new** or go on a weekend trip to a place you've never visited
- **Spend time in nature**. Take a scenic hike, go fishing or camping, enjoy a ski trip, or walk a dog in the park.
- **Enjoy the arts**. Visit a museum, go to a concert or a play, join a book group, or take an art appreciation class.
- **Write your memoirs** or a play about your life experiences

The possibilities are endless. The important thing is to find activities that are both meaningful and enjoyable for you.

Talking about myself, when I quit my hectic professional life which kept me occupied and busy, I on my own, realized that I have to find some way which could keep me usefully engaged and I took to researching and writing. This not only helped me in coping with the changes but also gave me meaning and joy in life. The joy of getting my work published in a reputed international journal kept me motivated to research and write more and more. The topics come naturally and the purpose of my life has become to share my thoughts with my readers to benefit them with my learning and knowledge. This activity prevented me from sliding into despair and depression which could have arisen due to the sudden emptiness in my life. This also gave me to interact with academic circles. I could give lectures to students at the university and I got recognition for my research. These are great boosters and give joy and meaning. As mentioned above one has to choose the activities in which a person finds joy and this is one way to keep the mind from ageing.

We examined different facets of old age in this paper but still, one side of facets of life's sunset still remains unexplored—the fear prevalent in most elderly people—the fear of death!! This is the last aspect we shall explore and then conclude the paper.

Fear of death in elderly people

Death is a dreadful word and we all, irrespective of age, shiver when we hear death in the family or in our neighbourhood. While each of us knows that one who is born will die one day and death is an eternal truth but still, we fear death. We in our inner thoughts feel assured that death is for others and not for us, like in Corona days, we took precautions for the disease but in our hearts, we were sure that this disease is not for us but for others. Death has the same impression on us, it is for others and not for me. But even though assured inwardly of our safety, we fear death—if not of our own but that of our near dear ones.

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While thinking about death as a child I was very frightened to think about the death of my parents and daily I used to pray to God that my parents must not die. I needed their protection as they were my world and the anchor to my wandering ship. I, then, never thought about my own death as if I was immortal. In fact, the thought of my own death never came to my mind when I was a child. I was scared to death to the extent that my body shuddered at the very thought of the death of my parents. Born into a moderately religious family, I got strength from praying, I did pray daily and the main aspect of my prayer was the protection of my parents from death.

As I grew older and became self-sufficient, this fear lost its intensity but still, the fear remained. The fear of death, then, had another dimension added to it—it was fear of my own death because it had an inherent fear of insecurity of my dependent wife and children. As gradually I slid to old age, this insecurity also faded as children grew up and stood on their own legs and my fear of their insecurity disappeared but still fear of death looms large before me. Why, then, are we afraid of death during old age when we have no insecurities because our children have become self-sufficient and they no longer need our shelter?

The answer lies in the phrase “*Ignorance breeds fear*”!! We are afraid to go to a dark place because we are ignorant about what lies in that darkness. Travelling to an unknown place has a fear associated with it as we are ignorant about what we shall find there. Same way, we are ignorant about what lies after we cross the threshold of life and embrace death! What happens to us after we die? No one knows about this and this ignorance creates fear in all including the people going through the last phase of life. Other fears like what will happen to my property and the apprehension of a clash over the property after our death are resolved by many of us (the elderly people) when we calm our minds by making arrangements for the distribution of property among near dear ones so that they live comfortably after our departure. But the fear due to ignorance about death continues. Many of us try to dilute this fear by taking refuge in religious thoughts which have some beliefs about the afterlife and these thoughts help subdue the fear caused by ignorance. This is the reason why many elderly people become religious even when they were atheists in their youth. Faith in religion helps us make our minds calm as we await the coming death! Fear still lurks behind the calm mind and a day comes when we go to eternal sleep.

This ends our life after the twilight period of life. We end the discussions on the facets of life's evening here and conclude the paper with a thought that life's sunset has a slow pace since body parts and to some extent, the mind slows down but it has inherent positives which make us the elders, a valuable asset to our family and the society. It has its own adventures and as Ingrid Bergman says Getting old is like climbing a mountain; you get a little out of breath, but the view is much better!”

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Conflict of Interest

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