

# Understanding The Senex

## The Figure of the Older Human Being

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### 1. What is Senex?

**M**any academic disciplines recognize aging, senescence, geriatrics, "the elderly," or "seniors," as important subjects. Gerontology is a recognized discipline that, in its own terms:

*combines or integrates several separate areas of study. The Gerontological Society of America fosters interdisciplinary collaboration between physicians, nurses, biologists, behavioral and social scientists, psychologists, social workers, economists, policy experts, those who study the humanities and the arts, and many other scholars and researchers in aging. Geriatrics, the branch of medical science concerned with the prevention and treatment of diseases in older people, is a part of the broader field of gerontology.<sup>1</sup>*

Our interest in this essay is to focus on the figure of the older human being, what we call the Senex, which seems to be an archetype in all human cultures and historical periods. Our approach is emergentist, that is, it is interested in phenomena whose wholes are greater than the sum of their parts, whose origin is autopoietic and whose continued existence is self-maintaining. We are less interested in fixing what goes wrong with young people when they age, than in what grows and

deepens in people more than 65 years old. While the disciplines listed in the Gerontological Society of America's mission statement above use various versions of the analytical and reductive methods of normal science and scholarship, we offer a more synthesizing and holistic perspective on the issues surrounding the Senex. That perspective includes a historical glance at the issue itself and chooses as collaborators a group of poets from two great culture areas past and present, poets who have deeply understood the individual and collective nature of the aging process.

We chose the term "Senex" (Latin, "old person") for its rich body of implications and linguistic adaptations in many European languages and over more than two millennia. A deep paradox stands out in the meanings of the root "sen." Is the senior senile? Is the sire senescent? Is the seigneur a victim of senility? Is seniority the sign of authority, responsibility, care, and protection, or of oppression, irresponsibility, indifference, and exploitation? If both, why? Does the nature of senescence play a role in the difference between benevolent and malevolent Senexes? And what ideas might be of value in realizing the better implications rather than the worse, given that the Senex is not going away, and is becoming dominant in numbers?

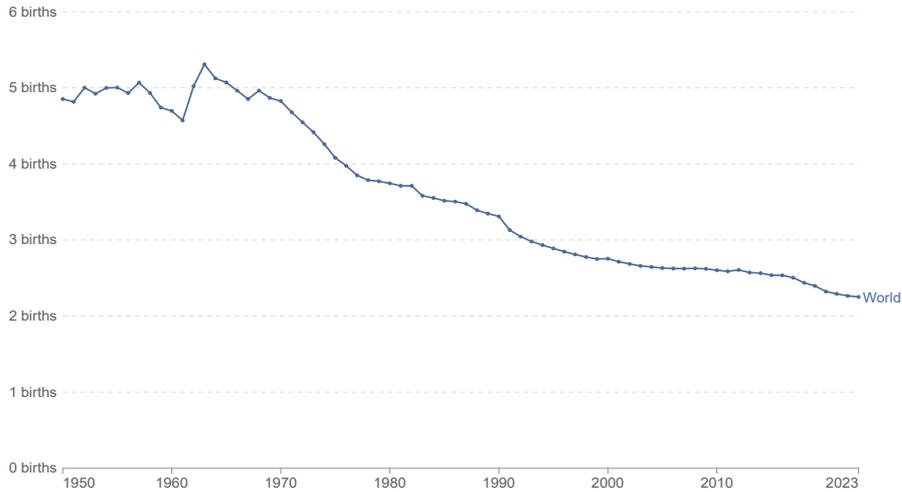
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<sup>1</sup> From the mission statement of the Gerontological Society of America <https://www.geron.org/About-GSA>

## Fertility rate: births per woman

Our World in Data

The total fertility rate<sup>1</sup> summarizes the total number of births a woman would have, if she experienced the birth rates seen in women of each age group in one particular year across her childbearing years.



Data source: UN, World Population Prospects (2024)

OurWorldinData.org/fertility-rate | CC BY

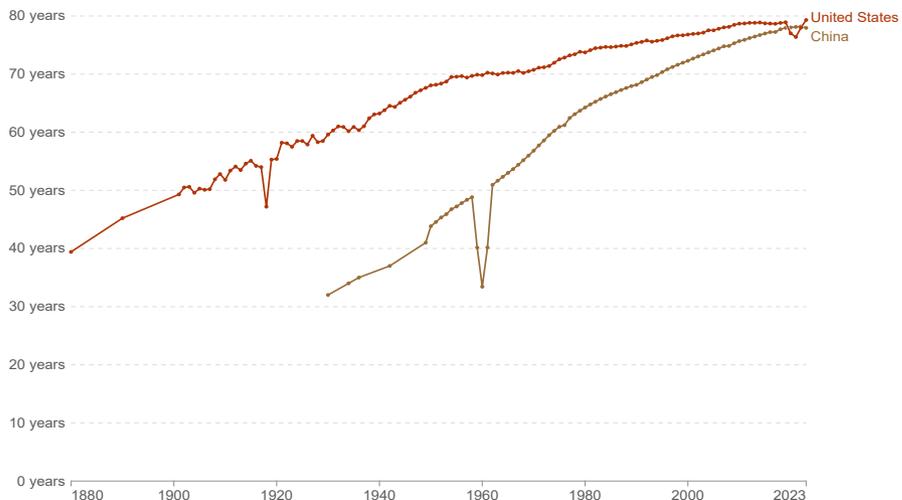
**Fertility rate:** The total fertility rate is a period metric; it summarizes data from one particular year. For a given year, the total fertility rate represents the total number of children born to a hypothetical woman on average, if she (1) lived to the end of her childbearing years, and (2) experienced the same age-specific fertility rates throughout her whole reproductive life as the age-specific fertility rates seen in that particular year. It is different from the average number of children born to women that eventually have across their childbearing years, which is the cohort fertility rate.

Source: <https://ourworldindata.org/grapher/children-per-woman-un?tab=line>

## Life expectancy

Our World in Data

The period life expectancy<sup>1</sup> at birth, in a given year.



Data source: UN WPP (2024); HMD (2024); Zijdemans et al. (2015); Riley (2005)

OurWorldinData.org/life-expectancy | CC BY

**Period life expectancy:** Period life expectancy is a metric that summarizes death rates across all age groups in one particular year. For a given year, it represents the average lifespan for a hypothetical group of people, if they experienced the same age-specific death rates throughout their whole lives as the age-specific death rates seen in that particular year.

Source: <https://ourworldindata.org/life-expectancy>

## 2. Why is the Senex Important Now?

**T**he issue of the value of the Senex is a complex one. But to put it simply: Are old people to be loved for their wisdom, as a large part of the memory of human society, an essential repository of the past? Or are they an obsolescent burden on the middle-aged who are maintaining the present and the young who are creating the future?

Differences between the powerful and the powerless, between the rich and the poor, between one race and another, between the sexes, and between one religion and another have been made the basis of many persuasive and passionate theories of human history. But the differing motivations, abilities and social roles of different age-cohorts have received much less attention, partly because partisanship on one side or the other is a two-edged sword: the old are loyal to their own youth, and the young know that one day they will be old.

In rapidly changing societies, whether western or eastern, entirely new kinds of society emerged almost everywhere in the nineteenth and twentieth centuries, where the young hugely multiplied and were greatly empowered, and the old often became useless relics. Tradition and experience could not compete with energy and innovation.

But now an even newer and stranger kind of society is emerging, north and south, east and west, in which human fecundity is falling as a result of economic and educational progress. The young are becoming a minority, and healthy longevity has doubled, while the pace of change has become so fast that experience is counted as less than a premium. The word wisdom, normally associated with old people, is evaporating from our vocabulary.

Will we move to a world where the young are an elite minority? Or are the problems involved in progress itself of such a kind that energetic youth cannot solve, and only the broad, deep knowledge and patient wisdom of the old can remedy? And what is the proper balance between keeping the old in positions of importance and moving them aside in favor of young people?<sup>2</sup>

There are many questions that need to be addressed as we consider this problem and opportunity. Does not longevity combined with economic compound interest in a vital progressing economy automatically privilege many of the old, who have invested longer?<sup>3</sup> But doesn't rapid progress render obsolete the knowledge of the old who know more (at least until their brains decline)? What is the best way to ensure that the best old minds remain relevant, and to honor declining minds? Can knowledge become obsolete, and if so, does it retain any value as illuminative analogies to help resolve new problems, hints about fertile lines of exploration, or warnings about the consequences of certain kinds of mistakes? Those who do not know history, it is said, are doomed to repeat it. An increasingly aged society might be less subject to that trap, having lived through more of history—if its Senexes' memories are paid proper attention. What new values will emerge in such a society?

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2 This tension is felt very keenly in universities like UT Dallas, including by three of us who happen to be old.

3 The familiar social equity/class critique narrative is not the point of the essay, which is interested in a different kind of cross section of the population. And it assumes that the current unprecedented economic transformation of the planet will continue, resulting in the same kind of equalization of life expectancies across the globe that the second graph shows, where China has now pulled even with the US.

### 3. The Idea of Life-Stages

**W**e think it is useful to look at some thoughts from the past about how our lives fall into "ages" and stages. These are interesting, because they were expressed at times when lives were much shorter and more difficult than they are today. One of the most fertile and commonly-cited passages in the West—and now increasingly across the world—is the famous speech of the melancholic Jaques in Shakespeare's *As You Like It*.

*All the world's a stage,  
And all the men and women merely players;  
They have their exits and their entrances,  
And one man in his time plays many parts,  
His acts being seven ages. At first the infant,  
Mewling and puking in the nurse's arms;  
And then the whining schoolboy, with his satchel  
And shining morning face, creeping like snail  
Unwillingly to school. And then the lover,  
Sighing like furnace, with a woeful ballad  
Made to his mistress' eyebrow. Then a soldier,  
Full of strange oaths, and bearded like the pard,  
Jealous in honor, sudden and quick in quarrel,  
Seeking the bubble reputation  
Even in the cannon's mouth. And then the justice,  
In fair round belly with good capon lined,  
With eyes severe and beard of formal cut,  
Full of wise saws and modern instances;  
And so he plays his part. The sixth age shifts  
Into the lean and slippered pantaloon,  
With spectacles on nose and pouch on side;  
His youthful hose, well saved, a world too wide  
For his shrunk shank; and his big manly voice,  
Turning again toward childish treble, pipes  
And whistles in his sound. Last scene of all,  
That ends this strange eventful history,  
Is second childishness and mere oblivion,  
Sans teeth, sans eyes, sans taste,  
sans everything.*

As we shall see, the concept of life stages, age grades, or age sets is not unusual; indeed for anthropologists it is a standard feature of

most, if not all, known human societies.<sup>4</sup> Shakespeare was not original in noticing this feature of human nature. But Shakespeare is both original and memorable—and indeed profound—in emphasizing the other meaning of "stage": that is, the theatrical space where a performance is rehearsed and played. The fellow in Jaques' half-satiric, half-tragic account is playing a part in each stage. We humans are not just dragged by our genes and bodies into certain patterns of behavior. We choose them, acting out our parts graphically by word, action, dress, and behavior.

We find a similar theme in Walter Raleigh's poem on the life stages, written in 1612 while awaiting his execution:

*What is our life? A play of passion,  
Our mirth the music of division.  
Our mothers' wombs the tiring houses be  
Where we are dressed for this short comedy.  
Heaven the judicious sharp spectator is  
That sits and marks still who doth act amiss.  
Our graves that hide us from the searching sun  
Are like drawn curtains when the play is done.  
Thus march we playing to our latest rest,  
Only we die in earnest, that's no jest.*

Not long after Shakespeare's time Cornelis Saftleven, the Dutch painter, graphically represented the idea with its comic and tragic implications. We get control over our ridiculous biological transformations by representing them; the self that observes with a smile is not the doomed animal that serves it. This insight is a special feature of Shakespeare's

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<sup>4</sup> <https://www.britannica.com/topic/age-set>. For a thorough discussion of human cultural universals, see Donald Brown: *Cultural Universals*. McGraw-Hill Humanities/Social Sciences/Languages; 1st edition (January 1, 1991)



Cornelis Saftleven (Dutch, 1607-1681), *The Ages of Man*.  
Creative Commons / Wikimedia

late-renaissance world, from his contemporaries Cervantes and Montaigne to Descartes and the great Rembrandt.

One of the oddities of human nature, much marked by anthropologists, is what they call *performativity*. We are not content to be something: we want to play it too, and play it up, play it to the hilt. We do not just get born and mate and die; we have baptisms, marriages, funerals, elaborately staged and rehearsed. Paradoxically, it is a way to assert our agency and freedom and dignity in the face of the necessary compulsions and constraints of a physical mortal animal. Like *stage*, almost all our words for really and intentionally doing something are also words for *not* really doing something, but pretending to: the *scene of a crime* is a real place, but to *make a scene* implies

insincerity; to *act* is both to do something and to not do something, be just *acting*. Things *play out* by the natural forces of play in the system, but *playacting* is quite different. Our very word for a human agent is *person*: the word comes from the Latin term for a theatrical mask.

So the *Senex* is a part we humans play if we are lucky enough to reach it. It is by no means confined to one sex; it is not just wizard but witch. The archetype includes the *Crone*, the wise and subtle and dangerous figure of mysterious wisdom. The *Crone* was to appear in Shakespeare's later plays in two different guises: Queen Cleopatra and Hermione, the wise counsellor who guides King Leontes through his long penance for killing his wife, and brings her back to life at the end.

#### 4. Poetry as a Window into the Senex in Other Cultures

The "stages of life" metaphor is not confined to the West. Other cultures share the concept. In the Hindu tradition, for instance, an appropriate acceptance of the roles of the life cycle, the Ashrama, is the path to happiness and fulfillment in life, crowned by a liberation from the cycle of life and death in Moksha, the state of freedom and enlightenment. The ashrama has four stages (not seven, though the principle is the same): the student, the householder, the hermit, and at last the sanyasi or enlightened one.

Rites of passage often celebrate the transitions from one stage to another: "first haircut" rituals, puberty rituals celebrating the first menses, boys' circumcision rituals, marriage, inheritance, etc.<sup>5</sup> Always there is a linkage between natural biological transitions and cultural models that require active "playing out."

What are the roles, and what are the issues and problems, of the last life-stage that is the subject of our investigation, the Senex? Let us look more closely at the poetry of another major culture, that of China, to get a sense of the spiritual, cultural and political issues surrounding the role of the aged sage. Confucius (551-479 BCE) is the paragon of such a figure.

As we might expect, Confucian literature emphasizes the importance of different stages in life, each with its own set of responsibilities and moral duties. For instance, the *Analects* of Confucius discuss the progression of learning and self-cultivation throughout a person's life.

子曰：「吾十有五而志于學，三十而立，四十而不惑，五十而知天命，六十而耳順，七十而從心所欲，不踰矩。」

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5 [https://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=1571&context=sswa\\_facpubs](https://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=1571&context=sswa_facpubs)

*Confucius said: "At fifteen, I applied myself to learning. At thirty, I stood on my own two feet. At forty, I had no more doubts. At fifty, I understood the will of heaven. At sixty my ear was attuned. At seventy, I followed all my heart's desires without overstepping the line."*

Daoist literature often discusses the natural cycles of life and the importance of living in harmony with these cycles. Texts like the *Dao De Jing* (or *Tao Te Ching*) by Laozi emphasize the flow of life and the transformations that occur as part of the natural order. The text focuses on the natural order, the Dao (or Tao, the way), and living in harmony with it. It emphasizes simplicity, humility, and the cyclical nature of life.

Laozi speaks of returning to the state of a child, which represents purity, simplicity, and being in harmony with the Dao. For example, Chapter 55 states, "He who has in himself abundantly the attributes (of the Dao) is like an infant." The principle of *wu wei* (无为) or effortless action, is a recurring theme. It encourages going with the flow of life rather than resisting it, much like accepting life's stages as they unfold. In chapter 2, "The sage acts by doing nothing (*wu wei*), and everything is in order." Let all things arise naturally without initiating them; act without adding one's own tendencies. One embraces impermanence and constant change in life and accepts life's transitions. Chapter 16 reflects: "Returning to one's roots is known as stillness. This is what is meant by returning to one's destiny. Returning to one's destiny is eternal." The text speaks to the wisdom that comes with age and experience. It values the insights gained over a lifetime. Chapter 15 describes the sages of maturity as "watchful, as if crossing a river in winter."

We are to live in harmony with the natural world and the Dao, which can be seen as aligning one's life stages with the natural order.

Chapter 8 compares the best way to live to water: "The supreme good is like water. Water gives life to the ten thousand things without striving with them."

The Dao De Jing does not explicitly divide life into specific ages or stages as Shakespeare does, but its teachings provide a framework for understanding and navigating the different phases of life with wisdom and grace.

While Shakespeare's aging exemplar seizes enthusiastically upon the stereotypes of behavior for each stage and appropriates them, the Dao's sage consciously seeks to "go with the flow"; the focus is on deliberately living in accordance with the Dao, which encompasses all stages of life. Neither, though, depicts humans as simply the puppets or victims of their life-stages.

Tensions between the old and the young, inherent in the life stages, are certainly present in the Chinese literary tradition. Historically, the pendulum seems to have swung between periods when youthful energy and exploration were encouraged, and periods of conservative insistence on order and control. The itinerant scholars of the Spring and Autumn Period (770-481 BCE) fostered a vibrant intellectual climate known as the "hundred schools of thought contending," marking one of the most flourishing literary periods. But after Qin Shihuang (259-210 BCE) unified China, he implemented a centralized system of prefectures and counties and pursued a culturally autocratic policy, including burning books and persecuting Confucian scholars, which severely damaged the intellectual spirit of the time.

After the Han Dynasty (202 BC–9 AD, 25–220 AD), Confucianism nearly became the "state religion, establishing the principle that literature serves to convey the Tao" (文以載道). During the Wei and Jin Dynasties (220-589), political turmoil and chaos ensued; Buddhism was introduced to China, Taoism revived, and metaphysical debate flourished. Literature began to diverge from orthodoxy, focusing more on individuals and their thoughts.

However, the influence of Confucianism remained pervasive in intellectual circles, evident in Tang poetry and the prose of the "Eight Great Masters of the Tang (618-907) and Song Dynasties." Figures like the poet Li Bai and the writer Su Shi, heavily influenced by Taoist thought, embodied a carefree intellectual spirit but still operated within the Confucian framework.<sup>6</sup>

The Song Dynasty (920-1679) reinforced authoritarian control over society, further exacerbated by the oppressive political regimes of the Ming (1368-1636) and Qing (1636-1912) Dynasties, which stifled literary thought. The operas and novels that emerged from civil society largely centered on themes of emperors and generals, talented scholars and beautiful women, palace intrigues, and worldly grievances, consistently laced with sermons of feudal morality.

But through all these changes the role of the Senex remains, with its hallmarks of bodily frailty, mystical contemplation, wisdom, transcendence of earthly ambitions, and eccentricity. The old one is both laughed at and respected; and even loved, as this selection shows.

### **Indomitable Soul**

Cao Cao (155 - 220)

*The divine turtle, though long-lived,  
Must also meet its end.  
The soaring serpent rides the mist,  
Yet to the dust shall descend.  
An old steed rests in its stable,  
But its ambition spans a thousand miles.  
In twilight years, a hero bold  
Will not change his indomitable soul.  
Heaven alone does not decree  
The length or brevity of our days.  
Nourishment and joy's embrace  
Can lead to a life of lasting grace.  
Oh, how this thought fills me with cheer!<sup>7</sup>*

6 Xianzhi Lin, "Chinese Literature Calls for Spiritual Home Return," accessed July 15, 2024, <https://njucml.nju.edu.cn/5b/1f/c22609a351007/page.htm>.

7 Translation by Tina Chen.

Cao Cao's poem reflects on the themes of mortality, ambition, and the enduring human spirit. It emphasizes that while life may be finite, the aspirations and determination of individuals can persist, transcending the limitations imposed by nature.

### **In Response to Bai Juyi's Poem on Aging**

Liu Yuxi (772-842)

*Who doesn't worry about growing old?  
Who shows pity once old age has arrived?  
My body's thin, my belt is often loose,  
My hair is sparse, my old hat sits askew.  
To save my eyesight, books abandoned now,  
Smoke acupuncture eases the hard years.  
Experienced in affairs, and still adept,  
Observing people, watching their river flow.  
On careful thought, it all seems fortunate,  
From now on, I'll be light and carefree.  
Don't mark the dark of mulberry and elm,  
For look, the evening glow still fills the sky.<sup>8</sup>*

Below are seven more short Chinese poems that show how people between 1000 and 1300 years ago thought about old people.<sup>9</sup>

### **River Snow**

Liu Zongyuan (773-819)

*A thousand mountains: the last bird has flown,  
Plenty of footpaths, but no human sign.  
A boat, an old man in rush cape and cap,  
In the cold river snow, fishing, alone.*

### **I Stop By at an Old Friend's Farmhouse**

Meng Haoran (689-740)

*My old friend cooks a chicken millet stew,  
He's asked me to his farm to share a meal.  
A clump of green trees lines the village side,  
Blue mountains slant above the city wall.*

*Flowers and a threshing floor outside  
the window,  
We drink, talk hemp and mulberries and all;  
Wait till the Chong Yang festival: I'll come  
In time for the chrysanthemums in Fall.*

### **The Villa of Zhongnan**

Wang Wei (701-761)

*In middle age I came to love the Dao,  
In old age dwell now under Mount Zhongnan.  
The mood comes often to go out alone;  
There's good only the empty self can know.*

*I walk beside the water to its bourn,  
And there I sit and watch the rising clouds.  
Sometimes I meet an old man in the woods:  
We talk and laugh with no thought of return.*

### **At Night Far From Home He Unburdens His Heart**

Du Fu (712-770)

*A light wind in the thin grass of the shore,  
A boat at night, tall-masted and alone;  
The stars hang over a vast open plain,  
The moon swims in the mighty river's stream.*

*So, do my writings make a famous name?  
This sick old officer should just resign.  
Adrift, adrift, what kind of thing am I?  
A lone white gull between the earth and sky.*

### **My Guest Arrives**

Du Fu (712-770)

*To north and south of my small house  
springs well up everywhere;  
A flock of gulls is all you see,  
each day they fill the air.*

*Except for you, my dearest sir,  
the flowering path's unswept;  
The wicker gate is open now,  
closed though it's always kept.*

*No fancy flavors grace our board,  
the market being far;  
The wine in our poor home is but  
leftovers in a jar;*

*What do you say, shall we invite  
the old man from next door?  
I'll call over the fence to him  
to help us drink some more.*

8 Translation by Tina Chen and Frederick Turner.

9 Translations by Deng Yongzhao and Frederick Turner.

## On the River

Du Fu (712-770)

*A homesick traveler upon the river,  
Outmoded scholar between earth and sky,  
A scrap of cloud adrift on the horizon,  
A moon in an eternal night, am I.*

*But in the setting sun my heart's still ready;  
Though Fall gales blow, my illness fades away;  
We always find an old horse worth the keeping,  
And strength and speed are not the reason why.*

### 5. The cosmological revolution against the Senex

**B**ut what if the "players" of the life-stages refuse or deny their roles? What if they want to continue in their roles after their part is over, or grab a later role before its time? What if a cohort of one generation should covet the benefits or exploit the weaknesses of other life-stages and usurp those of another? What if the figures in Saffleven's painting or Jaques' soliloquy should turn upon each other in hostile competition? In our times, we are used to the political and personal exploitation of natural, cultural, social and economic differences such as race, gender, ethnicity, class, etc, to correct past injustices or for political or economic gain. What has received less attention, until recently, are generational differences. But great poets can help us understand the possible pathologies and tragedies inherent in different life stages.

Shakespeare's perhaps greatest play, *King Lear*, is also the most searing, thorough, and profound treatment of the social, political, psychological and moral problems between the old and the young. It focuses with fierce insight on this issue, and is essential in any treatment of the figure of the Senex.

In *Lear*, two old men find themselves faced with the transfer of power from one generation to another. King Lear is eighty, and decides to abdicate the throne and divide his realm among his three daughters. He asks each one to say how much she loves him. In his folly, Lear believes the flattering lies of his two elder daughters and rejects the honesty of his loving Cordelia, the youngest, whom he disinherits. The elder daughters, Regan and Goneril, now

in power, expel him from his former palace, and reduce him to a mad beggar wandering about in the storm without a roof over his head. But he is saved by Cordelia, who becomes for many lovers of Shakespeare's plays the archetype of loving care.

Lear's friend, the Duke of Gloucester, believes the lies of his bastard elder son Edmund, rather than the devotion of his younger legitimate son Edgar. Edmund's forged letter from his brother to himself is perhaps the most frank and brutal statement of the case:

*This policy and reverence of age makes the world bitter to the best of our times; keeps our fortunes from us till our oldness cannot relish them. I begin to find an idle and fond bondage in the oppression of aged tyranny; who sways, not as it hath power, but as it is suffered. Come to me, that of this I may speak more. If our father would sleep till I waked him, you should have half his revenue for ever, and live the beloved of your brother...*

In the folly of paranoid old age, Gloucester is horrified, and blames cosmic events for what he falsely believes is his betrayal by his loyal and loving son Edgar.

*These late eclipses in the sun and moon portend no good to us. Though the wisdom of nature can reason it thus and thus, yet nature finds itself scourged by the sequent effects. Love cools, friendship falls off, brothers divide; in cities, mutinies; in countries, discord; in palaces, treason; and the bond cracked 'twixt son and father. This villain of mine comes under the prediction: there's son against father. The King falls from bias of nature:*

*there's father against child. We have seen the best of our time. Machinations, hollowness, treachery, and all ruinous disorders follow us disquietly to our graves.*

Though the play is set in an ancient era of English history, here Shakespeare refers directly to great changes of his own times in humanity's understanding of its place in the universe. And he links them to the horrific evils of the play: Gloucester is betrayed by his evil son as a traitor, has his eyes gouged out, but is rescued by his good son and dies in his arms. *King Lear* is about a massive change in ethical and political perspectives, which was going on in Shakespeare's own time, a change sometimes referred to as the waning of the medieval world, sometimes as the Renaissance. Will youth just crush age, or preserve it?

Shakespeare wrote *King Lear* in 1606. Five years later, John Donne, who probably knew Shakespeare, took up the theme:

*And new philosophy calls all in doubt,  
The element of fire is quite put out,  
The sun is lost, and th'earth, and no man's wit  
Can well direct him where to look for it.  
And freely men confess that this world's spent,  
When in the planets and the firmament  
They seek so many new; they see that this  
Is crumbled out again to his atomies.  
'Tis all in pieces, all coherence gone,  
All just supply, and all relation;  
Prince, subject, father, son, are things forgot,  
For every man alone thinks he hath got  
To be a phoenix, and that then can be  
None of that kind, of which he is, but he.*

Both great poets sensed that something had terribly changed, and that the change had also changed the relations between human beings—between "prince and subject" and "father and son," senior and junior. Individualism trumps Christian charity. Two years later, in 1613, the first copies of Machiavelli's *The Prince* began to circulate in Europe: it explicitly replaced the traditional rules of precedence and piety with a new realpolitik of expedience, power, and ruthless practicality.

What had changed? How did the old regime of the aged begin to crumble before the new regime of the young?

The single biggest change in Europe's worldview was happening right at the same time. Giordano Bruno's exposition of Copernicus's theories was first published in London in 1584; he was burned at the stake for heresy in 1600. Christopher Marlowe wrote *Doctor Faustus* in 1592 or 1593, shortly before his own highly suspicious death. Galileo was investigating the laws of gravitation in 1602, laws that implied other centers of mass elsewhere in the cosmos. In 1608, across the Channel in Holland, Hans Lippershey applied for a patent for the invention of the telescope, but by that time there were already several other claimants. By 1609, Thomas Hariot, the mathematician who had accompanied Walter Raleigh's first Virginia expedition, and who may have invented his own telescope or "perspective trunk" on the way, was sketching the moon and the sunspots and observations of the orbit of Halley's Comet. Shakespeare and Donne both probably knew Hariot. Shakespeare knew Marlowe. And the creation of Galileo's telescope in 1609 was to lead to his trial for heresy before the Pope.

Copernicus's supposition that the sun was the center of the universe, not the Earth, had already destabilized the old picture. But the observations of the mountains on the Moon and the moons of Jupiter, the implied distance of the "fixed stars" and the staggering vastness they suggested, occasioned a kind of civilizational vertigo with huge philosophical, moral, and emotional effects.

Essentially, the Earth was no longer the center of the universe. And that implied that we humans are not necessarily the chief concern of the Divine. Perhaps He leaves us to our own devices in our little corner of this vast uncaring cosmos, and so our ends justify our means, however ruthless. In all the previous great religions of the world, the history of the world was a drama involving God(s) and

humans, with Nature on earth as God's theater or arena. Now humans were perhaps not the center of things and should look after ourselves, forming omnipotent states to regulate human conduct, and promoting rulers of those states ruthless enough to hold them together. For effective rule, the pieties and the traditions of the old must be crushed.

We have been experiencing the aftershocks of that great change ever since. Science enabled Europe to reduce the rest of the world to colonies. Machiavellian republics crushed old patriarchal tribes, monarchies and oligarchies. Morality became a mixture of psychology and abstract ethical logic.

This change, however much we might regret it, was actually a huge gift to humanity. By all practical measures (longevity, literacy, productivity, wealth, population) the human race flourished and the quality of life improved. The modern world was born. But much was lost. In 1867 Matthew Arnold meditated on the new discoveries of geology that made our human world an infinitesimal blip in the vast chronology of the universe. This is how he put it in "Dover Beach":

*for the world, which seems  
To lie before us like a land of dreams,  
So various, so beautiful, so new,  
Hath really neither joy, nor love, nor light,  
Nor certitude, nor peace, nor help for pain;  
And we are here as on a darkling plain  
Swept with confused alarms of struggle  
and flight,  
Where ignorant armies clash by night.*

The Copernican revolution taught us not to revere the wisdom of age and brought on an age of youth, modernity, lightness of being: but it was a world without joy, love, or light. Our freedom—once the foundation of our moral and existential dignity—was only whim, and only epiphenomenon.

"Dover Beach," with its near-despair, was of course not the only response to the apparent

uselessness and weakness of the old—the grief at the loss of the small world of the past where the old were once respected. Tennyson's magnificent "Ulysses" was another:

*Come, my friends,  
'Tis not too late to seek a newer world.  
Push off, and sitting well in order smite  
The sounding furrows; for my purpose holds  
To sail beyond the sunset, and the baths  
Of all the western stars, until I die.  
It may be that the gulfs will wash us down:  
It may be we shall touch the Happy Isles,  
And see the great Achilles, whom we knew.  
Tho' much is taken, much abides; and tho'  
We are not now that strength which in old days  
Moved earth and heaven, that which we are,  
we are;  
One equal temper of heroic hearts,  
Made weak by time and fate, but strong in will  
To strive, to seek, to find, and not to yield.*

Since Shakespeare, after our post-Renaissance demotion from the center of the universe, and after our reduction to atoms in a parentless universe, life-stages have increasingly been described as determinative, whether as Arnold's entropic universe of ignorant armies, Nietzsche's eternal return, or Freud's psychology of unconscious biological drives, or as the sociological determinism of Critical Theory. Tennyson's defiance of our biological fate in a godless world foreshadows post-World War One existentialism, in which the absurd act is the Stranger's only dignified response to the death of the mother.

The "West" has had four hundred years of religious wars, revolutions, and reform to absorb the moral shock of our cosmological revolution. It was not until the twentieth century that the shock hit China, culminating in the Cultural Revolution of 1966. And the defining feature of that revolution was the ruthless shaming and destruction of the older generation by the young, so shockingly reminiscent of the horrors of King Lear.

# Just when our irresponsibility peaked, we began to threaten the world.

## 6. A second revolution

**B**ut what if the original revolutionary insight were wrong? Or at least, what if we had totally mistaken its implications? And what if an equally large reversal of human values is happening today? If the pious decency (and obscurantism) of former ages was based on the idea that the Earth was the center of the cosmos, the "Middle Kingdom" of the universe, and if the freedom and enterprise (and brutal exploitation) of the youth-driven post-Renaissance world was based on the idea that the Earth was nothing special, what might be the result of discovering that maybe the Earth is in a strong sense the center of the universe after all?

In 1950 Enrico Fermi was walking to lunch with Edward Teller and the physicists Herbert York and Emil Konopinski. The conversation turned to life on other planets, and to the possibility of intelligent life elsewhere. Frank Drake had not yet formulated his famous 1961 equation that multiplied the various unlikelyhoods of intelligent, communicative life evolving—the right kind of star, of planet, of orbit, of planetary chemistry, etc.—to come up with about one hundred million civilizations in the then known universe. But the possibility was already being talked about in the scientific community.

Fermi, listening to the others, blurted out "Then where is everybody?" Surely if we modern humans had been around for a billion years, we would have found means to be everywhere, and our signals across the airwaves would be deafening. Where were the aliens? After the origin of the universe, this is perhaps the biggest question for contemporary space science.

It is beginning to look as if they are not there at all. And new work on the geological history of our planet is beginning to explain how this could be. In a recent article in *Science Reports*<sup>10</sup>, scientists argue that the evolution of advanced communicative civilizations require very special conditions: the presence of simple life, large continents and oceans, and plate tectonics (the strange sliding, colliding, sinking and overriding of gigantic rocky plates across the surface of the Earth) operating for many hundreds of millions of years on a planet in the habitable zone around a star. They point out how extremely important and rare this combination is likely to be. No other planet in our solar system has any of these. Turning to other disciplines, such as evolutionary biology and the history of genetic change on Earth, they show that while simple life and even complex multicellular organisms may exist in the ocean for billions of years, intelligent life with the ability to build rocket ships and transmit radio could not evolve on Earth until plate tectonics emerged. If we add the various unlikelyhoods involved in plate tectonics, it makes perfect sense that we may be alone, at least in the Milky Way galaxy, and perhaps in the universe altogether. If we are the first and only intelligent observers of the universe, a second apocalyptic reversal may be under way. Maybe we are the center of the universe after all? Maybe we're not just another bunch of natives in an obscure corner of the cosmos, but

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<sup>10</sup> Robert J. Stern and Taras V. Gerya, "The importance of continents, oceans and plate tectonics for the evolution of complex life: implications for finding extraterrestrial civilizations." *Science Reports* 14, article number: 8552 (2024).

the only moral and intellectual and sentient witness of it all. Maybe we—humans and our sentient kin, the animals and plants—are the eye of the universe, seeing its glory for the first time and giving it meaning?

If this is so, suddenly we have ethical weight again—enormous ethical weight. We cannot waste all those millions of years of suffering, extinction, terror, species loss, catastrophe and grief that got us here. We do have a higher duty after all; to heal our planet, together with all the lifeforms that make up our home; we must emulate the first three billion years of life on Earth and learn from them how to terraform and colonize a new planet, as they did; we must survive, thrive, and strive to populate the galaxy. We need to see the wonders of the universe from as many perspectives as possible, and perhaps create or give birth to different forms of intelligence that are capable of their own forms of wonder. Our weight is as great as it was in medieval times, when the universe was but a little diorama constructed by God to test humans and prepare them for heaven. Our duty is to go on being the only audience for the vast play of material reality, and may be the most important moral priority of all. To put it in theological terms, if God beholds the universe, He beholds it through the eyes of the Earth, the only conscious physical eyes there are. Our planet, in a philosophical sense, might be the center of the universe after all. We may be living in the body of God, building with great pain whatever paradise we can.

And perhaps the inflection in our attitudes had already begun. It had been clear for some time that, unlike the earthly explorers of the renaissance, our celestial explorers were not finding friendly or unfriendly natives, though our science fiction shows the immense desire that we had that they should exist. If we're alone, then what? This thought must surely have crossed the minds of the other two lunch companions, York and Konopinsky. Both had played important parts in the Manhattan Project: both knew that President Truman

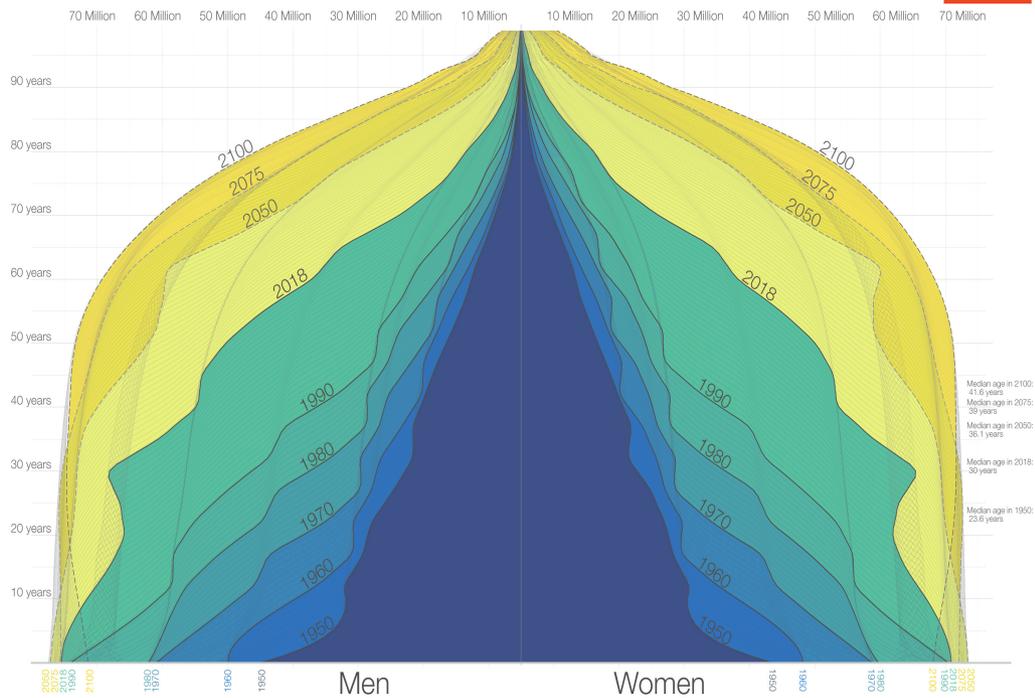
had ordered the development of the hydrogen bomb that winter, and that Klaus Fuchs had been arrested by the British a month later for selling nuclear secrets to Stalin. And both became vociferous advocates of nuclear disarmament.

In the same year Fermi asked his question, 1950, Margaret Sanger in her 80s proposed to the eminent Catholic gynecologist John Rock at her Massachusetts infertility clinic that the goal of its research should be the oral contraceptive. Just fifteen years later, in 1965, the world fertility index, which plateaued during the sixties at five births per woman, began to drop like a stone. It is now much less, about two, still dropping, and has passed the replacement level, especially in rich countries but increasingly almost everywhere. (The growing world population lags falling fertility because of increased longevity, but will begin to drop in turn in the next few decades.) One consequence of all this has been a precipitate drop in the numbers of young people, and a precipitate rise in the population of the middle-aged and old, as well as in the very old. Barring some catastrophe, the population pyramid—blue in the graph—will become the population cupola. If present trends continue, the average age of the human race is on its way from about 18 to about 45 or 50. Demographically the Senex is not the past, but the future.

Just when we began to recognize our uniqueness in the universe—contra four hundred years of coming to accept that we were just an insignificant speck in its vastness—we simultaneously developed the power to destroy our species completely. And at the same time we developed the means to limit our natural evolutionary growth in numbers, and indeed in the long run to put a gentle end to ourselves by foregoing the tedious labor of reproduction. And that was also the moment when the old had devised a way to outnumber the young; and the young had been given all the freedom in the world to ensure that they would not be succeeded. Just

# The Demography of the World Population from 1950 to 2100

Shown is the age distribution of the world population – by sex – from 1950 to 2018 and the *UN Population Division's* projection until 2100.



Data source: United Nations Population Division – World Population Prospects 2017; Medium Variant. The data visualization is available at [OurWorldinData.org](https://ourworldindata.org), where you find more research on how the world is changing and why.

Licensed under CC-BY by the author Max Roser.

Source: <https://ourworldindata.org/global-population-pyramid>

when our irresponsibility peaked, we began to threaten the world. But just when the larger meanings of our lives were overthrown by modernist skepticism, they rose again in the stark possibility that we were alone and maybe in charge of meaning itself.

Shakespeare and Donne recognized the moral and existential implications of the great cosmological change of their own times. What can we learn from them that might enable us to understand and perhaps foresee the changes in values, priorities, ethical guidelines and spiritual meanings that may ensue if Fermi's paradox is no paradox at all? And how might our attitudes change toward the Senex, towards our seniors? What kind of senate might we now need, as George Washington put it, to cool our legislative tea?

The traditional human way of dealing with the demographics of aging is some version of the "seven ages." What the Renaissance cosmological revolution has done, among other things, is to largely overturn the implied roles of the old and young, as illustrated in the citations from Shakespeare, Donne, and Arnold—who were exercising the poets' ancient duty of prophetic alarm system. If we are now undergoing a second cosmological revolution—in which we may end up seeing ourselves as the center of the universe again after four centuries when we didn't—we had better start thinking about what its deeper consequences might be. And here one feature of the traditional life-stage model, the Senex—the old wise-foolish one who has nothing to gain—might prove to be of very great value.

The result of the demographic upset will be the complete overturning of the "population pyramid," so that the population will be dominantly old and middle-aged, youth will be a rarity, and —because of the robotics we are immediately creating for the purpose—work will be coveted and in huge demand.

Let us imagine it: material wealth will be abundant and not much valued, and wisdom will once again be honored as it was in Ptolemaic times. The way we value the opposite sex changes from the passionate desire of the young to the respectful friendship of the old. So perhaps the institution of marriage as friendship will regain its ascendancy over marriage as voracious and even violent need. Classical and medieval beauty and wonder will return as we realize that we are the center of the universe, being the only eyes that can contemplate and assign value to it.

Clearly, we cannot undo—though many might nostalgically wish it—the enormous changes wrought by modernity. Patriarchy, we know, will not do—or will only do if matriarchy fully balances and critiques and is critiqued by it, and youth is still allowed its ambition, enterprise, and creative disruptiveness. The huge advances in science, technology, social organization, economy, and plain human benefit must stand. Members of the Sixties generation are now dying, but they gave us the solar system for our playground

through the space program, and an example of what pure freedom might look like, in both its splendor and its horror and degradation.

Perhaps that generation can bequeath something else before it passes. If the future truly is an age of abundance, many of the motivators and scourges of youth will be relieved of their powers. The old have nothing to gain—this is the contentment celebrated in so many of those poems from ancient China—and thus their motivations can be purified of bias and ambition. Their work can be done for its own sake, and thus both its subjects and its results can be given true autonomy, allowed to emerge out of their own interactions, recognizing the deeper satisfactions of beauty and the soul. In such pursuits, envy, exploitation, and even recognition by others have no necessary force. If we no longer need things for their use, we can need them for themselves; a farm animal is prey, but a pet can be a friend.

Some of the greatest artists entered an entirely new phase late in their lives, as Edward Said points out in *On Late Style: Music and Literature against the Grain*.<sup>11</sup> Consider Shakespeare's late plays, Beethoven's late quartets, or Yeats' *Sailing to Byzantium*. The reputation has been made, the battles won or lost. The spirit is free and now it can play. If civilizations can also attain that freedom, maybe a new kind of art and science can be the result. A

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11 <https://www.edwardsaid.org/articles/thoughts-on-late-style/>