

Life is Getting Better

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1. Personal: Sense of accomplishment and feeling that I'm doing things right.
2. Social life: Family and girlfriend.
3. Material life: Get to a point where everything I own has been paid by myself.
4. Occupation: Work at something where I help others. Medicine or keep on the Biomedical Engineering track.
5. Recreation: To dance, to learn, to relax, and to explore.
6. Political:
 - a. local (P.R.): economic crisis resolved
 - b. national: racism out of the map, for good
 - c. global: minimize wars

Life IS getting better

- Kathy Bleitz: blind since she was 11
- Stargardt disease: degenerative disease that affects central vision, but not the peripheral
- eSight: electronic glasses, which the user can adjust to enhance the quality of the image
- Gets to see her newborn baby for the first time
- Is life getting better or not?

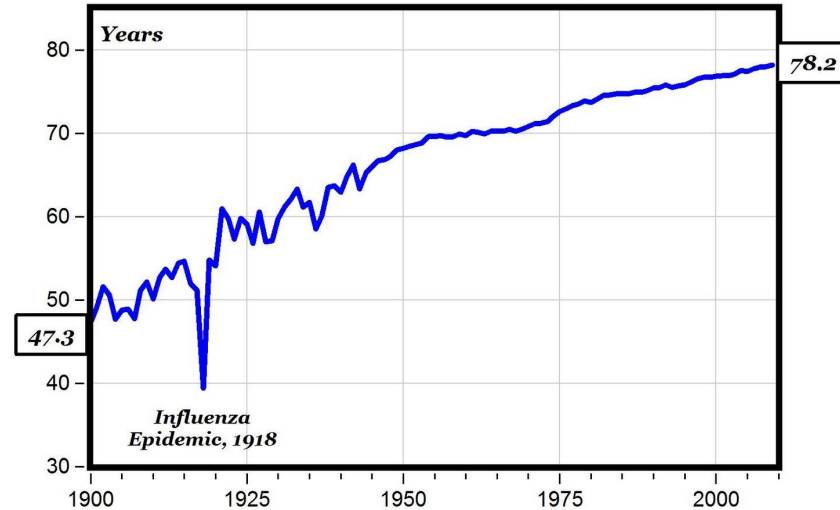


photo credit: Yvonne Felix, screenshot from YouTube

<http://www.iflscience.com/technology/electronic-glasses-allow-legally-blind-woman-see-her-baby-first-time>

Issues solved > generated

U.S. Life Expectancy at Birth 1900 to 2009



<http://emfsurveydallas.com/wp-content/uploads/2013/04/North-American-Life-Expectancy-Chart.jpg>

Stephen Masceri

What do I Want from Life?

- a. Happiness - High Security/Low Stress
- b. Global Friendships
- c. Enough “Things” to be Comfortable
- d. Fulfilling Job - Challenging and Meaningful (Aerospace)
- e. Experience the World
- f. Make a Difference - Engineering or Policy Making

Asteroid Mining

Limitless Resources

- Metals/Minerals
- Energy
- H₂O



Near Earth Asteroids

- Hold all of the above resources
- Possible to land on (Rosetta)
- Feasible to “capture”

Gateway to more resources

- Comets, Moons, Planets

Asteroid Mining in Practice

Planetary Resources and Deep Space Industries

- Missions in 2020

NASA Research - Robotic Asteroid Prospector

- Asteroid selection and classification

Congressional Bill - “Asteroid Act”

- Promote Space Mining

Jackson Hill

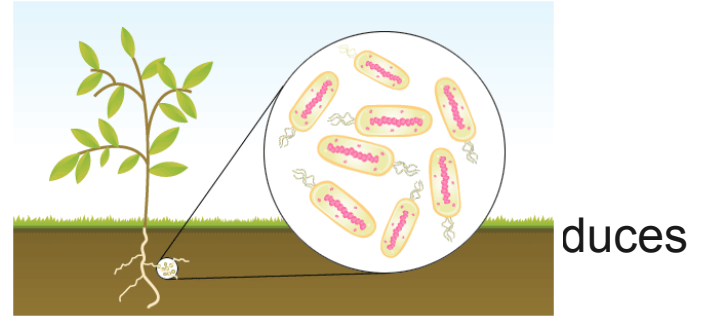
- a.) A sense of accomplishment, Biological Engineering
- b.) A normal family and social life
- c.) Things required for a comfortable lifestyle
- d.) Project manager for the Army Corps of Engineers
- e.) Active lifestyle, outdoor activities.
- f.) conservative

Nitrogen Cycle

- Human activities such as agriculture and the burning of fossil fuels are decreasing atmospheric nitrogen levels.
- Removing nitrogen from the atmosphere damages the ozone layer and accelerates global warming. It also contributes to acid rain which contaminates fresh water supplies.

Regulating The Nitrogen Cycle

- Engineers are constantly improving farming practices to limit nitrogen depletion.
 - optimizing fertilizer application
 - planting crops such as soybeans that facilitate nitrogen fixation, which prevents nitrogen runoff and also produces food.
- Maintaining the nitrogen cycle relates to my personal agenda because i am studying to become a Biological Engineer. Biological Engineers work to reduce the human impact from agriculture and the use of other natural resources.

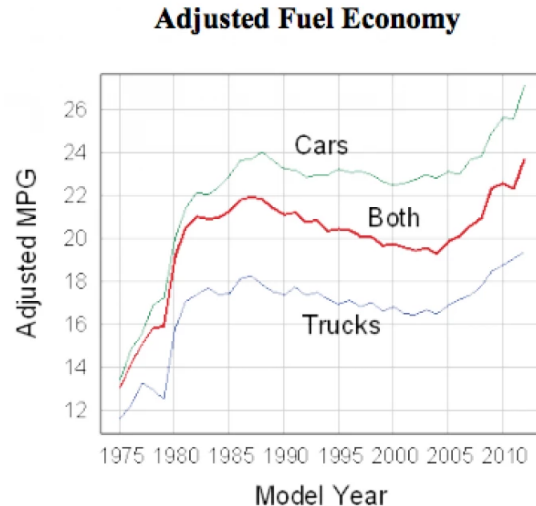


Tim Tickner

- Desire to make people happy
- Things are here to make life easier or entertaining for us but sometimes being quiet is nice too
- Work as an M.E. At car company designing engines
- THON committee, ref IM sports
- Generally conservative but very mildly

Fuel Economy

- Nationwide average fuel economy of 23.8 mpg
- Brought from under 14 mpg in 1975



Fuel Prices and MPG

- As fuel prices have risen (albeit not recently), people are looking for more bang for their buck from their cars
- A goal of 35 mpg for all cars has been set by 2025 for a standard (non-hybrid) vehicle
- Example:
 - 2015 Ford Fusion: 25 city 37 highway
 - 2015 Honda Accord: 27 city 36 highway
 - 2015 BMW 328i: 32 city 45 highway
 - 535i: 26 city 38 highway

Increase Across the Board

MY 2010–2012 Manufacturer Fuel Economy and CO₂ Emissions¹

Manufacturer	MY2010	MY2010	MY2011	MY2011	MY2012	MY2012
	MPG	CO ₂ (g/mi)	MPG	CO ₂ (g/mi)	MPG	CO ₂ (g/mi)
VW	25.0	363	26.0	349	26.2	346
Mazda	24.4	364	25.0	356	25.9	343
Toyota	25.4	350	24.1	369	25.6	347
Honda	24.9	357	24.1	369	26.4	337
Subaru	23.4	379	23.9	372	25.2	353
Nissan	23.1	384	23.3	381	24.6	361
BMW	22.1	404	22.7	393	23.1	386
Ford	20.4	435	21.1	422	23.2	382
GM	21.3	418	20.7	429	21.4	415
Chrysler-Fiat	19.5	455	19.4	458	20.6	431
Daimler	18.9	471	19.1	469	21.4	418
All	22.6	394	22.4	398	23.8	374

Citations

- <http://www.washingtonpost.com/blogs/wonkblog/wp/2013/03/16/cars-in-the-u-s-are-more-fuel-efficient-than-ever-heres-why/>
- www.fueleconomy.gov
- "Manage the Nitrogen Cycle - Engineering Challenges." *Manage the Nitrogen Cycle - Engineering Challenges*. N.p., n.d. Web. 29 Jan. 2015. <<http://www.engineeringchallenges.org/cms/8996/9132.aspx>>.
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- <http://www.skyandtelescope.com/wp-content/uploads/asteroid-243-lda.jpg>