Autism and microbiome – is there a connection?

20,000 human genes, but about 3,000,000 microbial genes!

Princeton University scientist Bonnie Bassler compared the approximately 30,000 human genes found in the average human to the more than 3 million bacterial genes inhabiting us, concluding that we are at most one percent human. We are only beginning to understand the sort of impact our bacterial passengers have on our daily lives.

http://www.sciencemag.org/content/326/5955/156.full

https://www.youtube.com/watch?v=qdRu-S6S6qM

Microbiome: When Good Bugs Go Bad — Yasmine Belkaid, NIH 21.5.2014
Influence on:
- motility
- secretion
- nutrient delivery
- microbial balance

Gut-Brain Axis

Influence on:
- neurotransmitters
- stress/anxiety
- mood
- behaviour
Regulatory T-cells (Tregs) and health

Bach2 represses effector programmes to stabilize Treg-mediated immune homeostasis

Doi.10.1038/Nature 12199
NIH Scientists find link between allergic and autoimmune diseases in mouse study


Christl Meyer, AIDS Research, Vienna/ Austria, 2018
Michael Skinner and colleagues found that if pregnant rats, that got a substance injected that depressed androgens, the offspring became ill and this was inherited over several generations.

„... 101 cases of epigenetic inheritance...“
Epigenetic alterations are associated with monocyte immune dysfunctions in HIV-1 infection 3. 4. 2018

In the case of HIV, epigenetics is involved in regulation of viral latency and viral replication.

Methyl- and Acetylgroups regulate gene-expression
Nutrition and life-style influence gene expression and might change heredity by epigenetics!
Food-derived opioid peptides inhibit cysteine uptake with redox and epigenetic consequences

Malav S. Trivedia, Jayni S. Shaha, Sara Al-Mughairya, Nathaniel W. Hodgsona, Benjamin Simmsa, Geert A. Trooskensb, Wim Van Criekingenb, Richard C. Detaha,

aDepartment of Pharmaceutical Sciences, Northeastern University, Boston, MA 02115, USA
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Received 21 January 2014; received in revised form 7 April 2014; accepted 5 May 2014

Abstract
Affection triggers genes (stress hormon receptor - better stress resistance!)

Love and care trigger gene-expression

Literature: Jörg Blech: Gene sind kein Schicksal S. Fischer-Verlag
Christl Meyer, AIDS Research, Vienna/Austria, 2018
Epigenetic changes during life in identical twins.


Christl Meyer, AIDS Research, Vienna/Austria, 2018
The Dutch Famine

Since small birth weight is associated with an increased risk of chronic diseases in later life, and poor maternal nutrition during gestation contributes to restricted fetal development, maternal malnutrition may be a cause of increased disease susceptibility in adulthood. The Dutch famine of 1944 or the "Hunger Winter" during World War II serves as an epidemiological study that is used to examine the effects of maternal under-nutrition during different gestational stages. The period of maternal starvation is shown to have limited intrauterine growth and has been identified as one of the most important contributors to coronary heart disease as well as other chronic diseases later in life. These findings agree well with Barker's hypothesis; it supports the theory that maternal under-nutrition leads to a lower birth weight due to restricted intrauterine development and ultimately leads to higher risks of chronic conditions in adult life, over more than the next generation.

Christl Meyer, AIDS Research, Vienna/Austria, 2018
Biological memories of past environments - Epigenetic pathways to health disparities

Zaneta M. Thayer and Christopher W. Kuzawa
Department of Anthropology; the Center on Social Disparities and Health at the Institute for Policy Research; Northwestern University; Chicago, IL USA Epigenetics 6:7, 1-6; July 2011; Landes Bioscience

Human health tends to mirror gradients in social standing related to class, ethnicity and race. Here, we review research related to three domains of environmental exposure that point to epigenetic contributions to health disparities: nutrition, psychosocial stress and environmental toxicant exposure.

We suggest that future research in environmental epigenetics focus on establishing the reversibility of stress-induced epigenetic modifications, and also on identifying positive epigenetic effects of environmental enrichment.
ON

110

Christl Meyer, AIDS Research, Vienna/Austria, 2018

OFF
Exogenous plant MIR168a specifically targets mammalian LDLRAP1: evidence of cross-kingdom regulation by microRNA

Lin et al. Published online 20 September 2011.

Micro-RNA of another species (nutrition from rice) can trigger gene regulation in humans.
1. Genetics, HIV and the Immune System
2. Epigenetics
3. Microbes in Evolution
4. Immunization
5. What does it mean to be Human?
Bacterium
Bacteriophage infecting Bacterium
Plasmids

- Plasmids are circular DNA molecules present in the cytoplasm of the Bacteria
- Capable of Autonomous replication
- Can transfer genes from one cell to other
- Act as vectors in Genetic engineering.
- Can also present in Yeasts

Bacterial Evolution

Bacterial now produce an enzyme lactamase
Inactivates penicillin

Functions of plasmids

There are 5 main classes
1. Fertility plasmids: can perform conjugation
2. Resistance plasmids: contain genes that build a resistance against antibiotics or poisons
3. Col plasmids: contain genes that code for proteins that can kill bacteria
4. Degradative plasmids: enable digestion of unusual substances
5. Virulence plasmids: turn the host of the plasmid into a pathogen
Viruses „fertilized“ ancient cells.

Researchers from Jena (Germany) found complete viral genetic material in the brown alga Ectocarpus siliculosus.

**Horizontal Gentransfer**

The driving force behind evolution!

Journal BMC Evolutionary Biology.

Elektronenmikroskopische Aufnahme von reifen EsV-1 Viruspartikeln © MPI für chemische Ökologie/Delaroque

(DLO/idw - Max-Planck-Institut für chemische Ökologie, 30.04.2008)
Abundant taxa in the human microbiome that have been metagenomically and taxonomically well defined in the HMP population.

This is an image of *Proteus mirabilis* colonies from [James Shapiro](https://www.chicagobioscience.org/profiles/james-shapiro)'s research. Shapiro is a bacterial geneticist at the University of Chicago, interested in pattern formation during colony growth and "natural genetic engineering".

This is thought to occur when some organisms **actively restructure their genomes in response to harsh environmental conditions.**

[Image of Proteus mirabilis colonies]

*Christl Meyer, AIDS Research, Vienna/ Austria, 2018*
This flower-like image is the work of Eshel Ben-Jacob, a professor of physics at Tel Aviv University in Israel.

- Working with colleagues at the Center for Theoretical Biological Physics at the University of California, San Diego, he wants to unravel what it is that makes bacteria so adept at survival by looking at pattern formation in complex dynamic systems alongside the molecular biology and biophysics of bacteria.

Ben-Jacob's work is artificially coloured, but the pattern is produced by the bacteria responding to stresses put upon them. For example, by limiting the food source, the colony can be made to reorganise itself into long tendrils, increasing its surface area to find more nutrients.

Surface expansion as response to a lack of nutrition!
In this image, also by Ben-Jacob, you can see the narrow tentacles reaching out as the bacteria struggle to find nutrients.

In order to flourish in difficult living conditions the colony must adapt. This requires communication and cooperation from the individual microbes to organise the entire colony.
Lynn Margulis

Cooperation and Symbiosis

Lynn Margulis

SYMBIOTIC PLANET
(A NEW VIEW OF EVOLUTION)

Die andere Evolution

LYNN MARGULIS
Evolution and Symbiosis

Mitochondrion

Nucleus

Chloroplast
Malaria

Parasites communicate via exosome-like vesicles

Sexual stages

Exosome-like vesicles promote differentiation to sexual forms

Cell, 15 May 2013
Copyright © 2013 Elsevier Inc. All rights reserved.
10.1016/j.cell.2013.04.029

Refers to:
Malaria-Infected Erythrocyte-Derived Mic...

Authors
Neta Regev-Rudzki, Danny W. Wilson, Teresa G. Carvalho, Xavier Sisquella, Bradley M. Coleman, Melanie Rug, Dejan Bursac, Fiona Angrisano, Michelle Gee, Andrew F. Hill, Jake Baum, Alan F. Cowman
Hundreds of human genes were found to be more conserved with non-mammals than with most mammals. Few of these genes overlapped with known horizontal transferred genes. This indicated that horizontal gene transfer is more common than we expected in the human genome. This study provided insight into potential mechanisms of HGT in the human genome.
More than 80% of the viral genetic sequences found, which included sequences characteristic of both animal and bacterial viruses, have never been reported previously. "This is a largely unexplored world," says Jeffrey Gordon at Washington University in St Louis, Missouri, and an author on the paper, which is published in Nature today.1

"We are truly distinct lifeforms — sums of microbial and human parts."

We may need to re-evaluate how we think about evolution

*Alastair Crisp*

In humans, they confirmed 17 previously-reported genes acquired from horizontal gene transfer, and identified 128 additional foreign genes in the human genome that have not previously been reported. In humans, some of the genes were involved in lipid metabolism, including the breakdown of fatty acids and the formation of *glycolipids*. These molecules are a main part of the cell membrane and exo-and endosomes.
“We need to enhance some of the organisms that are present, but depleted ... Maybe we have to replace some of those vanished organisms, perhaps with isolates from the Amazon or from Africa. And ultimately, we have to monitor.”

DR. MARTIN BLASER Author of "Missing Microbes"

by Gaby D'Allesandro / © AMNH
Human Microbiome

- Actinobacteria
- Firmicutes
- Proteobacteria
- Bacteroidetes
- Cyanobacteria
- Fusobacteria

Hair
Oral cavity
Nostril
Esophagus
Stomach
Skin
Vagina
Colon

H. pylori (-)
H. pylori (+)
Microbiome: When Good Bugs Go Bad — Yasmine Belkaid, NIH 21.5.2014

https://www.youtube.com/watch?v=qdRu-S6S6qM
Antibiotics Use in **Humans and Animals**
"We need to enhance some of the organisms that are present, but depleted ... Maybe we have to replace some of those vanished organisms, perhaps with isolates from the Amazon or from Africa. And ultimately, we have to monitor."

DR. MARTIN BLASER Author of "Missing Microbes"

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**Cumulative Outpatient Antibiotic Use, by Age**

<table>
<thead>
<tr>
<th>Patient Age Group (Years)</th>
<th>Number of Prescriptions (Millions)</th>
<th>Prescriptions /1000 People</th>
<th>Average Number of Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>During Period</td>
</tr>
<tr>
<td>0 - 1</td>
<td>16.6</td>
<td>1365</td>
<td>2.73</td>
</tr>
<tr>
<td>2 - 9</td>
<td>29.0</td>
<td>1021</td>
<td>8.17</td>
</tr>
<tr>
<td>10 - 19</td>
<td>28.9</td>
<td>677</td>
<td>6.78</td>
</tr>
<tr>
<td>20 - 39</td>
<td>55.4</td>
<td>669</td>
<td>13.38</td>
</tr>
<tr>
<td>40 - 64</td>
<td>81.6</td>
<td>797</td>
<td>19.93</td>
</tr>
<tr>
<td>≥ 65</td>
<td>41.1</td>
<td>1020</td>
<td>-</td>
</tr>
<tr>
<td>Total</td>
<td>258.0</td>
<td>833</td>
<td>-</td>
</tr>
</tbody>
</table>

Kids in the first two years of life take the most antibiotics. On average, a 20-year-old American has taken 17 courses. Rates decline, then rise again as people get older.
A disease that has been gone through successfully can be compared to a process of learning!

It could have been an infection from outside or an imbalance from inside. Many children become more mature, not only in their body but even in their mind and spirit.

Christl Meyer, AIDS Research, Vienna/ Austria, 2018
A Viral (Arc)hive for Metazoan Memory

Nicholas F. Parrish

Christl Meyer, AIDS Research, Vienna/Austria, 2018
Taken together, our results point to a *trans*-synaptic mRNA transport mechanism involving retrovirus-like capsids and extracellular vesicles.
No human protein is exempt from bacterial motifs, not even one

Brett Trost, Guglielmo Lucchese, Angela Stufano, Mik Bickis, Anthony Kusalik and Darja Kanduc,*
1Department of Computer Science; and 3Department of Mathematics and Statistics; University of Saskatchewan; Saskatoon, Canada; 2Department of Biochemistry and Molecular Biology; University of Bari; Bari, Italy
Conclusion:

“HIV” is not a real existing virus but a statistical construct!

“HIV” sequences are everywhere (at least endogenous in “homo sapiens neanderthalensis”, in human chromosome 8 and tumor tissue), consequently the existence of “HIV” being an infectious exogenous virus has not been proven!

Stress drives disease and fast evolution by inflammation and change of genetic and genomic diversity.

There is a strong impact on the genetic components known as “HIV” which are influenced by the diversity from the genes of the HLA system. “HIV” transmission from mother to child might become life promoting for the offspring, leading to new genes for the HLA system. In some constellations allergies might result.

Horizontal gene transfer and endogenization of microbial genes, as well as transport of micro RNAs and proteins for different processes between cells and in cellular functions provide a more complex view of gene expression in the evolutionary context.

Activation of gene expression, (food, sperm) allergy, self and non-self differentiation (autoimmunity) provide a new perspective on health and disease.

The term “virus” is not a clearly defined entity; it is defined by the interaction of a body’s reaction to a non-self particle.
1. Genetics, HIV and the Immune System
2. Epigenetics
3. Microbes in Evolution
4. Immunization
5. What does it mean to be Human?
Rapid Emergence of Autoimmune and Immune Mediated Diseases

» There are >100 immune-mediated diseases affecting 50 million Americans

» Second highest cause of chronic disease in United States and number one cause of morbidity in women

» In contrast, most of these diseases are rare in less developed countries

(adapted from Bach, NEJM, 2002)

Faustman, D. Institute of Medicine Report, “Women’s Health Research: Progress, Pitfalls, and Promise, 2010
Immune system gets a boost from early exposure to bacteria.

Natasha Gilbert

Denise Kelly, a gut immunologist at the University of Aberdeen, UK, who worked on the study, says that the results provide the first direct link between early exposure to microbes, immune health and gene expression (I. E. Mulder et al. BMC Biol. 7, 79; 2009). Until now, she says, that link had been circumstantial. "There has been a lot of hearsay around gut microbiota and how it influences immune function and susceptibility to diseases and allergies."
Gut microbes fend off diabetes in mice

Microbes that call the intestines home help ward off type 1 diabetes in mice, researchers have found.

The gut's 'friendly' viruses revealed

DNA sequencing reveals a new world of bacterial viruses in our intestines.

"This kind of stability implies that there is a symbiosis between bacteria and viruses," comments Martin Blaser at New York University Medical Center. "This is different from a predator-prey, or an arms race, situation. This is a picture of a more settled existence, in which the different populations are working together."

According to the CDC, during the 2015–16 school year, median kindergarten vaccination coverage was nearly 95% for MMR (94.6%), DTaP (94.2%), and varicella vaccine (94.3%), which was similar to the previous school year. **Source: CDC**

In stark contrast, the CDC claims the vast majority of adults are not vaccinated, under-vaccinated, or out-of-date.

Christl Meyer, AIDS Research, Vienna/Austria, 2018
Dr. Stefan Lanka (Biologist/Germany) won the process at court concerning the topic that there does not exist a scientific paper that can prove the existence of the „measles virus“. This information has to spread to the society!
What should be considered further concerning vaccinations:

The entry portal (muscle, blood) does not correspond with the natural infection site of the germ (mouth, nose, skin).

Christl Meyer, AIDS Research, Vienna/Austria, 2018
Growth material:
• Vero cells (continuous cell line of green monkey kidney cells)
• HEla cells (Human cancer cell line)
• Chicken eggs

Ingredients:
• Genetically engeneered Antigens
• Antibiotics, Formaldehyd, Thiomersal (Quicksilver containing)
• Aluminum-hydroxid
• Nanotechnology (Nanoparticle), i.e.:
  • Oil in water suspension
  • Squalen
  • MF 59
  • ASO 3, AFO 3
  • DL alpha- Tocopherol (Vitamin E- derivate)
  • Virosomes

Christl Meyer, AIDS Research, Vienna/ Austria, 2018
Figure 1. The sex distribution of the major autoimmune diseases. The numbers above the bars refer to the total number of disease cases ($\times 1,000,000$) in the USA1,7.
Prevalence of Chronic Disease in the U.S.

Correlation or causation?

The real cause of increasing autism prevalence?

- Autism
- Organic Food Sales

Sales ($ millions)

Year


Individuals Diagnosed

25000


r = 0.9971 (p < 0.0001)
Do aluminum vaccine adjuvants contribute to the rising prevalence of autism?

Lucija Tomljenovic a Christopher A. Shaw ab

Autism spectrum disorders (ASD) are serious multisystem developmental disorders and an urgent global public health concern. Dysfunctional immunity and impaired brain function are core deficits in ASD. Aluminum (Al), the most commonly used vaccine adjuvant, is a demonstrated neurotoxin and a strong immune stimulator. Hence, adjuvant Al has the potential to induce neuroimmune disorders. Our results, supported by the Hill's criteria for establishing causality between exposure and outcome indicate that a causal relationship may exist between the exposure to Al from vaccines and the rising prevalence of autism in the Western world.
Prolactin (PRL) has a bioactive function acting as a hormone and a cytokine. It interferes with immune system modulation, mainly inhibiting the negative selection of autoreactive B lymphocytes. Dopamine is an effective inhibitor of PRL. Certainly, motherhood represents one of the most remarkable challenges for the immune system.

Extraordinary cross-reactivity of an autoimmune T-cell receptor recognizing specific peptides both on autologous and on allogeneic HLA class II molecules.

Hansen BE, Rasmussen AH, Jakobsen BK, Ryder LP, Svejgaard A.

Department of Clinical Immunology, Rigshospitalet, Copenhagen University Hospital, Blegdamsvej 9, DK-2100 Copenhagen, Denmark. behmail@get2net.dk
Vaccine-induced autoimmunity: the role of molecular mimicry and immune crossreaction

Yahel Segal and Yehuda Shoenfeld, Cellular & Molecular Immunology advance online publication, 5 Mach 2018; doi:10.1038/cmi.2017.151
www.nature.com/cmi

Sheba Medical Center, Tel-Hashomer, affiliated with the Sackler Faculty of Medicine, Tel Aviv University,

Molecular mimicry is a prototype of such processes, where in an immune reaction directed against foreign pathogenic elements, bearing similarity to human proteins, may evolve into an autoimmune process targeting the homologous self-proteins.

It seems somewhat ironic then that vaccines may induce the very same immune crossreactivity they serve to prevent.
Narcolepsy, 2009 A(H1N1) pandemic influenza, and pandemic influenza vaccinations:
What is known and unknown about the neurological disorder, the role for autoimmunity, and vaccine adjuvants
S. Sohail Ahmeda,*, Peter H. Schur b, Noni E. MacDonald c, Lawrence Steinman
http://dx.doi.org/10.1016/j.jaut.2014.01.033

Research are needed to explain the observed increase in narcolepsy with 2009 A(H1N1) pandemic influenza infection and with European AS03-adjuvanted A(H1N1) pandemic vaccine but not with the MF59-adjuvanted A(H1N1) pandemic vaccine nor with the Canadian AS03-adjuvanted A(H1N1) pandemic vaccine

Christl Meyer, AIDS Research, Vienna/Austria, 2018
Electrosmog and autoimmune disease

Trevor G. Marshall1 • Trudy J. Rumann Heil2
Published online: 13 July 2016
_ The Author(s) 2016. This article is published with open access at Springerlink.com

Abstract Studies in mice have shown that environmental electromagnetic waves tend to suppress the murine immune system with a potency similar to NSAIDs, yet the nature of any Electrosmog effects upon humans remains controversial. Previously, we reported how the human Vitamin-D receptor (VDR) and its ligand, 1,25-dihydroxyvitamin-D (1,25-D), are associated with many chronic inflammatory and autoimmune diseases. We have shown how olmesartan, a drug marketed for mild hypertension, acts as a high-affinity partial agonist for the VDR, and that it seems to reverse disease activity resulting from VDR dysfunction. We here report that structural instability of the activated VDR becomes apparent when observing hydrogen bond behavior with molecular dynamics, revealing that the VDR pathway exhibits a susceptibility to Electrosmog. Further, we note that characteristic modes of instability lie in the microwave frequency range, which is currently populated by cellphone and WiFi communication signals, and that the susceptibility is ligand dependent. A case series of 64 patient-reported outcomes subsequent to use of a silver-threaded cap designed to protect the brain and brain stem from microwave Electrosmog resulted in 90 % reporting “definite” or “strong” changes in their disease symptoms. This is much higher than the 3–5 % rate reported for electromagnetic hypersensitivity in a healthy population and suggests that effective control of environmental Electrosmog immunomodulation may soon become necessary for successful therapy of autoimmune disease.
1. Genetics, HIV and the Immune System
2. Epigenetics
3. Microbes in Evolution
4. Immunization
5. What does it mean to be Human?
When is stress good for me?

Moderate degrees of stress actually improve performance.
Too much stress impairs performance.
Too little stress decreases motivation.
Stress can produce free radicals and thus change the oxidative potential of the cell.

A lowering can also be triggered by nutrition:

Empty calories instead of energetic electrons – information.

Christl Meyer, AIDS Research, Vienna/ Austria, 2018
Photons trigger energetic electrons. Mitochondria gain energy - ATP. Photosynthesis - WOW!

Vitamin D

Vegetables, fruits

Christl Meyer, AIDS Research, Vienna/Austria, 2018
Proteins change conformation by electromagnetic influence

https://www.heartmath.org/gci-commentaries/properties-of-water-does-water-have-memory-or-consciousness/

Wirkung elektromagnetischer Felder und Schwingungen auf Lebendiges - Dr. U. Warnke – 2014 16.6.2015

Water Memory (Documentary of 2014 about Nobel Prize laureate Luc Montagnier) 28.1.2016

https://www.youtube.com/watch?v=DTI0OePtg4o
https://www.youtube.com/watch?v=R8VyUsVOic0
Electromagnetism is a universal state
Paracelsus:

Everything is dependent on the concentration
Tests with rabbits and tumor cells

Strokes and talking

No tumors, more killer cells!
Motility and functional disorders
Functional gastrointestinal disorders: psychological, social, and somatic features

- Author Affiliations
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  bDepartment of Medicine, Royal North Shore Hospital, cDepartment Academic Psychiatry, Royal North Shore Hospital
  Associate Professor J E Kellow, Department of Medicine, Royal North Shore Hospital, St Leonards, NSW 2065, Australia.
It is true:
The diagnosis (prognosis) of a disease could manifest it – even in a total healthy person. This is what we call the **Nocebo-effect**! The contrary is the well established **Placebo-effect**.
Autopoiesis

The term refers to a system capable of reproducing and maintaining itself. The term was introduced in 1972 by Chilean biologists Humberto Maturana and Francisco Varela to define the self-maintaining chemistry of living cells. Since then the concept has been also applied to the fields of cognition, systems theory and sociology.
Did you know?

Negative emotions can create nervous system chaos, but positive emotions do the opposite.

The human heart's magnetic field can be measured several feet away from the body.

In fetal development, the heart forms and starts beating before the brain begins to develop.

Positive emotions can increase the brain's ability to make good decisions.

You can boost your immune system by focusing on positive emotions.

A mother's brainwaves can synchronize to her baby's heartbeats even when they are a few feet apart.

The earth's magnetic resonances vibrate at the same frequency as our heart rhythms and brain waves.
You are your thoughts and your feelings!

Communication between living creatures influences cell-communication and thus health and disease!
Self-Regulation: Solve your problems!

Balance is the Key to Life
Meditation
We are coming to understand health not as the absence of disease, but rather as the process by which individuals maintain their sense of coherence. (A. Antonovsky)

Science of the heart
https://www.heartmath.org
A shock can lead to a disease.

The trauma sets a visible mark in the brain (Hamerscher Herd).

Finding the cause, will lead to the right treatment.

During the healing phase microorganisms are working for regaining the balance.
VIRUS = POISON

Infectus = infectuous

Infection = coming from outside and causing disease

IN CONTRAST – FACT:
Acting from inside in response to stimulation!

The old terms (gene, virus) do not correspond with the latest scientific findings!
"All Truth Goes Through Three Stages:

• First it is ridiculed.
• Then it is violently opposed.
• Finally, it is accepted as self-evident."

- Arthur Schopenhauer-
Hippocratic oath:

„As to diseases, make a habit of two things – to help, or at least to do no harm.“

(Hippocrates, 5th Century B.C.E. Greek Physician, regarded as the father of medicine)

„Let theories die instead of humans!“

*Karl Popper: Austrian/ British Philosopher*
Technical Improvement versus Awareness /Ethics
Humans (and other living creatures) are the outcome of microbial competition and symbiosis. Bacteriophages, bacteria, protists, archaea and fungi created our ancestors and our own genes and contributed to their specificity. We inherited our ancestors´ lifestyle (history) and combine it with our own epigenetics.

The principle of life (and universe) is still not revealed:

God, spirit, self (autopoiesis), by chance, a higher principle, eternal law, scientific laws; ....???

Evolution is still going on and for most of humanity the pace is too fast! We need time for adaptation!

Remember: It is you yourself who has the power of healing yourself. Society is responsible for the conditions that do promote life and health, like working conditions, income, housing, education systems, justice, freedom and democracy, .... We have to focus more on „non-material principles“, which we have neglected until now.
Life is comprised by a homeostatic balance. Genes and the environnement interact together. The material needed comes from healthy nutrition. You need energetic electrons and photons to build and sustain the electromagnetic field you are. Humans (cells) are resonators. The program is based on your spirit, mood and mind.
The ideals which have always shone before me and filled me with the joy of living are goodness, beauty, and truth. To make a goal of comfort or happiness has never appealed to me; a system of ethics built on this basis would be sufficient only for a herd of cattle.

-- Albert Einstein
There are only 2 races: The decent and the undecent..
We have to promote the decent.

What a human being needs is a MEANING FOR LIFE!
(Victor Frankl / Austrian psychiatrist)
You cannot get through a single day without having an impact on the world around you. What you do makes a difference, and you have to decide what kind of difference you want to make.

--Jane Goodall
Thank you for your attention!

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