

New Nationalism - basically a physical problem

An update
(by Peter Jakubowski)
to the book
"21 Lessons for the 21st Century"
(by Yuval Noah Harari)

On 1st September, 2018 appeared the third book by Yuval Noah Harari: *"21 Lessons for the 21st Century"* (Penguin Random House, UK). It is as full of new interesting ideas as Harari's two previous books, *"Sapiens; History of Humankind"*, and *"Homo Deus; A Brief History of Tomorrow"*. In my recent (German) book: *"Bioresonanzen in der Einheitlichen Medizin"* (Engl.: *Bioresonances in the Unified Medicine*), I have updated some of the Harari's greatest ideas from his two earlier books onto the perspective of my *Unified Physics*; Harari has necessarily used the traditional physics as his scientific background. In the present article, I am going to update in that sense some of the most important ideas from his newest book.

At first, according to the title of our article, we have to jump to Chapter 7, *"Nationalism; Global problems need global answers"*, because our new physical definition of a natural quantization of the demographic units of natural human groups is the most important new tool for a scientific treatment of the present social, economic, and political situation of the world. Let us consider the following definition of the Demographic Quantum Spectrum of natural human groups (*later on we will explain the relation of this quantization to the quantization of our cosmic home, the Solar System, and the quantization of all possible bioresonances in our own bodies*).

I. Demographic Quantum Spectrum of Human Communities

<i>Human Group</i>	<i>Level</i>	<i>Components</i>	<i>Personal Contacts Range</i>
World; ~ 5000 M	9	12 Continents	150 Nations
Continent; ~ 430 M	8	12 Nations	150 Metropolises
Nation; ~ 36 M	7	12 Metropolises	150 Cities
Metropolis; ~ 3 M	6	12 Cities	150 Districts
City; ~ 0.25 M	5	12 Districts	150 Clans
District; ~ 20-21 T	4	12 Clans	150 Great Families
Clan; ~1700	3	12 Great Families	150 Basic Families
Great Family; ~150	2	12 Basic Families	150 Persons
Basic Family; 12	1	4 children, 4 parents, 4 grandparents	-
<i>An example of a possible Continental-Communities distribution over the World with hypothetical 5 Milliard humans:</i>			
Europe - 1, North and Middle America - 1, South America - 1, Asia - 5 (or 6), Africa - 3 (or 2), Australia and Oceania - 1.			

In Ch. 7. of his new book, Yuval Noah Harari writes:

"True, human are social animals through and through, with group loyalty imprinted in their genes. However, for hundreds of thousands of years *Homo sapiens* and its hominid ancestors lived in small intimate communities numbering no more than a few dozen people. Humans easily develop loyalty to small intimate groups such as a tribe, an infantry company or a family business, but it is hardly natural for humans to be loyal to millions of utter strangers. Such mass loyalties have appeared only in the last few

thousand years - yesterday morning, in evolutionary terms - and they require immense efforts of social constructions."

Yes, I agree. But it is nothing unnatural that individual human beings cannot develop a direct loyalty to demographic quantum levels higher than their own Great Family (*comp. Table I*). Instead of the individual loyalty, a group loyalty became necessary to be developed and applied when the human population reached millions of people living on the same territory. I suppose, it was the case not earlier than at the end of the last Ice Age, during the life-period of the last "regular" Species of the Neanderthals Genus (between 22300 and 8700 years ago; *the details will be explained in next pages*), spread all over the Earth. Their Great Families was almost surely already earlier closed into Clans of 1700-1800 people, and the Clans to District-Communities of 20-21 thousands of members. Nevertheless, it is also highly probably that such Districts were only able to join themselves together to first Cities (of a quarter of million of people) after the ice sheets of the last Ice Age disappeared from Europe, Asia, and North America. Rests of such Cities have been found along the coast line of that time on almost all continents. It is also clear that Metropolises (of 3 million people) and Nations (of 36 million people) were not capable to feed their citizens prior to the full domestication of the highly productive plants and animals. Because of the extremely dramatic energetic turbulences of the last Cosmic Quantum Jump of level 5 (which culminated between 10000 and 6000 years ago), those demographic processes have been interrupted and could be continued first after the collective trauma of that period has become less acute.

A Nation remains the most important large community unit since then. Only such a unit can retain its integrity and stability, thus stay peaceful in relations to its neighbors. However, in order to secure its peaceful prosperity, a Nation cannot define itself as a homogeneous entity, neither social, nor cultural, and even nor demographic. It is always a natural union of about 150 Cities collected in about 12

higher quantum unities, which we have called Metropolises in Table I. They are Cities and their Districts, and not Nations, who build the natural units of human communities developing their own culture and traditions. The most urgent task in that respect would be to realize the really personal contacts of the individuals representing each demographic unit on the next higher quantum level. For example, I think, a mayor of a City, personally knowing 150 chefs of all Clans constituting his City, will be always a better "administrator" for all 250 thousand citizens of the City than any abstract body of unknown officials occupying the town halls in our present cities.

On the other side, a Nation is still too small to decide about global problems of the planet. As we have clearly recognized during the recent two decades on the example of the European Union, not only the individual Nations but even the Continental Communities are incapable to solve our really global problems. We have to unite all twelve (or more, in the present world) Continental Communities for this purpose. We have to develop a functioning, generally accepted and respected World Community, being the only Demographic Community capable to solve those global problems of Humanity. Similarly to our above example, the future World Community can be successfully active in their global tasks only when the representatives of all (ideally ~150) Nations would be allowed to continue personal contacts to each other for a longer period of time (say 5 to 10 years). Everyone of those representatives has to be chosen very carefully and with full acceptance of all (~150) mayors of the Cities composing each Nation.

The first Chapter of Harari's book, entitled: "*Disillusionment: The end of history has been postponed*", begins with the explanation of the present global situation of our world.

"Humans think in stories rather than in facts, numbers or equations, and the simpler the story, the better. Every person, group and nation has its own tales and myths. But during the

twentieth century the global elites in New York, London, Berlin and Moscow formulated three grand stories that claimed to explain the whole past and to predict the future of the entire world: the fascist story, the communist story, and the liberal story. The Second World War knocked out the fascist story, and from the late 1940s to the late 1980s the world became a battleground between just two stories: communism and liberalism. Then the communist story collapsed, and the liberal story remained the dominant guide to the human past and the indispensable manual for the future of the world - or so it seemed to the global elite. ...

In 1938 humans were offered three global stories to choose from, in 1968 just two, in 1998 a single story seemed to prevail; in 2018 we are down to zero. No wonder that the liberal elites, who dominated much of the world in recent decades, have entered a state of shock and disorientation. To have one story is the most reassuring situation of all. Everything is perfectly clear. To be suddenly left without any story is terrifying. Nothing makes any sense."

Next, we obtain an explanation to what makes the actual problem so dangerous.

"In the past, we have gained the power to manipulate the world around us and to reshape the entire planet, but because we didn't understand the complexity of the global ecology, the changes we made inadvertently disrupted the entire ecological system and now we face an ecological collapse. In the coming century biotech and infotech will give us the power to manipulate the world inside us and reshape ourselves, but because we don't understand the complexity of our own minds, the changes we will make might upset our mental system to such an extent that it too might break down."

The entire book gives a detailed analysis of this main problem, and presents many interesting, even brilliant proposals, how to try to solve it in the next future, before "our mental system might break down."

Yuvel Noah Harari complains: "To be suddenly left without any story is terrifying. Nothing makes any sense." On the other side, he hopes: "To have one story is the most reassuring situation of all." I am writing this update because I am able to deliver a physical basis for the missing story, a new global story of our past and our future. The scientific background of the new story could look like the narrative told in the several following pages.

* * *

The New Story for our *First Global Civilisation*

There are three fundamental statements concerning our (almost) commonly known and (almost) commonly accepted knowledge about the physical basis of the Universe, of our cosmic home in it - the Solar System - and of our life on one of its planets, the Earth:

- 1) the observable Universe can be completely described by means of physics;
- 2) our Solar System is embedded into larger and larger cosmic systems, up to the observable limit of the Universe;
- 3) our Species has emerged on Earth as a consequence of natural processes.

We have to add to point 1 that under physics we mean here our new *Unified Physics*, unifying all traditional aspects of science into two simple constructions:

- * of the Unified Family of all physical quantities, constants, and units;

and

- * of a library of all possible quanta of the Universe, the Quantum Spectrum of Matter-Spirit.

To point 2, we have to add that the series of the cosmic systems, into which our Solar System evidently seems to be embedded, is a hierarchical order, our Cosmic Hierarchy, scaled with a unique value of a cosmic quantum number.

Finally, to point 3, we have to add that as a direct consequence of points 1 and 2, we have to define the origin and the present state of life on Earth as quantum states and processes strictly bound to the same cosmic quantum number.

Let us see, what does all that mean in detail.

1) Our Universe is a Quantum System

- Our Universe is a unique, indivisible **quantum system**.
- Our Universe is organized as a **hierarchical** system.
- Each quantum of our Universe has to be understood as a **separate, self-contained entity of a circulation**, a whirl of potential creating all other characteristics of the quantum.
- The main characteristics of each quantum of our Universe are the **quantum size** (dimension of the quantum circulation) and the **quantum period** (time of the quantum circulation).
- The quantum size and the quantum period are **inseparable**.
- The **dimension (area)** of a quantum circulation creates the quantum **material** properties.
- The **period (time)** of a quantum circulation creates the quantum **spiritual** properties.
- All quanta of our Universe have **everywhere** (inside of the largest quantum) and **always** (during the longest period) the same **qualitative** characteristics.
- The **quantitative differences** among all possible quanta order them along a unique scale of the **Quantum Spectrum of Matter-Spirit**, joining together the universal level of membranes with all possible **non-living quanta** (molecules, atoms, atomic nuclei, and quarks) and all possible **living quanta** (tissue cells, nerve cells, brain quanta, and super-brain quanta).
- The large-scale organization of the non-living quanta of our Universe is the **Cosmic Hierarchy of our Solar System**.
- The large-scale organization of the living quanta of our Universe is the evolutionary developed **life on Earth**.

All possible classes of the Matter-Spirit quanta in our Universe can be collected in the following Table II.

II. Typical values for all possible classes of Matter-Spirit quanta

Cl.	Quantum	Size r	Frequency f	Tempera- ture T	Velocity c	Voltage V
4	<i>Superbrain quanta</i>	0.5 m	~2/hour	2.4 μ K	0.26 mm/s	2 MV
3	Brain quanta	5 mm	5 Hz	240 μ K	2.6 cm/s	20 kV
2	Nerve cells	50 μ m	50 kHz	24 mK	2.6 m/s	200 V
1	Tissue cells	0.5 μ m	500 MHz	2.4 K	260 m/s	2 V
0	Membranes	5 nm	5 THz	240 K	26 km/s	20 mV
-1	Molecules	50 pm	50 PHz	24 kK	2.6 Mm/s	200 μ V
-2	Atoms	0.5 pm	500 EHz	2.4 MK	260 Mm/s	2 μ V
-3	Atomic nuclei	5 fm	5x10 ²⁴ Hz	240 MK	26 Gm/s	20 nV
-4	Quarks	50 am	5x10 ²⁸ Hz	24 GK	2.6 Tm/s	200 pV

The Relative Quantum Spectrum of Matter-Spirit can be understood as a library of all possible quanta in our Universe. This library can be schematically presented by means of the following Table III. There are shown four exemplary physical quantities for each of the five lowest classes of the material dependence μ (μ^0 to μ^4), according to their definitions in the Unified Family of all physical quantities (*the detailed definitions can be seen, for example, in my book "Unified Physics"*). All values of the Quantum-Spectrum table are shown in relation to the universal values on the level of Membranes from the above Table II. So, for example, the speed of light c is in average ten thousand times higher in atomic nuclei than in molecules, and the size of the typical brain quanta (5 mm) is hundred times larger than that of an individual nerve cell (0.05 mm = 50 μ m). The typical sizes of the superbrain quanta are still hundred times larger (50 cm; much too large for our "modern" heads; therefore we are able to use today only those superbrain quanta built in our guts; we can feel with them but we cannot think with them).

Comparing the two marginal columns of Table III, we understand why the microwaves can disturb our nervous system, why the ELW (extra-long waves) can influence our feelings, why all living organisms can be seen in an infrared camera, and why the Chernobyl catastrophe had to destroy lives (note that the quantum energy density is equivalent to the quantum speed of light; it is a million times higher for γ -rays than can be absorbed by tissue cells).

III. Relative Quantum Spectrum of all Matter-Spirit quanta

Material class	Const. Φ_f, P B, E	$\sim\mu^1$ r, c^{-1} U, H	$\sim\mu^2$ t, W i, D	$\sim\mu^3$ p, a^{-1} Φ_H, C	$\sim\mu^4$ m, J $q, \tilde{\mu}$	Electro-magnetic radiation in vacuum
Superbrain cells	-1	-10^8	-10^{16}	-10^{24}	-10^{32}	Extra-long waves
	-1	-10^7	-10^{14}	-10^{21}	-10^{28}	
	-1	-10^6	-10^{12}	-10^{18}	-10^{24}	
Brain cells	-1	-10^5	-10^{10}	-10^{15}	-10^{20}	Radio waves
	-1	-10^4	-10^8	-10^{12}	-10^{16}	
Nerve cells	-1	-10^3	-10^6	-10^9	-10^{12}	Micro-waves
	-1	-10^2	-10^4	-10^6	-10^8	
Tissue cells	-1	-10^1	-10^2	-10^3	-10^4	Far-Infrared
Membranes	-1	-1	-1	-1	-1	Infrared
	-1	-10^{-1}	-10^{-2}	-10^{-3}	-10^{-4}	Visible
Molecules	-1	-10^{-2}	-10^{-4}	-10^{-6}	-10^{-8}	Ultraviolet
	-1	-10^{-3}	-10^{-6}	-10^{-9}	-10^{-12}	
Atoms	-1	-10^{-4}	-10^{-8}	-10^{-12}	-10^{-16}	X-rays
	-1	-10^{-5}	-10^{-10}	-10^{-15}	-10^{-20}	
Atomic nuclei	-1	-10^{-6}	-10^{-12}	-10^{-18}	-10^{-24}	γ -rays
	-1	-10^{-7}	-10^{-14}	-10^{-21}	-10^{-28}	
Quarks	-1	-10^{-8}	-10^{-16}	-10^{-24}	-10^{-32}	Cosmic rays

2) Cosmic Hierarchy of the Solar System is our cosmic home

IV. Main physical properties of the Cosmic Hierarchy of our Solar System *(with masses updated 2018)*

L	Object	Cycle [yr] = Radius [ULy]	Radius [AU]	Relative velocity [km/s]	Mass [$M_{\text{Proto-Sun}}$]
9	Sloan Great Attractor	$3.585 \cdot 10^9$	$1.951 \cdot 10^{10}$	2033.2	$1.028 \cdot 10^{13}$
8	Great Attractor	$295.2 \cdot 10^6$	$1.607 \cdot 10^9$	1089.2	$2.429 \cdot 10^{11}$
7	Virgo Cluster of Galaxies	$24.311 \cdot 10^6$	$1.323 \cdot 10^8$	583.48	$5.739 \cdot 10^9$
6	Andromeda Group of Galaxies	$2.0021 \cdot 10^6$	$1.090 \cdot 10^7$	312.57	$1.356 \cdot 10^8$
5	Large Magellan Cloud	164878	$8.974 \cdot 10^5$	167.44	$3.206 \cdot 10^6$
4	Omega Centauri Cluster	13578.3	$7.390 \cdot 10^4$	89.698	$7.576 \cdot 10^4$
3	Orion Complex	1118.22	6085.97	48.051	1790
2	Ursa Major Moving Group	92.0896	501.201	25.741	42.31
1	Solar System	7.58390	41.2757	13.76	1
0	Proto-Sun	0.62456	3.39920	–	$\sim 1/42.3$
S	–	cqn^8	cqn^8	cqn^2	cqn^{12}

colour code used above:	Exactly the same value as observed	The same observed order of magnitude	Value discovered with Unified Physics
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Additional Notes to Table II:

a) L – level; S – scale factor.

b) The above used units and symbols are:

- the cosmic quantum number, $cqn = 1.3662801$; (from our relation of the present mass density of the Solar System to that of the Proto-Solar System); the used powers of this number are:
 $cqn^2 = 1.8667213$; $cqn^8 = 12.142775$; $cqn^{12} = 42.3133$;
- the universal speed of light, $c_u = 25741.16$ m/s; (it is one of the new discoveries of the Unified Physics);
- the astronomical unit of distance, $AU = 1.492581 \cdot 10^{11}$ m; (the mean Earth-Sun distance);
- the universal light year, $ULy = 8.123429 \cdot 10^{11}$ m = 5.442538 AU; (the distance, a light-ray travels with the universal speed, c_u , during a year).

c) The universal velocity of light in the original Proto-Solar System was the same as in the whole observable Universe; it equals 25741.16 m/s. Therefore, the previous distance of the Proto-Sun to its primary companion - *Andrea-Star* (of 7.58390 ULy) has to be the same as the present Sun's distance to the Kuiper-Belt center of mass: (7.58390 ULy) x (25741.16 m/s) = 41.2757 AU (as shown on level 1 in Table IV).

Energy “bridges” between three levels of our Cosmic Hierarchy

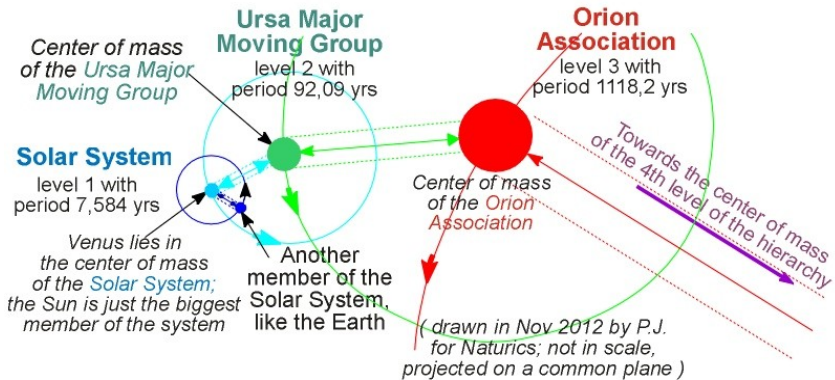


Fig. 1. Three lowest levels of our Cosmic Hierarchy

Three lowest levels of our Cosmic Hierarchy of the Solar System are presented in Figure 1. Here we see, for example, that every 92.09 years the entire Solar System crosses the "green" energy bridge between Orion Complex and Ursa Major Moving Group, and every 1118.2 years - the "red" energy bridge between the Orion Complex and the Omega Centauri Cluster.

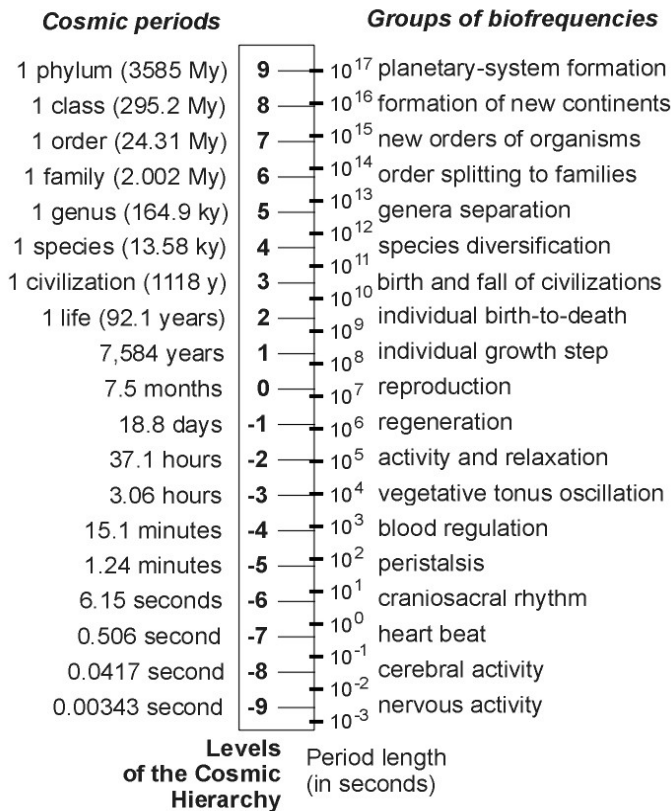
3) Life is a natural quantum process

- In contradiction to the Traditional-Paradigm point of view, **life has not originated in some deep past from non-living matter**. The quanta of living Matter-Spirit originate (also nowadays) directly from the Universal Quantum Field (Universal Creative Potential), the state of Membranes, separating the living quanta from the inanimate quanta in the Quantum Spectrum of Matter-Spirit.
- **Evolution of life is not a spontaneous process**. There is no evolution to any higher forms of life without an evolution-forcing change of physical conditions in the environment of living organisms (i. e. without an energy transfer).
- **Natural evolution to higher forms of life on Earth is not an example of a universal natural law**. It is an example of an extraordinarily seldom (maybe even unique in the entire observed Universe) coincidence of astrophysical and geophysical conditions forcing the evolution on Earth during the recent 3.5 milliard years.
- **The lifetime of all taxonomic groups of organisms**, from phylum to species (and below, to civilisations, generations, and individual lives) **is in each case an exactly defined period** of our Cosmic Hierarchy of the Solar System (*comp. Table V below*).
- The recent cosmic quantum jump of level 5 of our Cosmic Hierarchy (which culminated 4720 years B.C.E.) is **the first period to study**, if we are trying to understand the details of our own evolution from primitive organisms to "modern" human beings (*comp. Point 4 below*).

The following Table V presents complete spectrum of bioresonances (*physical name - biofrequencies*), including all levels between the cycle of planetary-system formation (level +9) and the cycle of the highest nervous activities within milliseconds (level -9). They all have been scaled with the single scaling factor of our Cosmic

Hierarchy of the Solar System of 12.1428 (comp. the Additional Notes to Table IV).

V. Quantum Spectrum of Biofrequencies



Our new story of our own evolution from bacteria to our unique Species "*Homo Sapiens Sapiens Modernus*" results from the above described Points 1 to 3. It concerns especially our presently emerging, post-liberal civilization, the *First Global Civilization* occupying the entire Earth. Let us summarize the new story in the following Points 4 and 5.

4) Quantum Evolution of our own Species

- The Cosmic Hierarchy of our Solar System **has defined the periods** of all quanta constituting this hierarchy.
- All hierarchically ordered periods of our Cosmic Hierarchy build a **Cosmic Timescale**, a quantized schedule of the evolution of life on Earth.
- The "**starting shot**" to the evolution of higher developed life on Earth was the recent cosmic event of level 9 of the Cosmic Hierarchy, **3506.673 million years ago** (Mya), in which the Proto-Solar System has expanded to the present form of our Solar System.
- Our own Family *Homo Sapiens* is the only Family of the Order *Primates*, **which did never stop to evolve** across all consecutive events of the Cosmic Hierarchy (of levels 8 to 4).
- On level 9, **Phylum Vertebrata** has separated itself (3506.673 Mya) from Kingdom *Animalia*. The current lifetime of the Phylum (of 3584.559 My; *comp. Table IV*) ends in 77.897 My.
- On level 8, **Class Mammalia** has separated itself (259.462 Mya) from Phylum *Vertebrata*. The current lifetime of the Class (of 295.201 My) ends in 35.739 My.
- On level 7, **Order Primates** has separated itself (16.353 Mya) from Class *Mammalia*. The lifetime of the Order (of 24.311 My) ends in 7.958 My.
- On level 6, **Family Homo Sapiens** has separated itself (0.3365 Mya) from Order *Primates*. The lifetime of the Family (of 2.0021 My) ends in 1.6656 My. (*Note the important difference in that point to the traditional taxonomy, which goes rather an opposite way, collecting Species into Genera, and Genera into Families*).
- On level 5, **Genus Homo Sapiens Sapiens** has separated itself (6738 years ago; 4720 B.C.E.) from Family *Homo*

Sapiens. The lifetime of the Genus (of 164878 years) ends in 158140 years.

- On level 4, our **Species *Homo Sapiens Sapiens* "Modernus"** has originated (6738 years ago; 4720 B.C.E.) as the first naturally "born" Species of the Genus *Homo Sapiens Sapiens*. The lifetime of the Species (of 13578 years) ends in 6842 years.
- On level 3, our **First Global Civilisation** has emerged (theoretically since November 1989) from our Species *Homo Sapiens Sapiens* "Modernus". The lifetime of this Civilisation (of 1118.22 years) ends in year 3108.

The following diagram shows the running step of level 9 of our Cosmic Hierarchy and its sub-periods of level 8.

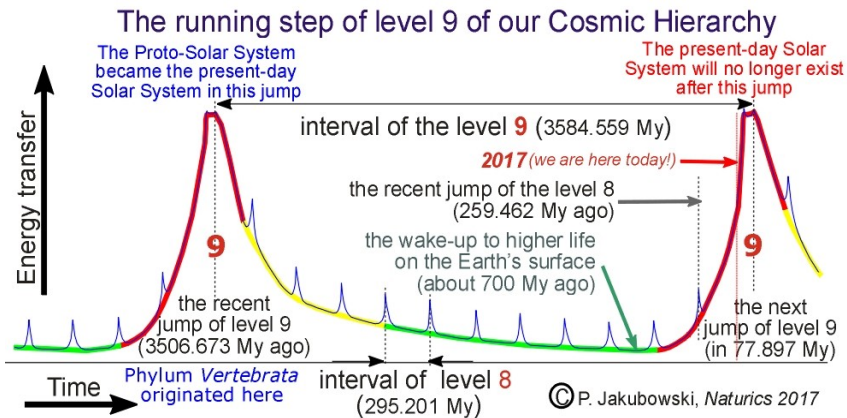


Fig. 2. The longest observable step of our Cosmic Hierarchy

Every jump of level 9 of the cosmic-energy transfer means a passing of the Sloan Great Attractor across the energy bridge holding that Attractor as a satellite of the next center of mass of level 10 of our Cosmic Hierarchy (with its theoretical life-period of over 42 Milliard

years; note that it is three times longer than the traditional estimation of the Bing-Bang hypothesis). This largest postulated structure in our Universe is still to be confirmed by future observations. Therefore, it has been not included in Table IV.

Our Moon has originated at the beginning of the running period of level 9, in a huge, but relatively slow-motion collision of the then remaining part of the previously disintegrated Proto-Mars with Proto-Earth. This event gave the starting shot to the evolution of all higher developed forms of life on Earth; the newly created two-body system Earth-Moon was pushed towards the center of mass of the Solar System. The unlucky rest of the Proto-Mars (seen today as the little Mars on our sky) has been pushed back from the collision place; in contrary to our Earth, it becomes colder and colder and its year becomes longer and longer.

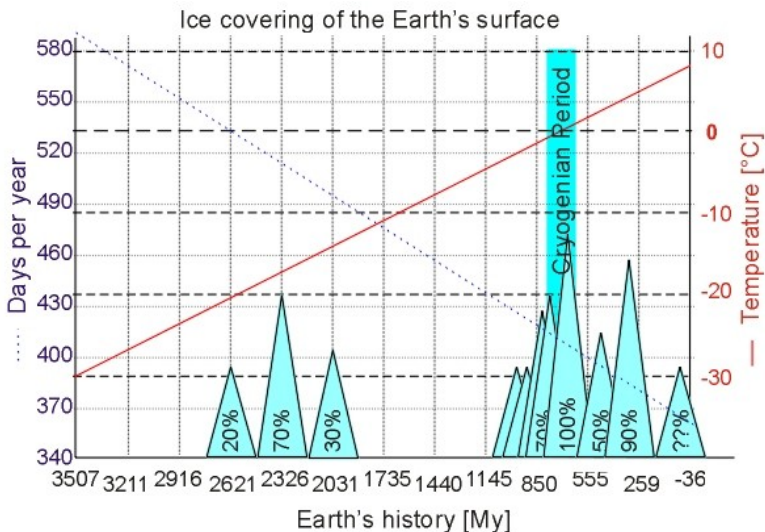


Fig. 3. Observed ice covering of the Earth's surface with its theoretical average temperature and the length of year during the recent 3.5 Milliard years.

The running step of level 9 of our Cosmic Hierarchy is also shown in Figure 3. It shows the (calculated) year shortening (from 584 days 3.5 Milliard years ago to 365.25 days today), the (calculated) continuously rising average surface temperature on Earth (from $\sim -30^\circ$ then to $+8.4^\circ$ today), and the (geologically really observed) percentaged cowering of the Earth's surface with ice in different fragments of the entire step of the level 9. The name Cryogenian Period has been adopted to the interval of many millions of years when the entire Earth has been covered with ice and snow (snow-ball Earth). During the Cryogenian Period, the averaged Earth's surface temperature has reached the value of $T = 0$ ($\pm 1^\circ\text{C}$). This was the time of the true origin of all oceans on the Earth's surface. Prior to that period, only the regions of the Earth's crust around the active volcanoes housed sporadically larger amounts of liquid water (lakes), in which primitive forms of life were able to develop themselves and survive for some longer time. All depressions of the Earth's crust became filled up with liquid water first after the Cryogenian Period. But not earlier than after the 10th sub-period of the level 8 (555 million years ago), the oceans became ice-free for many months in a year; the evolution of life literally "exploded", filling with the living organisms at first the oceans and next the continents of our planet.

Similarly to level 9, every jump of level 5 in the cosmic-energy transfer means a passing of the Large Magellan Cloud across the energy bridge holding that galaxy as a satellite of the next center of mass of level 6 of the Andromeda Group of Galaxies; (*Note that the traditional astrophysics did not recognize the superior role of the Large Magellan Cloud in our Cosmic Hierarchy, degrading that Cloud to a satellite of the hypothetical Milky-Way galaxy; in our model of the Cosmic Hierarchy of the Solar System there is no place, and no necessity, to assume an existence of such a large galaxy in our direct cosmic environment*).

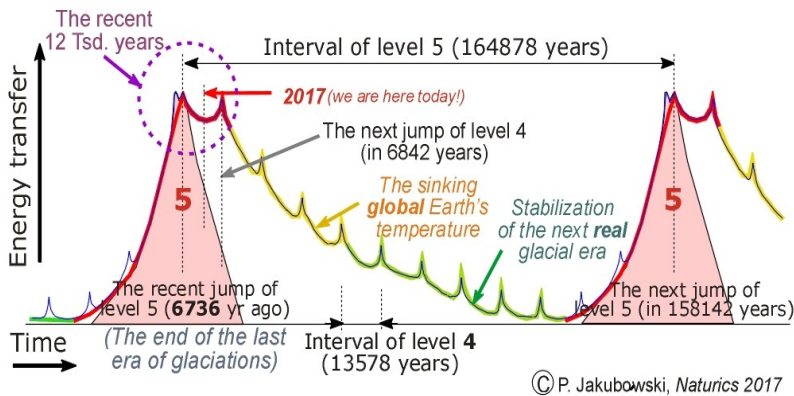


Fig. 4. The running step of level 5 of our Cosmic Hierarchy; *note the red arrow showing our present position at the very beginning of this period.*

The running step of level 5 of our Cosmic Hierarchy is shown in Figure 4. It helps us to understand the traditionally considered as mysterious reason for the singularity of our own Species, the only one of our Genus *Homo Sapiens Sapiens*. As shown in the diagram, the next jump of level 4, giving the necessary "impulse" to further splitting of our Genus *Homo Sapiens Sapiens* into a new Species, will occur not earlier than in 6840 years (*if we have 2018 today*).

The recent 12 thousand years of our evolution (encircled in Figure 5) can be enlarged as shown below. The reduced speed of relaxation of the energy transfer after that cosmic jump, in comparison to the previous diagram of level 9, has been discovered in Greenland ice-core records and reflects our present (very hot) position (note the red arrow there) on the corresponding diagram of the level 9 (Figure 2). As we see in Figures 5 and 6, our own Species can only be treated as a direct follower of the very last Species of the Genus *Homo Sapiens Neanderthalensis*. The very last parents of that Genus gave the birth to the first children of our own Species. **It is an essential part of our new story of humanity.**

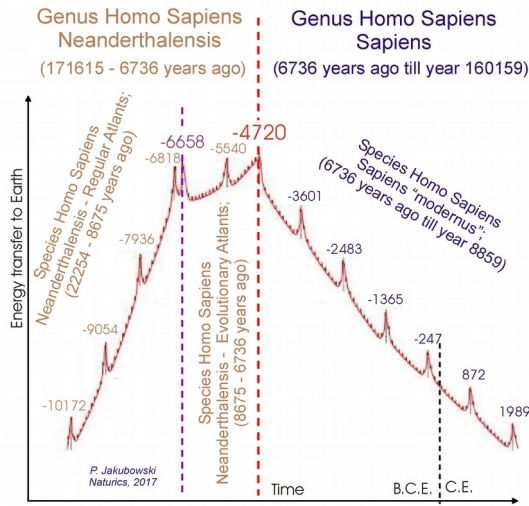


Fig. 5. The recent 12 thousand years of the cosmic-energy transfer to Earth; the encircled part of the diagram in Figure 4.

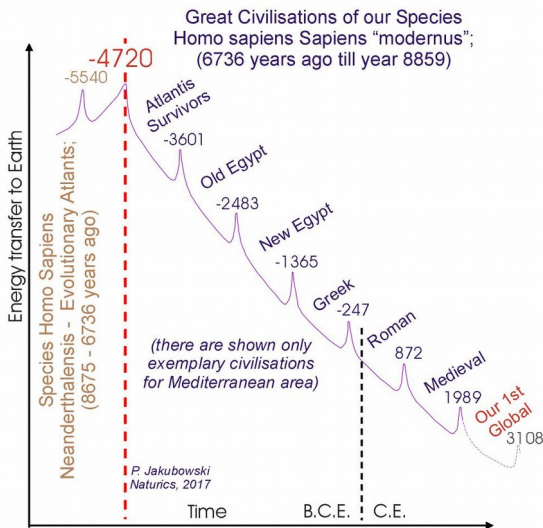


Fig. 6. The extended right part of Figure 5.

If we still enlarge the right part of Figure 5, we can see all seven great civilizing periods of our written history; in Figure 6. There are shown the Mediterranean-Area examples of the Great Civilisations of our own Species directly emerging from the last Species of the Genus *Homo Sapiens Neanderthalensis*. Note that I have named the first of those civilizations as Atlantis Survivors, because we have to assume that very last Civilisation of the Genus *Homo sapiens Neanderthalensis* has had her corresponding Atlantis also on all other continents of Earth around 7000 years ago. Almost all of them, preferably living on the seashore of all oceans, have been completely erased from the Earth's surface by the tremendous tsunamis (with waves up to hundreds meters high) shortly after the impacts of the cosmic bodies of the energy bridge of level 5 (between Large Magellan Cloud and Andromeda Group of Galaxies; *comp. Table IV*) into all oceans of those days. Only a few highland civilizations had chance to survive (for example in Tibet, Caucasus, Ethiopia, or Andes). Those lucky survivors formed the biological basis of our own Species of today. The main task of the Atlantis Survivors was to not allow the human evolution to break down. They were too rare, and they had no time and manpower to develop their own characteristic cultures. It is the reason for the seeming historical gap between the times of Göbekli Tepe (around 13000 years ago) and the first noticeable civilisations along Nile and elsewhere (around 6000 years ago).

5) Our individual and global Consciousness

We all agree that definition of individual and global consciousness is the most fascinating problem of humanity. Unified Physics (our new-paradigm physics) gives us for the first time in history a real possibility to define our individual and global consciousness in scientific terms of a unified quantum theory.

VI. The Unified-Physics definition of Consciousness

Global Consciousness	Individual Consciousness	Meaning of the considered entity (object / subject)*
Creativeness	Soul	M: the Universal Unity; UP: the Universal Creative Potential; QE; potential extension (creation) of a quantum in our Universe; Ph; expression of Oneness (Creator, God);
Matter	Body	M: the spatial creation of the Universal Creative Potential; UP: necessary condition for a physical existence; QE; spatial extension (size) of a quantum in our Universe; Ph; expression of a material (body);
Spirit	Mind	M.: temporal creation of the Universal Creative Potential; UP.: necessary condition for a physical experience; QE; temporal extension (duration) of a quantum in our Universe; Ph; expression of spirituality (mind).

* M - mathematical meaning; UP - Unified-Physics meaning; QE - quantum expression; Ph - philosophical meaning.

Basing on the Quantum Spectrum of Matter-Spirit, we are ready to define (in Table VI) the global consciousness of humanity and the individual consciousness of every one of us as two triplets of commonly used concepts ordered in a new way, allowing to differentiate between them precisely, and use them in a scientifically verifiable context. In the proposed terminology, soul, body, and mind should be understood as the individual expressions of the global concepts of creativeness, matter and spirit, respectively.

As we have stated above, the unique Species of our Genus *Homo Sapiens Sapiens* is a natural consequence of the quantization of the entire Universe, including the recent cosmic quantum jump of level 5, that culminated 4720 B.C.E. (just 6738 years ago). Since then, humanity has reached nearly 8 Billiards of individuals, which are still interrelated to each other. The main problem with practical (political, cultural, educational) applications of those relationships is the lacking background knowledge about the natural quantization of such relations. Therefore, we have proposed - at the beginning of this article - 9 quantum levels of the human-communities structures, of the political relationships, and of the socially and educationally interacting organizations, as shown in our Demographic Quantum Spectrum of Human Communities (*in Table I*).

* * *

Consequences relating directly to Harari's ideas and proposals

Now, I am going to update some of the most important ideas from the book "*21 Lessons for the 21st Century*". In Chapter 1, we read:

"Obama has rightly pointed out that despite the numerous shortcomings of the liberal package, it has a much better record than any of its alternatives. Most humans never enjoyed greater peace or prosperity than they did under the aegis of the liberal order of the early twenty-first century. For the first time in history, infectious diseases kill fewer people than old age, famine kills fewer people than obesity, and violence kills fewer people than accidents.

But liberalism has no obvious answers to the biggest problems we face: ecological collapse and technological disruption. Liberalism traditionally relied on economic growth to magically solve difficult social and political conflicts. Liberalism reconciled the proletariat with the bourgeoisie, the faithful with the atheists, the native with the immigrants, and the European with the Asians by promising everybody a larger slice of the pie. With a continuously growing pie, that was possible. However, economic growth will not save the global ecosystem - just the opposite, it is the cause of the ecological crisis. And economic growth will not solve technological disruption - it is predicated on the invention of more and more disruptive technologies.

The liberal story and the logic of free-market capitalism encourage people to have grand expectations. During the latter part of the twentieth century, each generation - whether in Hongkong, Shanghai, Istanbul or Sao Paulo - enjoyed better education, superior healthcare and larger incomes than the one that came before it. In coming decades, however, owing to a combination of technological

disruption and ecological meltdown, the younger generation might be lucky to just stay in place. ...

Could liberalism reinvent itself yet again, just as it did in the wake of the 1930s and 1960s crises, emerging as more attractive than ever before? Could traditional religion and nationalism provide the answers that escape the liberals, and could they use ancient wisdom to fashion an up-to-date world view? Or perhaps the time has come to make a clean break with the past, and craft a completely new story that goes beyond not just the old gods and nations, but even the core modern values of liberty and equality?

At present, humankind is far from reaching any consensus on these questions."

We only need to repeat Harari's question: "Do we need a completely new story?" in order to understand how serious our situation really is. A completely new story means to begin from a zero-point again. And that means first of all to develop and accept a new scientific background for our new story. Such a new scientific background can be that one presented in a short form here above. Now, let us update the "*21 Lessons for the 21st Century*" by including this new scientific background into the most important of Harari's ideas.

In Ch. 2. "*Work: When you grow up, you might not have a job*", we read:

"We have no idea what the job market will look like in 2050. It is generally agreed that machine learning and robotics will change almost every line of work - from producing yoghurt to teaching yoga. However, there are conflicting views about the nature of the change and its imminence. Some believe that within a mere decade or two, billions of people will become economically redundant. Others maintain that even in the long run automation will keep generating new jobs and greater prosperity for all. ...

We don't know of any third field of activity - beyond the physical and the cognitive - where humans will always retain a secure edge."

I think, it's not true; we know it. The third field of activities will inseparably connect the physical and the cognitive human activities: it is **a responsible parenthood**, giving life, basic education, and future social orientation to our own children inside of every Basic Family. Only in our Basic Families a future child will be growing up from the first Matter-Spirit quantum in maternal womb, gaining its own body and mind, to a conscious member of our lower or higher quantized community (*see Table I above*), contributing later to Matter, Spirit, and Global Consciousness of humankind.

What about our free will and our emotions? Harari writes:

"It turned out that our choices of everything from food to mates result not from some mysterious free will, but rather from billions of neurons calculating probabilities within a split second. ... After all, emotions are not some mystical phenomenon - they are the result of a biochemical process."

Both above was never true, and will not become true also in the future. We have to learn to understand what our brain quanta - and still more, what our superbrain quanta - are, physically and physiologically. Biochemical processes cannot reach higher (in the Quantum Spectrum of Matter-Spirit) than to the nerve cells. Brain quanta and superbrain quanta don't mean any calculations, and probabilities calculation is just an illusion of the hundred-years-old traditional quantum physics. **Nature doesn't need such an illusion.**

What is yet important to note in Chapter 2? Harari warns:

"By 2050 a 'useless' class might emerge not merely because of an absolute lack of jobs or lack of relevant education, but also because of insufficient mental stamina."

However, he also sees a solution of the problem:

"A related idea proposes to widen the range of human activities that are considered to be 'jobs'. ... Maybe we need to turn a switch in our minds, and realise that taking care of a child is arguably the most important and challenging job in the world."

We have to strengthen the last sentence, because taking "care of a child" is just an auxiliary job in relation to "growing up" a child, the true future job for all Basic Families around the World, independent of the parents "education and mental stamina".

In Ch. 3. *"Liberty; Big Data is watching you"*, we read:

"As we mentioned in the previous chapters, scientific insights into the way our brain and bodies work suggest that our feelings are not some uniquely human spiritual quality, and they do not reflect any kind of 'free will'. Rather, feelings are biochemical mechanisms that all mammals and birds use in order to quickly calculate probabilities of survival and reproduction. Feelings aren't based on intuition, inspiration or freedom - they are based on calculations.

When a monkey, mouse or human sees snake, fear arises because millions of neurons in the brain swiftly calculate the relevant data and conclude that the probability of death is high. Feeling of sexual attraction arise when other biochemical algorithms calculate that a nearby individual offers a high probability of successful mating, social bonding, or some other coveted goal. ... Feelings are thus not

the opposite to rationality - they embody evolutionary rationality.

We usually fail to realise that feelings are in fact calculations, because the rapid process of calculations occurs far below our threshold of awareness."

As we have noted in our update to Chapter 2, **any calculation in our brain is just an illusion**. Not only humans, other mammals, and birds, but also most of insects are not easy to catch. But the smallest insects have no brains able to calculate whatsoever. But they are able to use their maybe single nervous cell (often their entire body) to receive the necessary (energetic) impulse of "enemy's" proximity. An analogous impulse allows swarm members not to collide with each other. **They calculate nothing. They have no idea of probabilities.**

In summary, in Unified Science, feelings are not based on any calculations. They are a new quantum level of the Quantum Spectrum of Matter-Spirit (superbrains). And according to this Spectrum, it is false to think (and say) that the processes of feelings "occur far below our threshold of awareness." Those processes occur on the superbrain level, above the brain-quanta level, and they both above the biochemical nerve-cells level. Thus we have to correctly speak about our super-consciousness (instead of the traditional sub-consciousness).

On the other side, Harari puts quite open the hopelessness of the traditional point of view. He writes:

"Computer algorithms, however, have not been shaped by natural selection, and they have neither emotions nor gut instincts. ...

Indeed we have no idea what the full human potential is, because we know so little about the human mind."

In Ch. 4. "*Equality; Those who own the data own the future*", we read:

"In the longer term, by bringing together enough data and enough computing power, the data-giants could hack the deepest secrets of life, and then use this knowledge not just to make choices for us or manipulate us, but also to re-engineer organic life and to create inorganic life forms."

According to Quantum Spectrum of Matter-Spirit, **any inorganic life forms is a nonsense**. Any quanta in our Universe with sizes below the universal size of 5 nm remain always lifeless. All quanta with sizes above this membrane-quanta size remain alive as long (and only so long) as they somehow manage to receive energy transfer from outside. Without such positive energy transfer they disintegrate back onto the universal level of membranes, dust nanoparticles; *(note here the important difference to the traditional thinking that our dead bodies and all other "dead" objects disintegrate to atoms)*.

In Ch. 5. "*Community; Humans have bodies*", we read:

"It is nevertheless worthwhile to consider Facebook's communal vision in depth, and examine whether once security is beefed up, online social networks can help build a global human community. Though in the twenty-first century humans might be upgraded into gods, as of 2018 we are still Stone Age animals. In order to flourish we still need to ground ourselves in intimate communities. For millions of years, humans have been adapted to living in small bands of no more than a few dozen people. Even today most of us find it impossible to really know more than 150 individuals, irrespective of how many Facebook friends we boast. Without these groups, humans feel lonely and alienated. ...

Your millions of brothers in the national family and your millions of comrades in the Communist Party cannot provide you with the warm intimacy that a single real sibling or friend can."

The above is exactly **an observational confirmation** of our theoretical quantization of the human communities (*comp. Table I once more*). This natural hierarchy cannot be replaced with any artificial "social-networks communities". Basic Family and Great Family will always stay also in the future at the life beginning of every mentally and physically healthy human individual.

Yuval Noah Harari gives us here also an interesting summary of the point of view of data-bosses on us as the data producers and consumers:

"It and the other online giants tend to view humans as audiovisual animals - a pair of eyes and a pair of ears connected to ten fingers, a screen and a credit card. A crucial step towards uniting humankind is to appreciate that humans have bodies."

In Ch. 6. "*Civilisation; There is just one civilisation in the world*", we read:

"Since individuals belonging to different species cannot produce fertile offspring together, species can never merge. Gorillas cannot merge with chimpanzees, giraffes cannot merge with elephants, and dogs cannot merge with cats.

Human tribes, in contrast, tend to coalesce over time into larger and larger groups. Modern Germans were created from the merger of Saxons, Prussians, Swabians and Bavarians, who not so long ago wasted little love on one another."

This is **one of the most significant misunderstandings** in Harari's traditionally based knowledge. It relies on the very imprecise traditional-science definition of species. It is true, species can never merge. But **different human tribes were never different species**. They were just different communities of the same species, and it was the situation for the recent more than 6000 years (*compare our Point 4. "Quantum Evolution of our own Species"*).

It is true: "There is just one civilisation in the world." However, it cannot be "managed" (neither politically, nor economically, nor culturally, nor socially, nor educationally) without our Quantum Hierarchy of communities. They have to "cooperate" directly with their quantum-level neighbors, up to 2 levels above (and below). Basic Family and Great Family are still "holly" units of any larger community, because they are the only communities directly responsible for an individual *Homo sapiens*, and they alone are able to deliver new members of all higher Communities. On the other side, the **democratically chosen representatives of all ~150 Quantum Nations** are the proper partners of the Continental Communities to organize and practically realize the Global World Community of our *First Global Civilisation*.

In Ch. 7. "*Nationalism; Global problems need global answers*" (partly considered already at the beginning of the article) we read:

"It is a dangerous mistake to imagine that without nationalism we would all be living in a liberal paradise. More likely, we would be living in tribal chaos. Peaceful, prosperous and liberal countries as Sweden, Germany and Switzerland all enjoy a strong sense of nationalism. The list of countries lacking robust national bonds includes Afghanistan, Somalia, Congo and most other failed states."

I agree with Yuval Noah Harari in that point. On the other side, he also understands that our present nationalism cannot be the same as in the 20th Century:

"Technology has changed everything by creating a set of global existential threats that no nation can solve on its own. A common enemy is the best catalyst for forging a common identity, and humankind now has at least three such enemies - nuclear war, climate change and technological disruption. If despite these common threats humans choose to privilege their national loyalties above everything else, the results may be far worse than in 1914 and 1939."

And Harari proposes the probably best solution:

"A person can and should be loyal simultaneously to her family, her neighbourhood, her profession and her nation - why not add humankind and planet Earth to that list? True, when you have multiple loyalties, conflicts are sometimes inevitable. But then who said life was wimple? Deal with it."

Let us note that the above proposal is exactly what we propose with our **Demographic Quantum Spectrum of Human Communities**. Yuval Noah Harari explains the necessity to accept this quantization with his own words:

"In previous centuries national identities were forged because humans faced problems and opportunities that were far beyond the scope of local tribes, and that only countrywide cooperation could hope to handle. In the twenty-first century, nations find themselves in the same situation as the old tribes: they are no longer the right framework to manage the most important challenges of the age. We need a new global identity because national institutions are incapable of handling a set of unprecedented

global predicaments. We now have a global ecology, a global economy and a global science - but we are still stuck with only national politics. This mismatch prevents the political system from effectively countering our main problems. To have effective politics, we must either de-globalise the ecology, the economy and the march of science - or we must globalise our politics. Since it is impossible to de-globalise the ecology and the march of science, and since the costs of de-globalising the economy would probably be prohibitive, the only real solution is to globalise politics. This does not mean establishing a global government - a doubtful and unrealistic vision. Rather, to globalise politics means that political dynamics within countries and even cities should give far more weight to global problems and interests."

In Ch. 8. "*Religion; God now serves the nation*", we read:

"Billions of humans still profess greater faith in the Quran and the Bible than in the theory of evolution; religious movements mould the politics of countries as diverse as India, Turkey and the United States; and religious animosities fuel conflicts from Nigeria to Philippines. So how relevant are religions such as Christianity, Islam and Hinduism? Can they help us solve the major problems we face? ...

Human power depends on mass cooperation, mass cooperation depends on manufacturing mass identities - and all mass identities are based on fictional stories, not on scientific facts or even on economic necessities. In the twenty-first century, the division of humans into Jews and Muslims or into Russians and Poles still depends on religious myths. ...

So in the twenty-first century religions don't bring rain, they don't cure illnesses, they don't build bombs - but they do get

to determine who are 'us' and who are 'them', who we should cure and who we should bomb. ...

Humankind now constitutes a single civilisation, and problems such as nuclear war, ecological collapse and technological disruption can only be solved on the global level. On the other hand, nationalism and religion still divide our human civilisation into different and often hostile camps. This collision between global problems and local identities manifests itself in the crisis that now besets the greatest multicultural experiment in the world - the European Union."

I don't think, the EU crisis has really much to do with religious intolerance. We have to seek for the causes elsewhere, but not in the different religions of Europeans. Let me tell you just a short story. Recent Sunday (of September 2018), a windy and sunless day, I have been stranded in small, very old Dutch city of Urk in IJsselmeer. It was no rain at 9:30 o'clock, so I decided to walk across the picturesque city. I went landwards. At 9:45 I was just passing the old canals, separating the ancient (more than thousand years old) fishing village from the modern part of the city, when a church bell sprang to life. It was a small, modern church building on my right, so I turned right to read the info-table on the wall of the church. After a few seconds a second church bell started ringing, from nearby but different direction. And almost immediately a third one. In a half of minute six different churches, all located on that place not larger than 500 x 500 meters, are calling their believers to six different worships. Impressed by this bell ringing, I have suddenly noted that hundreds of ceremonially dressed people were streaming from all possible directions towards those churches. There were smaller and larger families, with three or even four generations of their members, most of them wearing traditional costumes, walking at a good pace, but without any hectic rush, following the bells call. After ten, fifteen minutes, before I have walked the place around, they all have already reached they destination places and started to pray and sing for their chosen God.

It was a very optimistic experience for myself, because I strongly felt that if 20-thousand-souls strong community of this single Dutch city is capable to join their faith in six different religious directions, I saw no reason why the remaining 500 millions of the Europeans should be incapable **to develop the same religious tolerance**.

In Ch. 9. *"Immigration; Some cultures might be better than others"*, we read:

"The two key issues of this debate are the disagreement about immigration intolerance and the disagreement about European identity. ...
This will still leave open, however, the question of Europe's unique national identities."

The problem here is not the lacking answer, but **the wrong question**. European Union is a Continental Community. It consists of several different quanta of National Communities. There is no possibility, but also no need, to unify all of those natural Nationalities into an 'Europe's unique national identity'. And even the consideration of one or another national identity in regard of the present immigration wave is wrong on this place. There are no foreign nations immigrating to Europe in recent years. There are almost always only individuals, or small families, trying to save their lives or to assure a better life for their children."

True **assimilation of immigrants** can only be successful on the level of Big Families and Clans (for groups of immigrants), and of Basic Families (for single children and lonely young persons).

Imagine, we are constructing a city with Lego stones. Each Basic Family build her own house. Great Families build their houses preferably along the same street or around the same square. The Clans hold also together. Also the interconnected Clans build in a

common District of their City. On the background of such a project, it is easier to consider different immigration scenarios. Immigrants are on the first sight different bricks on our building site. If we try to adopt them into our Basic-Family houses, we will recognize the difference between the local and the foreign bricks for many years. It will be much better to understand and accept the natural differences from the very beginning and to consider everyone of the immigrants as a member of its own Basic Family and Great Family and to assign to those Families their own parcel (of land) on our street, our square, in our District. They will use their own bricks to build their own houses, to collect more and more of the members of their own Big Families, living with us and between us, enriching, and not threatening our own style of life. It is clear that not every street, square, and district in our City can expand without limit. Thus the most acceptable places for immigrants to build their own "houses" have to be seen in young Districts and in young Cities. But **it should be possible almost always and everywhere.**

Of course, such imaginary scenario is just a way of thinking. Single immigrant children, coming to us without parents and other relatives, have to be temporarily "adopted" inside of our existing Big Families. But it is also possible without any discussion, and everywhere on the World. To imprison the immigrants in "concentration camps" is (in my opinion) not far from genocide. On the other side, any criminal activity of all citizens of our Street, District, and City, whether an immigrant or not, have to be treated with the same powerfulness of our justice.

Of course, I am not a naive optimist, thinking that the new scientific way of thinking alone could solve our global problems. But it could be a new beginning, an advantageous one in comparison to the present chaos and inhumanity in the immigration policy. Yuval Noah Harari puts also here his highly actual hope and question:

"If Europe succeeds in finding such a path, perhaps its formula could be copied on the global level. ...
If Greeks and Germans cannot agree on a common destiny, and if 500 million affluent Europeans cannot absorb a few million impoverished refugees, what chances do humans have of overcoming the far deeper conflicts that beset our global civilisation?"

In Ch. 10. "*Terrorism; Don't panic*": the author **relieves our fear**:

"Hence terrorists resemble a fly that tries to destroy a china shop. The fly is so weak that it cannot move even a single teacup. So how does a fly destroy a china shop? It finds a bull, gets inside its ear, and starts buzzing. The bull goes wild with fear and anger, and destroy the china shop. This is what happened after 9/11, as Islamic fundamentalists incited the American bull to destroy the Middle Eastern china shop. Now they flourish in the wreckage. And there is no shortage of short-tempered bulls in the world. ...
The success or failure of terrorism thus depend on us. If we allow our imagination to be captured by the terrorism, and then overreact to our own fears - terrorism will succeed. If we free our imagination from the terrorism, and react in a balanced and cool way - terrorism will fail."

In Ch. 11. "*War; Never underestimate human stupidity*", Yuval Noah Harari comes to the very point about humanity and war:

"In the great age of conquerors warfare was a low-damage, high-profit affair. At the Battle of Hastings in 1066 William the Conqueror gained the whole of England in a single day for the cost of a few thousand dead. Nuclear weapons and cyberwarfare, by contrast, are high-damage, low-profit

technologies. You could use such tools to destroy entire countries, but not to build profitable empires. ...

Human stupidity is one of the most important forces in history, yet we often discount it. ...

Hence even rational leaders frequently end up doing very stupid things.

So how much should we fear a world war? It is best to avoid two extremes. On the one hand, war is definitely not inevitable. ... On the other hand, it would be naive to assume that war is impossible. Even if war is catastrophic for everyone, no god and no law of nature protects us from human stupidity."

It needs **no comments** from myself.

In Ch. 12. "*Humility; You are not the centre of the world*", Yuval Noah Harari takes his own Jewish nation as an example of the crass collective egotism.

"Most people tend to believe they are the centre of the world, and their culture is the linchpin of human history. ...

Needless to say that British, French, German, American, Russian, Japanese and countless other groups are similarly convinced that humankind would have lived in barbarous and immoral ignorance if it wasn't for the spectacular achievements of their nation. ...

Personally, I am all too familiar with such crass egotism, because the Jews, my own people, also think that they are the most important thing in the world. ...

From an ethical perspective, monotheism was one of the worst ideas in human history. ...

What monotheism undoubtedly did was to make many people far more intolerant than before, thereby contributing to the spread of religious persecutions and holy wars. ...

Humans of all creeds would do well to take humility more seriously."

We should follow this emotional advice.

In Ch. 13. "*God; Don't take the name of God in vain*", we read this obvious declaration:

"To the best of our scientific knowledge, all those sacred texts were written by imaginative *Homo sapiens*. They are just stories invented by our ancestors in order to legitimise social norms and political structures."

And then we read the following statement:

"Of course, the cosmic mystery doesn't help us at all in maintaining the social order. People often argue that we must believe in a god that gave some very concrete laws to humans, or else morality will disappear and society will collapse into primeval chaos."

In contrast to Harahi's opinion, I think that **the cosmic order** of our cosmic home (our Cosmic Hierarchy), **can help us** to understand and better organize also our social order. The Demographic Quantum Spectrum of Human Communities is one of the mightiest tools of such new organization.

In Ch. 14. "*Secularism; Acknowledge your shadow*", we can follow a **very interesting point of view**:

"Religious leaders often present their followers with a stark either/or choice - either you are Muslim, or you are not. And if you are Muslim, you should reject all other doctrines. In

contrast, secular people are comfortable with multiple hybrid identities. As far as secularism is concerned, you can go on calling yourself a Muslim and continuing to pray to Allah, eat halal food and make the haj to Mecca - yet also be a good member of secular society, provided you adhere to the secular ethical code. This ethical code - which is indeed accepted by millions of Muslims, Christians and Hindus as well as by atheists - enshrines the values of truth, compassion, equality, freedom, courage and responsibility. It forms the foundation of modern scientific and democratic institutions. ...

This is the deep reason why secular people cherish scientific truth. Not in order to satisfy their curiosity, but in order to know how best to reduce the suffering in the world. Without the guidance of scientific studies, our compassion is often blind. ...

Secular people are certainly proud of the uniqueness of their particular nation, country and culture - but they don't confuse 'uniqueness' with 'superiority'."

In Ch. 15. "*Ignorance; You know less than you think*", we read:

"As noted earlier, behavioural economists and evolutionary psychologists have demonstrated that most human decisions are based on emotional reactions and heuristic shortcuts rather than on rational analysis, and that while our emotions and heuristics were perhaps suitable for dealing with life in the Stone Age, they are woefully inadequate in the Silicon Age."

I agree with the first part of this statement (emotions over analysis), but **I disagree with the second part of it**; I think that emotions (feelings) - and the based on them heuristics - remain today and also in future the most important guide in human interactions. Our

superbrains are much better in guiding us across the meanders of life than any rational analysis by means of our (relatively small) brains.

And what about our ignorance? Harari writes:

"Yet like many other human traits that made sense in past ages but cause trouble in the modern age, the knowledge illusion has its downside. The world is becoming ever more complex, and people fail to realize just how ignorant they are of what's going on. Consequently some who know next to nothing about meteorology or biology nevertheless propose policies regarding climate change and genetically modified crops, while others hold extremely strong views about what should be done in Iraq or Ukraine without being able to locate these countries on a map. People rarely appreciate their ignorance, because they lock themselves inside an echo chamber of like-minded friends and self-confirming news-feeds, where their beliefs are constantly reinforced and seldom challenged. ...

Most people don't like too many facts, and they certainly don't like to feel stupid. ...

The power of groupthink is so pervasive that it is difficult to break its hold even when its views seem to be rather arbitrary. ...

Even scientists are not immune to the power of groupthink."

I am sure, **scientist are the world champions in groupthink**. And Yuval Noah Harari has the insider's knowledge too:

"Revolutionary knowledge rarely makes it to the centre, because the centre is built on existing knowledge. The guardians of the old order usually determine who gets to reach the centres of power, and they tend to filter out the carriers of disturbing unconventional ideas. Of course they filter out an incredible amount of rubbish too."

In Ch. 16. "*Justice; Our sense of justice might be out of date*", we read:

"When we try to comprehend relations between millions of people across entire continents, our moral sense is overwhelmed. ...

The bitter truth is that the world has simply become too complicated for our hunter-gatherer brains."

It is the traditional hopelessness again. Our brains (and our superbrains) are growing again to their previous dimensions of the builders of pyramids and other gigantic achievements of humanity. Our further evolution is still possible. One of the first conditions for it to succeed is to develop a new vision of humanity for the coming centuries. The scientific background of such a vision has been given by *Unified Physics*, and its main credo is: **our Universe is quantized.**

In Ch. 17. "*Post-Truth; Some fake news lasts for ever*", Yuval Noah Harari gives an advice to scientists:

"In practice, the power of human cooperation depends on a delicate balance between truth and fiction. ...

The most powerful scholarly establishments - whether of Christian priests, Confucian mandarins or communist ideologues - placed unity above truth. That's why they were so powerful.

As a species, humans prefer power to truth.

Scientists, for their part, need to be far more engaged with current public debates. They should not be afraid of making their voice heard when the debate wanders into their field of expertise, be it medicine or history. Silence isn't neutrality; it is supporting the status quo."

I agree; it is exactly the reason for myself to write the present article.

In Ch. 18. "*Science Fiction; The future is not what you see in the movies*", we read:

"Most science-fiction movies really tell a very old story: the victory of mind over matter. Thirty thousand years ago, the story went: 'Mind imagines a stone knife - hand creates a knife - human kills mammoth'. But the truth is that humans gained control of the world not so much by inventing knives and killing mammoths as much as by manipulating human minds. The mind is not the subject that freely shapes historical actions and biological realities - the mind is an object that is being shaped by history and biology. Even our most cherished ideals - freedom, love, creativity - are like a stone knife that somebody else shaped in order to kill some mammoths. According to the best scientific theories and the most up-to-date technological tools, the mind is never free of manipulation. There is no authentic self waiting to be liberated from the manipulative shell."

As explained in Point 5 ("*Our individual and global Consciousness*"), **our mind and body cannot be considered as separate components of our self** (of our soul). The above description of the possible relations between our minds and the historical actions and biological realities has to be rethought again. I am just beginning with it for myself. It would be important to hear what the specialists in this domain of our knowledge have to say to the new quantized definitions of our consciousness (in Table VI).

In Ch. 19. "*Education; Change is the only constant*", we read:

"We have now run out of time. The decisions we will take in the next few decades will shape the future of life itself, and we can take these decisions based only on our present world view. If this generation lacks a comprehensive view of the cosmos, the future of life will be decided at random."

This appeal has to be taken most seriously from all problems considered in the present article. The traditional point of view of the Universe cannot help the next generation to make any successful decision shaping her own present and future life.

In Ch. 20. "*Meaning; Life is not a story*", we read:

"Who am I? What should I do in life? What is the meaning of life? Humans have been asking these questions from time immemorial. Every generation needs a new answer, because what we know and don't know keeps changing. Given everything we know and don't know about science, about God, about politics and about religion - what is the best answer we can give today? ...

Given everything we know about the universe it would seem utterly impossible for any sane person to believe that the ultimate truth about the universe and human existence is the story of Israeli, German or Russian nationalism - or indeed of nationalism in general. A story that ignores almost the whole of time, the whole of space, the Big Bang, quantum physics and the evolution of life is at most just a tiny part of the truth. Yet people somehow manage not to see beyond it."

In that context, **the new nationalism** is not better than the old one. **We have to understand its natural, physical background** so much more.

We read further by Harari:

"Thus, like all other cosmic stories, the liberal story too starts with a creation narrative. It says that the creation occurs every moment, and I am the creator. What then is the aim of my life? To create meaning by feeling, by thinking, by desiring, and by inventing. Anything that limits the human liberty to feel, to think, to desire and to invent, limits the meaning of the universe. Hence liberty from such limitations is the supreme ideal.

In practical terms, those who believe in the liberal story live by the light of two commandments: create, and fight for liberty."

I agree with that liberal story, but with **a single, though decisive restriction**: the natural limitations of the Demographic Quantum Spectrum of Human Communities cannot be abandoned. They are even necessary in our new story in order to allow us to understand ourselves, including our individual and global consciousness.

In Ch. 21. "Meditation; Just observe", Yuval Noah Harari shares with us an experience of his personal philosophy:

"I never react to events in the outside world; I always react to the sensations in my own body."

I would like to extend this observation with **the philosophy of the Unified Physics**: We never react to events in the outside world; we always react to our feelings, because the outside world stimulate the sensations of our bodies, and our bodies (physical sensations) and our minds (physical feelings) are not separable from our souls (our individual consciousnesses).

Here ends this fantastic book. Don't fail to read it soon. And remember: "We have now run out of time."