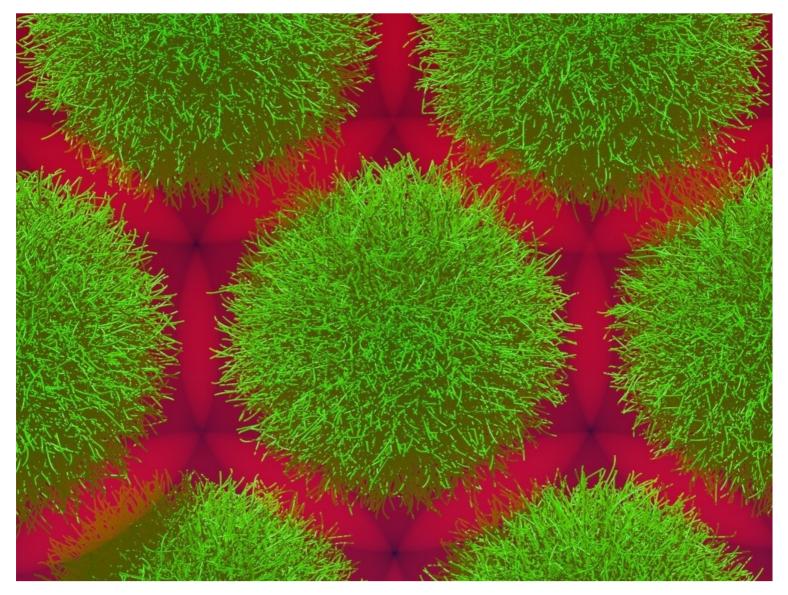


The Elleesium: England: UK: Year Ninth: Day 04: Wednesday: September 27: 2023: Cogito Ergo Sum: Descartes

| | Physics | | There Are No Limits to the Imagination: Professor Urs Gasser: Finally Explaining the Telepathy of the Microgel Disappearing | |



II Tuesday: September 26: 2023 II  $\dot{\alpha}$ . Researchers at the Paul Scherrer Institute:PSI and the University of Barcelona, have managed to explain the strange behaviour of microgels. Their measurements, using neutron beams have pushed this measuring technique to its limits. The results open up opportunities for new applications in materials and pharmaceutical research. The Paul

Scherrer Institute:PSI develops, builds and operates large, complex research facilities and makes them available to the national and international research community.

The Institute's own key research priorities are in the fields of future technologies, energy and climate, health innovation and fundamentals of nature. PSI is committed to the training of future generations. They flow through our arteries, add colour to our walls or make milk tasty: tiny particles or droplets, that are very finely distributed in a solvent. Together they form a colloid. Whereas the physics of colloids, involving hard particles, such as, colour pigments in emulsion paint, is understood well, colloids involving soft particles, such as, haemoglobin, the red pigment in blood or droplets of fat in milk, hold some startling surprises.

An experiment, carried out 15 years ago, showed that soft particles, made of polymers, so-called microgels, shrink abruptly when their concentration in a solvent is increased above a certain threshold. When this happens, large particles contract until they are the size of their smaller neighbours. Amazingly, this happens, even, when the particles are not actually in contact with each other. The researchers were puzzled: How does a gel particle know how big its neighbour is without touching it? Is there some sort of 'telepathy' going on between microgels?

"Of course not!" Smiles Urs Gasser. The Physicist has been studying the miraculous shrinking of microgels in colloids for the past ten years. Together with a team of researchers, he published a Paper in 2016, explaining the phenomenon. Briefly, in this situation, the polymer particles consist of long carbon chains. These carry a weak negative charge at one end. These chains form a ball, the microgel. This can be thought of as resembling a ball of wool, with the properties of a sponge.

This three-dimensional tangle, therefore, contains negative point charges, that attract positively charged ions in the liquid. These so-called counter-ions arrange themselves around the negative charges in the ball, forming a positively charged cloud on the surface of the microgel. When the microgels come close together, their charge clouds overlap. This, in turn, increases the pressure inside the liquid, which compresses the microgel particles until a new equilibrium is reached.

At the time, however, the research team was unable to provide experimental proof of the cloud of counter-ions. Together with his PhD student Boyang Zhou and Alberto Fernandez-Nieves of the University of Barcelona, Gasser has now furnished that evidence and it impressively supports the 2016 hypothesis. The results have been published in the journal Nature Communications.

Because the cloud of counter-ions in the colloid is so rarefied that it is not actually visible in the image of the scattered neutrons. The counter-ions account for no more than one percent of the mass of a microgel. Therefore Gasser, Zhou and Fernandez-Nieves examined two samples: one colloid in which all the counter-ions were sodium ions and another in which they were ammonium ions:NH4.

Both these groups of ions, also, occur naturally in microgels and they scatter neutrons differently. Subtracting one image from the other leaves the signals of the counte-rions. Boyang Zhou says, "This seemingly simple solution requires the utmost care in preparing the colloids so as to make the ion clouds visible. No one has ever measured such a rarefied ion cloud before."

Knowing how soft microgels behave in colloids means that they can be tailored to fit many different applications. In the oil industry, they are pumped into underground reservoirs to adjust the viscosity of the oil in the well and facilitate its extraction. In cosmetics, they give creams the desired consistency. Smart microgels are, also, conceivable, which could be loaded with medicines.

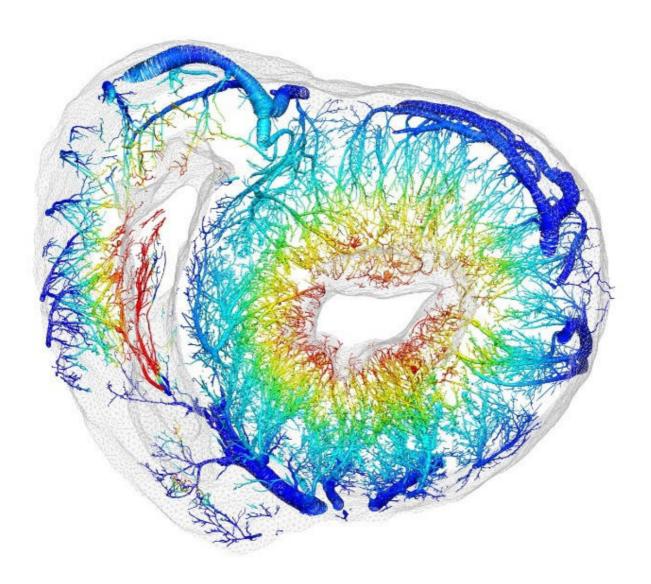
The particles could react to gastric acid, for example, and release the drug by shrinking. Or else, a microgel could shrink into a small, densely packed polymer ball when the temperature increases, one, that reflects light differently than in its swollen state. This could be used as a temperature sensor in narrow fluid channels. Other sensors could be designed to respond to changes in pressure or contamination. "There are no limits to the imagination." Says Urs Gasser.

The Paul Scherrer Institute PSI develops, builds and operates large, complex research facilities and makes them available to the national and international research community. The institute's own key research priorities are in the fields of future technologies, energy and climate, health innovation and fundamentals of nature. PSI is committed to the training of future generations.  $\underline{www.psi.ch}$  :::: $\omega$ ::::

Caption: This graphical simulation shows the microgel particles in green, arranging themselves in the liquid, with their overlapping ion clouds in red on their surface: Image: Professpr Urs Gasser at  $PSI ::::\omega::::$ 

| | Readmore at thehumanion.com/Medicine.htm | | reginehumanicsfoundation.com | | 270923 | |

### **Humanics: All-For-One-One-For-All**



I | Selfishness Is the Most Definitive Way to, Absolutely, Harm One's Very Own Self, As Well As, Everyone and Everything Else: In Other Words, Selfishness Is Nothing But Absolute, Complete and Comprehensive Absence of Questioning or Thoughtfulness or Consideration, Which Makes Us Think and That, Thus, Enables Us to Reach the Rational Base and Foundation in Life and in Existence: This Means That Selfishness, Actually, Is a Terminal Enemy of the Agency of the Human Mind, Which It Keeps on Tearing Away and Apart by Being Devoid of Questioning and Thoughtfulness Because the Very Agency of the Human Mind Is a 'Structure', Created by the Architectonics of the Architecture of Human Rationality, Which Requires a Human Agency of the Human Mind to Put It to Use by Thinking, Questioning, Consideration, Analysing, Learning and Developing, All of Which Selfishness Terminates: Humanics: Humanics: All-For-One-One-For-All

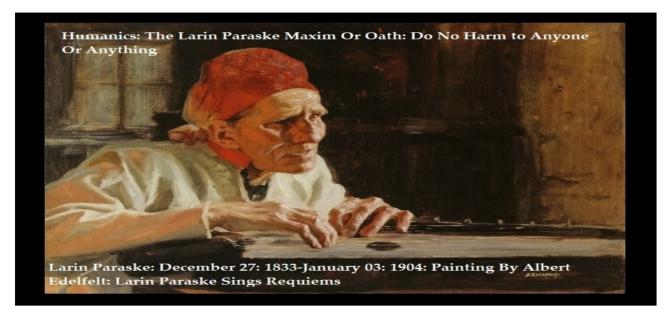


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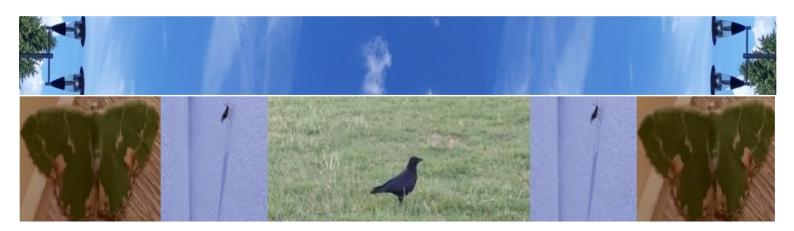
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#### | | The Larin Paraske Maxim Or Oath: To Do No Harm to Anyone Or Anything | |



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## **Humanicsxian Economics**



#### What Is Humanicsxian Economics

Say: I Carry the Infinities of Making All Beings Happy:

Say: I Commit to Organise the Largest Feast For All Humanity Where Each and Every Human Soul Sit at the Same Table of Liberty and Equality to Eat and Drink From the Bounties of This Mother Earth and of the Human Works and Labours:

Say: I Commit to An Economics That Is Clean Green Circular and Sustainable:

Say: I Commit to an Economics That Does No Harm to Anyone or Anything:

Say: I Commit to Establish an Economics That Is Founded on Moral Science So That Humanity Is Let to Be and Do Nothing But Humanity Naturale: Being and Doing an Infinity of Goodness Righteousness and Universal Harmony of Peace Unfolding Itself In By and With Social Morality of Civic Societies



And Further Say: I Commit to Found an Economics That Empowers the Entire Humanion With the Highest Degree of Education Continual and Life-Long Learning Development and Progression: Say: And Sovereignty Shall Be Returned to All Humanity Through the Direct Involvement Engagement and Participation of All Human Individual Beings Through Humanicsovics the Public Affairs Management System Run By All Citizens Working Together Without Political Parties: That Is a Human Enterprise in Humanicsovics Where Ownership Money and Their Powers and Prowess Have Been Eradicated and Replaced by Belongingship and That is Humanicsxian Economics: And Say: I Commit to Exist In By and With the High-Humanical Maxim: All-For-One and One-For-All: This Is Humanicxian Economics: This Is Why Regine Humanics Foundation Ltd and Regine Group of Publications Exist to Work and Take Forward The Philosophy Political Philosophy Political Economics and the Vision of Humanics to the Wider World and Wider Humanity For a Better Human Condition For All Humanity Across Mother Earth: One Humanity As One Humanion on One Mother Earth on One Sunnara on One Home Bay Milky Way Galaxy on One Universana: Humanity: We Are One: An Infinity Unfolding Itself: Thursday: June 25: 2020

## Humanicsxian Economics in Two Phases of Humanics Pre-Humanical Phase: Kapitalawnomics

Pre-Humanical Phase: Kapitalawnomics: Capitalism Is Brought Under the Sovereignty of the People and Re-architectured to Serve the People Under the Power and Prowess of the Rule of Law at All Times and Used to Develop Everything Towards Humanical Societies || At This Phase These Shall Become Reality: Right to Universal Natural Air || Right to Universal Natural Environment || Right to Universal Degree-Level Education || Right to Universal Balanced and Nutritional Food and Drink || Right to Universal Employment || Right to Universal Income || Right to Universal Home || Right to Universal Health || Right to Universal Social Care || For All Humanity Across the Earth Equate to Building-Block Foundational Human Rights: And the Entire Humanity Joining Together As All Individuals In a Humanion, Forming the First All-Humanity Sovereignty-Naturale Habitat-Body on Earth and on This Universe as the First Ever International and Universal All-Humanity State and Government for the Whole World as One Body With Its Legislature Executive Judiciary Financial-Judiciary Rule of Law Civic Service Compact and Its Own Central Bank and Its Own Currency That Is the New International Currency || This Phase Is Done Through and by Working Humanity Organising As Political Forces and Parties.

#### **Humanical Phase**

Human Enterprise: Ownership Money and Their Powers and Prowess Are Eliminated and Replaced by Belongingship Whereby Humanity Reach Liberty and Equality and All Human Economics Endeavours Are Organised and Run Under Human Enterprise and the Whole Public Affairs Management Is Run and Conducted by Humanicsovics Whereby All Individual Humanity Work Together As Organised People Parliaments As Their Own High-Representatives: This Is Humanicsovics | | This Is What the World's Working and Non-Working Humanity on Poverty-Wage on Punishment-Social-Security on Destitution-Abandonment-No-Security and the Powerless and Homeless Humanity Must Rise to Fight For and Reject All Plastering Tinker-Works by Any Political Forces: This Is Why It Is Time to Rise As One and Unite and Organise to Begin Again: Where Are the Younger Generations: Because If We Humanity Have Any Future It Is In Your Hands Hearts Minds Souls Eyes and Vision: Believe: Humanity Naturale Is an Infinity Unfolding Itself and In Being and Doing Such Humanity Naturale We All Exist by the High-Humanical Maxim: All-For-One and One-For-All and With This Humanical Societies Appear All Across the Earth and They All Form a Grid of a Humanical Civilisation, Led and Run by All Humanity Working Together at the Highest of All Bodies: The International and Universal State and Government of the Entire Humanion

#### What Are Building-Block Foundational Human Rights



Ask Your Political Leaders About Building-Block Foundational Human Rights and Ask Them About Humanics

#### The Building-Block Foundational Human Rights

A: Absolute Right to Live in Clean, Healthy, Safe and Natural Environment

B: Absolute Right to Breathe Natural, Fresh, Clean and Safe Air

C: Absolute Right to Necessary Nutritional Balanced Food and Drink

D: Absolute Right to Free Medical Care at the Point of Need

E: Absolute Right to an Absolute Home

F: Absolute Right to Free Degree-Level Education and Life Long Learning

G: Absolute Right to Guaranteed Social Care

H: Absolute Right to a Universal Income

I: Absolute Right to a Job

J: Absolute Right to Dignified Civic and Human Funeral Paid Through by Universal Income

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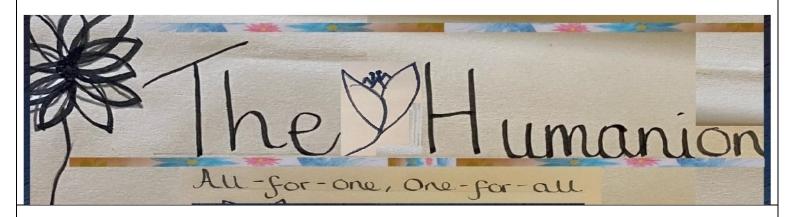
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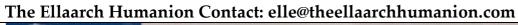
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