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The Humanicsxian

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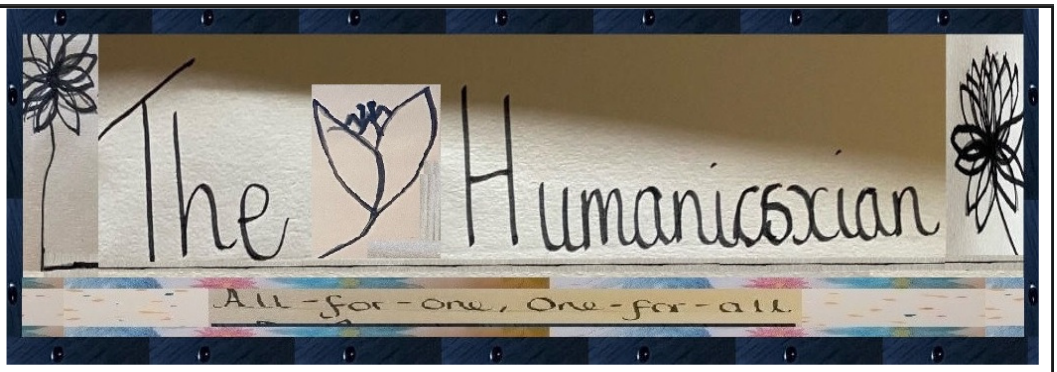

|| Pharmacology || New Research Finds Even Moderate Exposure to Vaping Both With or Without Nicotine Suppresses Cell Activity ||

|| Monday: October 09: 2023 || ΕΛ || Inhaling vapour from an e-cigarette may be stopping frontline immune cells from working typically, as a new Study shows that, even, moderate smoke exposure suppresses cell activity. The findings have been published in the Journal of Allergy and Clinical Immunology and suggest that inhaling e-cigarette smoke could be damaging neutrophils, the first line of defence the human immune system has.

These findings are important as previous research has shown that damage, caused to neutrophil by cigarette smoking can lead to long-term lung damage. Researchers from the University of Birmingham took blood samples from healthy donors, who had never smoked or vaped. They, then, exposed neutrophils, taken from the blood to 40 puffs of unflavoured vape, which previous studies have shown is a low daily exposure; with half of the samples were exposed to nicotine-containing vapour while the rest to nicotine-free alternatives.

Results of the tests showed that in both the nicotine and non-nicotine groups, the neutrophils remained alive but were stuck in place, rendering them incapable of effectively tackling threats to the body. Dr Aaron Scott, Associate Professor in Respiratory Science at the University of Birmingham and the Lead Author of the Study, said, “We found that after short, low-level exposure to e-cigarette vapour, the cells remain alive but can no longer move as effectively and are unable to carry out their normal protective functions. Interestingly, vapour from e-liquids which did not contain nicotine, also, had the same negative effects as vapour from e-liquids, which did contain nicotine.

E-cigarettes are a proven, lower harm, tool to help smokers quit smoking but our data adds to current evidence that e-cigarettes are not harmless and highlights the need for to fund longer-term studies in vapers."

Further experiments with neutrophils exposed to e-cigarette vapour suggest a build-up of a microfilament within the cells, which are unable to re-arrange themselves properly is driving the suppression of the cells normal function.

Actin is usually found as small filaments within cells and they can rearrange themselves into a network to help a cell change its shape. This function is used by neutrophils so that they can move towards and surround threats to destroy them.

The research team observed that there were high concentrations of the filament F-actin within the neutrophils, that had been exposed to e-cigarette vapour, whether containing nicotine or not. The accumulation of the F-actin resulted in the immune cells being less able to move and function typically.

Professor David Thickett, in Respiratory Medicine at the University of Birmingham, Clinical Lead for the University Hospitals Birmingham:UHB, NHS Foundation Trust, and a Co-author of the Paper smoking cessation service and Co-author of the Paper, said: "In health neutrophils normally protect the lungs by moving from the blood to the site of possible harm before using a number of protective functions to protect the lung. The observed impact that e-cigarette vapour had on their mobility is, therefore, of significant concern, and if, this were to happen in the body, would make those, who regularly use e-cigarettes at greater risk of respiratory diseases."

Professor Liz Sapey, the Director of the Institute of Inflammation and Ageing at the University of Birmingham and Honorary Acute Medicine and Respiratory Consultant Physician at UHB, and a Co-author of the Paper, said, "Smoking has a well-documented impact on neutrophil, and this Study further shows the impact that e-cigarettes still have on the immune system. Neutrophils are heavily implicated in ageing and chronic obstructive disease and their relationship with tissue damage and the impact of vaping in suppressing neutrophil activity regardless of nicotine could have long term implications for health || EΛ ||

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|| The Lake Eden Eye || NASA Astronaut Dr Tracy Dyson Is Back to the International Space Station to Log Her Second Long-Duration ||

|| Monday: October 09: 2023 || ΕΛ || Born in Arcadia, California, NASA Astronaut Dr Tracy C Dyson has been chosen by NASA for her second long-duration mission to the International Space Station as a flight engineer and member of the Expedition 70:71 crew. Dr Dyson received a Bachelor of Science degree in chemistry from California State University, Fullerton, in 1993 and a doctorate in chemistry from the University of California, Davis, in 1997.

She will launch on the Roscosmos Soyuz MS-25 spacecraft in March 2024 and spend, approximately, six months aboard the International Space Station. She will travel to the station with Roscosmos cosmonaut Oleg Novitskiy and spaceflight participant Marina Vasilevskaya of Belarus, both of whom will spend about 12 days aboard the orbital complex. During her expedition, Dr Dyson will conduct scientific investigations and technology demonstrations, that help prepare humans for future space missions and benefit people on Earth.

Among some of the hundreds of experiments ongoing during her mission, Dr Dyson will continue to study how fire spreads and behaves in space with the Combustion Integrated Rack, as well as, contribute to the long-running Crew Earth Observations study by photographing Earth to better

understand how our planet is changing over time. After completing her expedition, Dr Dyson will return to Earth in fall 2024 with Roscosmos cosmonauts Oleg Kononenko and Nikolai Chub on the Soyuz MS-25 spacecraft. Kononenko and

Chub are slated to launch Friday, September 15, with NASA astronaut Loral O'Hara on the Soyuz MS-24 spacecraft. Kononenko and Chub will remain aboard the orbital laboratory for about one year. O'Hara, who will spend six months aboard the space station, will return with Novitskiy and Vasilevskaya on the Soyuz MS-24 spacecraft.

NASA selected Dr Dyson as an astronaut in June 1998 and during her previous two flights, logged more than 188 days in space. She first launched aboard the space shuttle Endeavour on STS-118 in 2007, serving as a mission specialist. During the mission, the crew successfully added the starboard five truss segment to the station's backbone and a new gyroscope. In 2010, she served as flight engineer for Expedition 23:24 and performed three successful contingency spacewalks, logging 22 hours and 49 minutes outside the station as she helped remove and replace a failed pump module for one of two external ammonia circulation loops that keep internal and external equipment cool.

Dr Dyson has worked inside the Mission Control Centre at NASA's Johnson Space Centre in Houston as spacecraft communicator, known as capcom, for both space shuttle and space station operations. She, also, served as the lead capcom for various space station missions, as well as, the development of the capcom cadre for Boeing's Starliner Mission Operations Team. Other technical assignments included leading the development of the spacewalk qualification training flow, which she helped to complete for the 2017 class of NASA astronauts.

For more than 22 years, humans have continuously lived and worked aboard the International Space Station, advancing scientific knowledge, and demonstrating new technologies, making research breakthroughs not possible on Earth. As a global endeavour, 244 people from 19 countries have visited the unique microgravity laboratory, that has hosted more than 3,000 research and educational investigations from researchers in 108 countries and areas.

Caption: NASA Astronaut Dr Tracy C Dyson, Arcadia, California, USA: Image: NASA:Andrey Shelepin || ΕΛ ||

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|| Ecology || Bees Struggle to Find Flowers Because of Air Pollution ||

|| Monday: October 09: 2023 || ΕΛ || A new Study has found that air pollution is preventing pollinators finding flowers because it degrades the scent. This Study found that ozone substantially changes the size and scent of floral odour plumes given off by flowers and that it reduced honeybees' ability to recognise odours by up to 90% from just a few metres away.

Ground-level ozone typically forms when nitrogen oxide emissions from vehicles and industrial processes react with volatile organic compounds, emitted from vegetation in the presence of sunlight. These findings suggest that ozone is likely to be having a negative impact on wildflower abundance and crop yields. International research has already established that ozone has a negative impact on food production because it damages plant growth.

Professor Christian Pfrang from the University of Birmingham, who collaborated on the research, said, “Our Study provides robust evidence that the changes due to ground-level ozone on floral scent cause pollinators to struggle to carry out their crucial role in the natural environment, also, with implications for food security.”

Dr Ben Langford, an atmospheric scientist at UKCEH, who led the Study, said, "Some 75% of our food crops and nearly 90% of wild flowering plants depend, to some extent, upon animal pollination, particularly, by insects. Therefore, understanding what adversely affects pollination and how, is essential to helping us preserve the critical services that we rely upon for production of food, textiles, bio-fuels and medicines, for example.

The researchers used a 30-m wind tunnel at Surrey University to monitor how the size and shape of odour plumes changed in the presence of ozone. As well as, decreasing the size of the odour plume the scientists found that the scent of the plume changed substantially as certain compounds reacted away much faster than others.

Honeybees were trained to recognise the same odour blend and then exposed to the new, ozone-modified odours. Pollinating insects use floral odours to find flowers and learn to associate their unique blend of chemical compounds with the amount of nectar it provides, allowing them to locate the same species in the future.

The research showed that towards the centre of plumes, 52% of honeybees recognised an odour at six metres, decreasing to 38% at 12m. At the edge of plumes, which degraded more quickly, 32% of honeybees recognised a flower from six metres away and just a tenth of the insects from 12m away. The Study indicates that ozone could, also, affect insects' other odour-controlled behaviours, such as, attracting a mate. The research was funded by the Natural Environment Research Council, part of UK Research and Innovation and was published in the journal Environmental Pollution.

Professor Christian Pfrang said, "We know that air pollution has a detrimental effect on human health, bio-diversity and the climate but, now we can see how it prevents bees and other pollinating insects from carrying out their key job. This should act as a wake-up call to take action on air pollution and help safeguard food production and bio-diversity for the future."

The research was conducted by the UK Centre for Ecology and Hydrology and the University of Birmingham, University of Reading, University of Surrey and the University of Southern Queensland || ΕΛ ||

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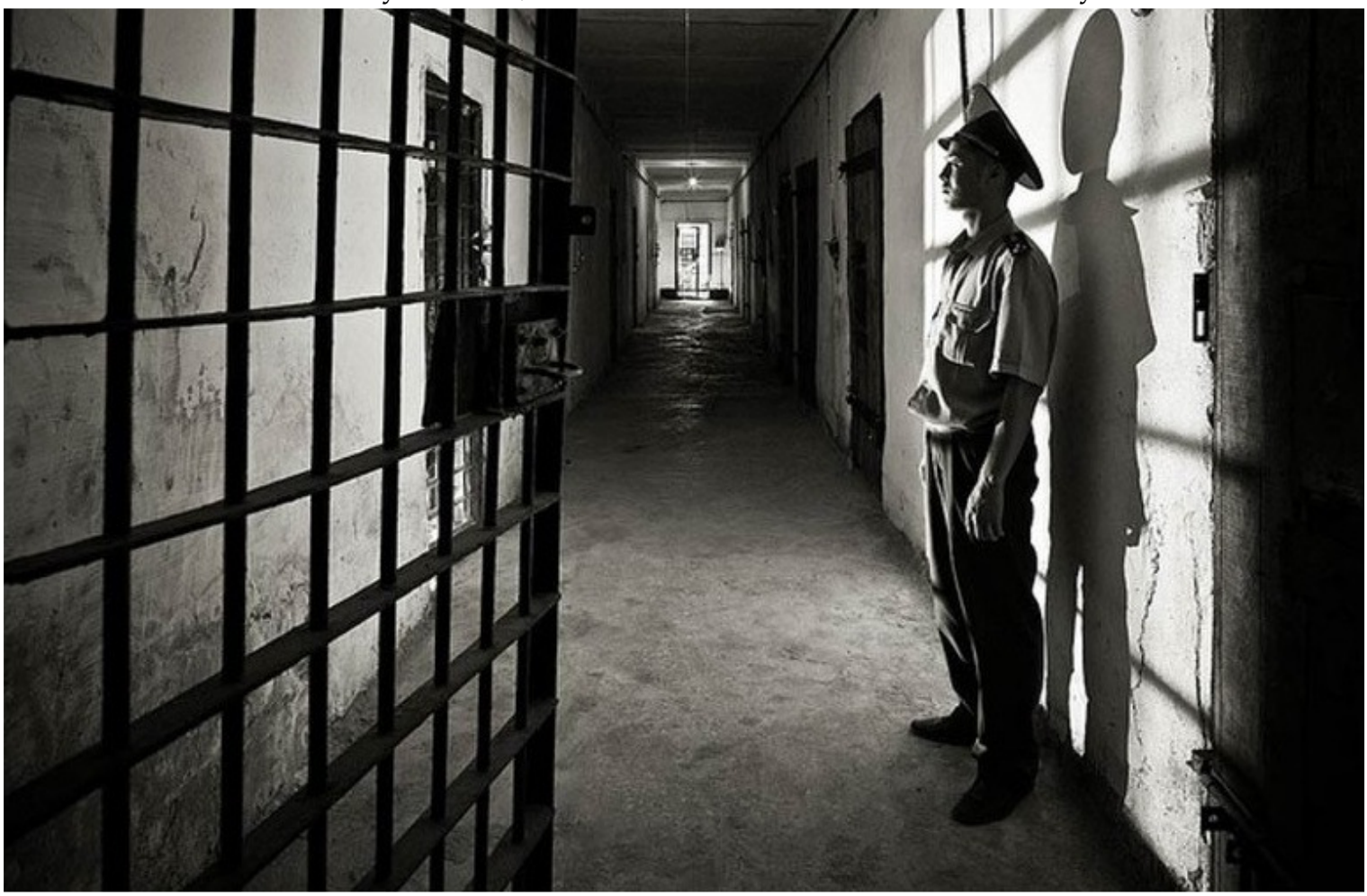
|| Society || New Study Finds: One in Three Children From Care Background Enter Youth Justice System: But the Proportion From Ethnic Backgrounds Are Far Higher ||

|| Monday: October 09: 2023 || ΕΛ || An unprecedented study of 02.3m children, has found that one in three children born between 1996 and 1999 who had experience of the care system received a youth justice caution or conviction between 10 and 17, compared with just 04% of those without experience of care. This figure was, even, higher for some ethnic groups, with a total of 39% of Black Caribbean, 38% of White and Black African and 42% of White and Black Caribbean children, who'd been in care involved in the youth justice system.

Of all children in the Study, custodial sentences were almost twice as common among Black and Mixed ethnicity children, who'd been in care compared to White children, who'd been in care. The

Study found that 05% of White children, who'd been in care received a custodial sentence with 09% of Black and Mixed ethnicity children, who'd been in care sentenced to custody.



Dr Claire Fitzpatrick, the Senior Lecturer in Criminology at Lancaster University and the Co-author of the Report, said, "The findings from this research, led by Dr Katie Hunter, are deeply concerning and ought to be taken very seriously.

In particular, the extent of justice-system over-representation, that has been revealed is shocking. This research demonstrates the importance of using more detailed ethnicity information when considering inequalities in youth justice involvement, particularly, for those, who have been in care. It highlights the serious need to ensure that all children can benefit from efforts at preventing unnecessary criminalisation, no matter who they are or where they have come from."

The research, authored by Manchester Metropolitan University and Lancaster University, is the largest ever study of its kind in England, demonstrating that children, who'd been in care and, particularly, those, who are Black, are statistically over-represented in the criminal justice system.

The Report, also, emphasises that high levels of youth justice involvement among children, who've been in care, are not an inevitability but a sign that somewhere along the line, they have been failed.

An Administrative Data Research UK Research Fellowship project, the Study analysed new linked data from the Ministry of Justice and Department for Education. It included four cohorts of children born between 1996 and 1999, with snapshot demographic information extracted from the 2006 to

2009 educational censuses when they were aged ten, the minimum age of criminal responsibility in England and Wales.
The resulting dataset contains information for, approximately, 02.3m children, comprising demographic information, including gender and ethnicity, information about children's services involvement and:or youth justice involvement. The data included 50,000 children, who had experience of being in care, including foster care, children's homes and kinship care.

Based on the Report findings, the authors have outlined a series of policy recommendations, including improving the availability of linked data from the justice system and other government departments, the publication of data using detailed ethnicity categories, a statutory duty on local authorities to prevent unnecessary criminalisation of children in care and care leavers and promoting understanding across youth justice agencies of the needs of children, who've been in care in order to improve support.

Dr Katie Hunter, Lecturer in Criminology at Manchester Metropolitan University and the Lead Author of the Study, said, "As a result of this analysis, we now know the shocking extent of criminalisation among care-experienced children in England. It, also, reveals what individuals working in the field have long suspected, that racially minoritised care-experienced children are, especially, vulnerable to youth justice involvement and imprisonment.

"Clearly, we need urgent action from government to prevent the unnecessary criminalisation of children in care and care leavers, which takes account of the specific needs of minoritised groups. We, also, need to keep in mind that youth justice involvement among children, who've been in care is not an inevitability. We must avoid stigmatising these children, this is about over-criminalisation and system failures." The Report, Care Experience, Ethnicity and Youth Justice Involvement: Key Trends and Policy Implications, is authored by Dr Katie Hunter at Manchester Metropolitan University, as well as, Professor Brian Francis and Dr Claire Fitzpatrick at Lancaster University.

It will be launched at a joint event at Liverpool Museum on Friday, September 22, alongside charity Barnardo's, who will, also, launch their Report on Black young adults, who've been in care, navigating the criminal justice system, which draws on interviews with 22 Black young people, who've had experience of the care system. || EΛ ||

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|| Mother Universana || Dr Mae Jemison: The First Black Woman in Space Awarded Honorary Doctor of Engineering Degree by the University College Dublin ||

|| Monday: October 09: 2023 || EΛ || Inter-stellar explorer Dr Mae Jemison, the first black woman to travel into space, has been awarded an honorary degree by University College Dublin for epitomising the University's motto, Ad astra, 'to the stars'. Part of the Space Shuttle Endeavour mission in 1992, Dr Mae, as she is, often, known, served six years as a NASA astronaut and was the first black woman to go into space during a joint mission with the Japanese space agency.

She graduated from Stanford University with a Bachelor of Science degree in Chemical Engineering and a Bachelor of Arts degree in African and Afro-American Studies. She received her medical degree from Cornell University Medical College and has served as the Area Peace Corps Medical Officer for Sierra Leone and Liberia. Shortly after resigning from NASA in 1993, she founded The Jemison Group, a technology consulting firm, that considers the social, cultural and economic impacts of technology. She has

received significant recognition, numerous awards and honorary degrees, including induction into the US' National Women's Hall of Fame, the National Medical Association Hall of Fame, the Texas Science Hall of Fame and the International Space Hall of Fame, as well as, being a recipient of the Common Wealth Award of Distinguished Service, the National Organisation for Women's Intrepid Award and the Kilby Science Award.

Known on the world stage as an astronaut, engineer, entrepreneur, physician and educator, Dr Mae leads the 100 Year Starship, 100YSS, initiative, a global non-profit, that seeks to ensure that humans

will develop the capability to travel to another star within the next 100 years. “She may be the first Honorary Doctorate to be awarded the degree for her actual work in this regard.” Said Professor Lizbeth Goodman, conferring the honorary Doctor of Engineering. “As an innovator and creative researcher, who is a scientist, motivated by social activism and who has taken that inter-disciplinary passion to its fullest conclusion: into space!

“She embodies a much-needed optimism and spirit of adventure, driving and informing her determination to succeed not only for her own sake but, also, for all of humanity and for the sake of the Earth itself. She was not born to carry this enormous burden but she overcame all manner of personal and social challenges to become the unstoppable force, that she is today.” Said Professor Goodman, Director of the UCD Inclusive Design Research Centre of Ireland.

"As Principal of 100YSS... Dr Mae has held one of the most influential and impactful research leadership roles in the known world. It is remarkable that we can now embrace her as ‘one of UCD’s own’ and as the newest member of our Inclusive Design Research Centre and as a Co-principal Investigator of our newest ambitious project: IMAGINALS, which takes its title from the scientific phenomenon of the metamorphosis of the caterpillar to butterfly.

We need leaders, such as, Dr Mae to help us hold steady as we transform our academic and educational systems, our global climate, our human policies and actions in our efforts to avoid extinction, through creative adaptation. And here she stands before us, a leader amongst leaders, with a truly unique perspective on the potential of humankind to continue to exist, in the context of global change, climate urgencies, space challenges, and the next frontiers of all possible human endeavour.”

Caption: || Dr Mae Jemison: The First Black Woman in Space Awarded Honorary Doctor of Engineering Degree by the University College Dublin: Image: University College Dublin: || ΕΛ ||

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|| Immunology || Possible New Immunotherapy Treatment For Leukaemia ||

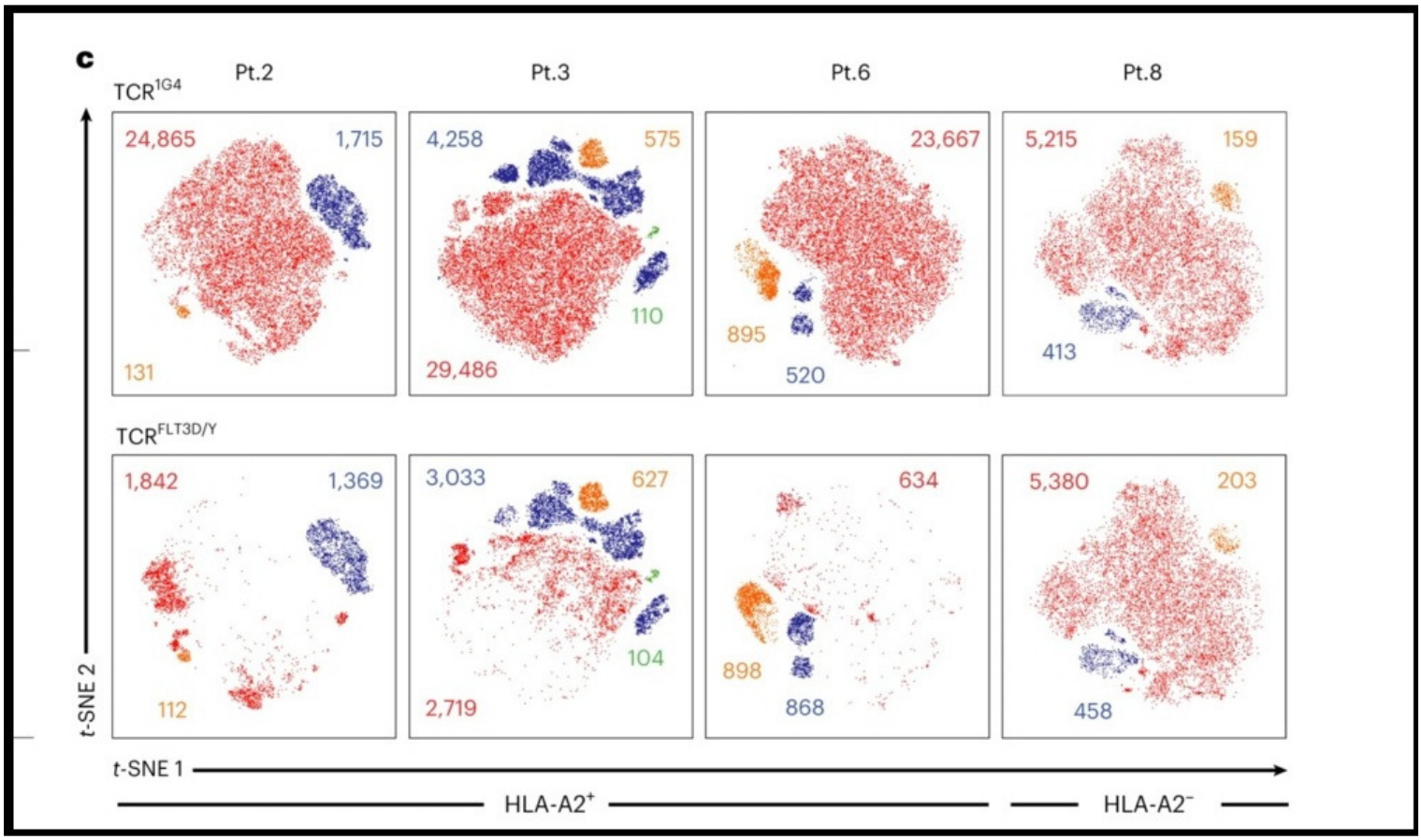
|| Monday: October 09: 2023 || ΕΛ || Researchers have identified a novel immunotherapy for acute myeloid leukaemia:AML. Immune cells are programmed to recognise a mutation, found in leukaemia patients. The results provide hope for new and effective treatment for the most common form of leukaemia in adults. Blood cells are formed and matured in the bone marrow.

However, sometimes mutations or damage occur in the cells' genetic material. This can lead to uncontrolled growth of blood cells and improper maturation. AML is a type of acute blood cancer

where the bone marrow gets overcrowded with such immature blood cells. "AML is a disease with a very poor prognosis. With standard treatment, one-third of patients have a five-year survival rate after diagnosis." Says Professor Johanna Olweus, who is a professor at the University of Oslo and the Head of Department of Cancer Immunology at the Cancer Clinic at Oslo University Hospital and a world-leading researcher in immunotherapy.

"Immunotherapy has led to significant advances in the treatment of several types of cancer. However, there is currently no approved immunotherapy for AML." Professor Olweus says. "The exception is stem cell transplantation, which is a treatment with potentially life-threatening side effects. Many patients cannot tolerate this treatment and therefore cannot receive it. You, also, cannot find stem cell donors for all patients."

For immunotherapy to be effective, the immune cells need good therapeutic targets to attack. However, the targets should not be found on healthy cells, as they would, also, be attacked. Professor Olweus and her colleagues have now found that certain mutations in cancer cells, that can be attractive targets in AML.



"This provides hope that we can develop a new and effective treatment for acute myeloid leukaemia. The results are likely of relevance, also, for other types of cancer." Says Professor Olweus. Her research group at the University of Oslo and OUS, in collaboration with the groups of researcher Petter Woll and Professor Sten Eirik Jacobsen at Karolinska Institutet. Post-doctoral fellow Dr Eirini Giannakopoulou in Professor Olweus' group is the First Author on the article describing the results.

PhD fellow Madeleine Lehander supervised by Woll and Jacobsen at Karolinska Institutet has had a central role as the Second Author. The study is published in the prestigious journal Nature Cancer.

All cancers are caused by mutations in the DNA. Thus, researchers are focused on mutations in the search for new treatment options for cancer. "Research in recent years has given us great hope that it will be possible to target immunotherapy to selected mutations. This is because mutations are specific for cancer cells and are a necessary part of cancer development." Professor Olweus says.

However, it is not so simple. So far, the results have been discouraging. "Almost, all mutations are unique to the individual cancer tumour and patient. Targeted treatment, must, therefore, be tailored to each individual patient."

"We, also, know that many mutations exists only in some cancer cells, which allows the other cancer cells to escape treatment. In addition, there are very few mutations, that have the ability to stimulate immune responses." She says. The researchers have identified a T-cell receptor, that recognises a shared mutation in AML

The goal of immunotherapy is to help the immune system protect the body against cancer development and to fight cancer. T-cells are part of this immune system. T-cell receptors are proteins, that are found on the surface of T-cells. They play a crucial role in recognising, activating and stimulating immune system to respond to threats, like viral infections.

This is where the researchers have made a breakthrough. Specifically, they have been able to identify a T-cell receptor, that can recognise a specific mutation, that is typical for acute myeloid leukaemia and shared between a sub-group of patients with AML.

"A gene, that is, often, mutated in this disease is called FLT3. Mutations in this gene can contribute to the rapid development of the disease. Using technology, that my group has developed, we have been able to identify a T-cell receptor, that recognises one mutation in FLT3." Professor Olweus says. The researchers noticed that there are some mutations, that are found in several AML patients. These mutations, shared among several patients, could be attractive therapeutic targets.

"The discovery is a bit like 'finding a needle in a haystack.'" Says Post-doctoral fellow Dr Eirini Giannakopoulou. The researchers equipped T-cells with the T-cell receptor through gene transfer. In this way, the T-cells were programmed to attack cancer cells with this particular mutation.

They were further able to show that the T-cell receptor is safe and that it does not react with normal cells, only with the mutation from the cancer cells. But how could the researchers test whether this T-cell receptor can be used in the treatment of leukaemia? In collaboration with the groups of Woll and Jacobsen at Karolinska institutet, the researchers created a model for the disease, a tailored mouse model, that mimicked AML. Leukemic cells from patients were transplanted into mice. Then they tested whether T-cells equipped with the T-cell receptor were able to attack the cancer cells.

These results were very clear. In just two weeks, the treatment, effectively, eliminated mutated leukemic cells in the mice. The Study is a 'proof-of-concept' Study, where researchers test whether an idea can work in reality. This is important in order to proceed to clinical trials.

The aim in this Study was to see whether genetically modified T-cells, programmed to recognise mutations, could be an attractive treatment option for AML. "An important finding was that we could show that the programmed T-cells could, also, kill cells, that have characteristics of stem cells in leukaemia." Says phd fellow Madeleine Lehander from Karolinska Institutet. "This has been a fantastic collaboration, that has lasted for many years, where the groups complement each other's expertise perfectly." Professor Olweus says.

Caption: 01: Visualisation of blood cells from four leukaemia patients, from left to right, after treatment with TCR T-cell therapy targeting the mutation, lower row or control T-cells, upper row. The leukaemia cells in red are killed after a few hours, while various normal blood cells in orange, blue and green remain unaffected by the treatment. The blood from Patient 08 on the right is a control, that lacks a target for the TCR T-cells and the leukaemia cells are, therefore, not eliminated. Illustration by the researchers.

02: Postdoctoral fellow Eirini Giannakopoulou and Professor Johanna Olweus: Image: Fridtjof Lund-Johansen. || ΕΛ ||

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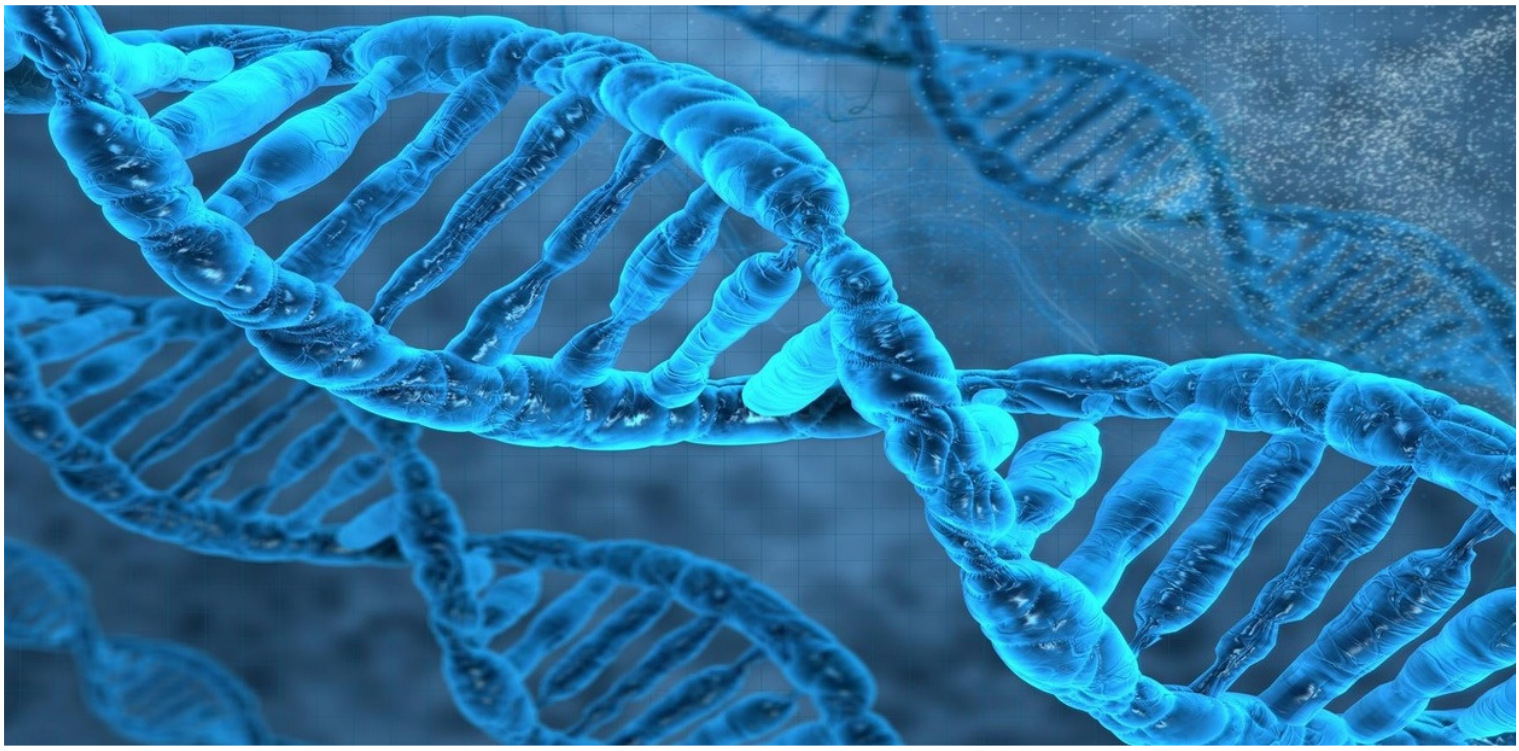
|| Genetics || A New Perspective on Myositis Sub-grouping Using Genetics ||



|| Monday: October 09: 2023 || ΕΛ || In a new Study a team of researchers found that combining information from blood markers and genetics shows distinct sub-groups of patients with myositis, which may help to improve disease classification and treatment. Myositis is a group of rare auto-immune diseases, often, characterised by muscle inflammation but, can, also, affect different body organs, such as, the skin, lungs and joints.

Myositis can manifest very differently from one patient to another, making it challenging to diagnose, classify and treat effectively. The Study results showed that myositis could be grouped into eight clusters of patients by combining information from blood markers, called, auto-antibodies and genetics, specifically, genetic variants in the human genome's major histocompatibility complex:MHC region.

These findings suggest that distinct disease mechanisms may be at play in those different sub-groups. This novel approach to myositis sub-grouping could improve myositis classification and lead to better management of these challenging diseases.

The Study included 1,348 patients with myositis from five countries in Europe. The researchers determined the occurrence of 14 myositis-specific or – associated auto-antibodies and the genetic variants from the human leucocyte antigen:HLA genes in the MHC, which are relevant in the immune system. Further, they established a profile of auto-antibodies to group the patients and, then, evaluated whether those sub-groups differed in their genetics and clinical manifestations. The Study was conducted by researchers at the Karolinska Institutet, Sweden.

The next step is to explore whether those sub-groups are clinically meaningful by comparing their clinical out-comes, e.g, disease severity, treatment response or mortality and looking at other genetic variants, that might be important to elucidate disease mechanisms. Similarly, exploring mechanistic differences between those different sub-groups will be relevant.

The Study was published in EBioMedicine. || EΛ ||
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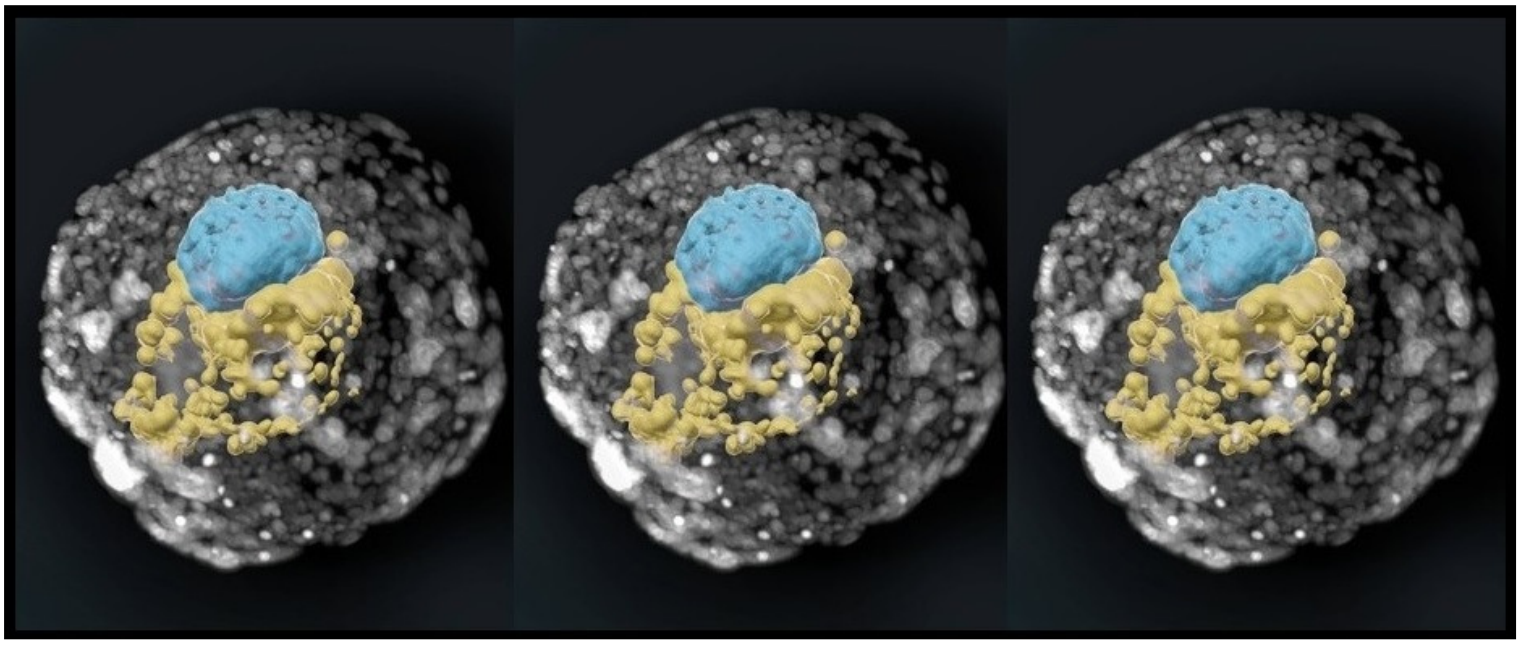
|| Cell Biology || Researchers Complete Models of Human Embryos Grown From Stem Cells Up to Day 14 ||



|| Monday: October 09: 2023 || EΛ || A research team, headed by Professor Jacob Hanna at the Weizmann Institute of Science, has created complete models of human embryos from stem cells, cultured in the lab and managed to grow them outside the womb up to day 14. As reported in Nature, these stem-cell embryo models had all the structures and compartments characteristic of this stage, including the placenta, yolk sac, chorionic sac and other external tissues, that ensure the models' dynamic and adequate growth.

Cellular aggregates derived from human stem cells in previous studies could not be considered genuinely accurate human embryo models, because they lacked several of the defining hallmarks of a post-implantation embryo. In particular, they failed to contain several cell types, that are essential to the embryo's development, such as, those that form the placenta and the chorionic sac. In addition, they did not have the structural organisation characteristic of the embryo and revealed no dynamic ability to progress to the next developmental stage.

“Last year, our team showed that stem cells could form an important building block of the human embryo, extra-embryonic mesoderm cells. We predicted that combining these cells with other cell types could form complex post implantation human embryo models.

This is exactly what has been achieved in the new work.” Says Professor Vincent Pasque from University of Leuven, Belgium, whose team helped to characterise the new human embryo model.

Given their authentic complexity, the human embryo models obtained by Hanna’s group may provide an unprecedented opportunity to shed new light on the embryo’s mysterious beginnings. Little is known about the early embryo because it is so difficult to study, for both ethical and technical reasons.

Yet its initial stages are crucial to its future development. During these stages, the clump of cells, that implants itself in the womb on the seventh day of its existence becomes, within three to four weeks, a well-structured embryo, that already contains all the body organs.

Hanna’s team built on their previous experience in creating synthetic stem cell–based models of mouse embryos. As in that research, the scientists made no use of fertilised eggs or a womb. Rather, they started out with human cells, known as, pluripotent stem cells, which have the potential to differentiate into many, though not all, cell types. Some were derived from adult skin cells, that had been reverted to ‘stemness’. Others were the progeny of human stem cell lines, that had been cultured for years in the lab.

The researchers then used Hanna’s recently developed method to reprogramme pluripotent stem cells so as to turn the clock further back: to revert these cells to an even earlier state, known as, the naïve state, in which they are capable of becoming anything, that is, specialising into any type of cell. This stage corresponds to day seven of the natural human embryo, around the time it implants itself in the womb.

“We confirmed that the cells made by the Hanna team represent the key cell types of the early human post implantation embryo.” Says Professor Vincent Pasque, who guided PhD student Thi Xuan Ai Pham.

Soon after being mixed together under optimised, specifically developed conditions, the cells formed clumps, about 01% of which self-organised into complete embryo-like structures.

The stem cell–based embryo-like structures, termed SEMs, developed outside the womb for eight days, reaching a developmental stage equivalent to day 14 in human embryonic development. That’s the point at which natural embryos acquire the internal structures, that enable them to proceed to the next stage: developing the progenitors of body organs.

“Our models can be used to reveal the bio-chemical and mechanical signals, that ensure proper development at this early stage and the ways in which that development can go wrong.” Professor Jacob Hanna says.

In fact, the Study has already produced a finding that may open a new direction of research into early pregnancy failure. The researchers discovered that, if, the embryo is not enveloped by placenta-forming cells in the right manner at day three of the protocol, corresponding to day 10 in natural embryonic development, its internal structures, such as, the yolk sac, fail to properly develop.

“An embryo is not static. It must have the right cells in the right organisation and it must be able to progress; it’s about being and becoming.” Hanna says. “Our complete embryo models will help researchers address the most basic questions about what determines its proper growth.”

This ethical approach to unlocking the mysteries of the very first stages of embryonic development could open numerous research paths. It might help reveal the causes of many birth defects and types of infertility. It could, also, lead to new technologies for growing transplant tissues and organs. And it could offer a way around experiments, that cannot be performed on live embryos, for example, determining the effects of exposure to drugs or other substances on foetal development.

Caption: Human Embryos Grown From Stem Cells: At Day Eight: Image: University of Leuven, Belgium || ΕΛ ||

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|| Society || Childhood Air Pollution Exposure Is Linked to Early Death ||

|| Monday: October 09: 2023 || ΕΛ || People, exposed to significant air pollution in early childhood, are more likely to die early than those raised in areas with better air quality, new research suggests. The analysis of nearly 3,000 people born in Scotland in 1936 is the first to shed light on the life-long effects of breathing dirty air in early life. Findings show people, exposed to high levels of

air pollution, aged three were more likely to die between the ages of 65 and 86 than those, subjected to low levels. Exposure to high levels of air pollution, also, increased the chances of dying from cancer, especially, from lung cancer in women.

Previous studies have investigated links between poor air quality and health over time but, few have investigated the effects beyond 25 years, researchers say. The new Study, led by the University of Edinburgh researchers, has showed links between air pollution and deaths over a 75-year period.

Data analysed by the researchers was taken from the Scottish Longitudinal Study Birth Cohort of 1936, an anonymised, long-term study, providing a representative sample of Scotland's population. Historic air pollution levels were estimated using atmospheric chemistry models and matched to each participant's home address in 1939, when they were three-years-old.

The analysis, also, used results from a national cognitive ability test taken by each participant aged 11 and national death records from 1947 to 2022. ''We are lucky, in Scotland, to have an increasing number of studies, following people from childhood to old age. This is helping us to better understand what type of environments we need now to support healthy ageing in the future.'' Professor Chris Dibben, the Director of the Longitudinal Studies Centre Scotland, based at the University of Edinburgh, said.

Over the 75-year period, 1,608 of the participants died. Exposure to higher levels of fine particle air pollution, known as, PM2.5, increased the risk of dying between the ages of 65 and 86 by up to 05%. Early years exposure increased the risk of dying from cancer. In women, lung cancer was the main cause of cancer-related deaths, linked to an increased risk of 11%. In men, preliminary findings suggest that early exposure could be linked to an increased risk dying from neuro-degenerative disorders in older adulthood. The findings indicate around 25% of the total impact of air pollution on death was an indirect result of effects on participants' cognitive ability.

Children, exposed to higher air pollution levels, tended to score lower in the cognitive ability test. These skills are important for achieving better educational outcomes and higher socio-economic status, which are, ultimately, linked to living longer, according to the research team. ''It is striking to see that children, growing up in polluted areas, can have consequences, that persist throughout their entire life. These findings suggest that the effects of air pollution on our health can endure for decades, even, after significant efforts are made to reduce pollution levels.'' Said Dr Gergő Baranyi School of Geo-Sciences.

The new research, published in the journal Environmental Research, was funded by Health Data Research UK. The Scottish Longitudinal Study is supported by the Economic and Social Research Council:JISC, Scottish Funding Council, Chief Scientist's Office and Scottish Government. || ΕΛ || || Readmore at thehumanion.com/TheHumanicsxian.htm || reginehumanicsfoundation.com || 091023 ||

|| Quantum Physics || ALPHA Experiment at CERN Observes the Influence of Gravity on Anti-matter ||

|| Monday: October 09: 2023 || ΕΛ || Isaac Newton's historic work on gravity was apparently inspired by watching an apple fall to the ground from a tree. But what about an 'anti-apple', made of anti-matter, would it fall in the same way, if, it existed? According to Albert Einstein's much-tested theory of general relativity, the modern theory of gravity, anti-matter and matter should fall to Earth in the same way. But do they or are there other long-range forces beyond gravity, that affect their free fall?

In a Paper, published in Nature, the ALPHA collaboration at CERN's Anti-matter Factory shows that, within the precision of their experiment, atoms of anti-hydrogen, a positron orbiting an anti-proton, fall to Earth in the same way as their matter equivalents. "In physics, you don't really know something until you observe it." Says ALPHA spokesperson Jeffrey Hangst. "This is the first direct experiment to, actually, observe a gravitational effect on the motion of anti-matter. It's a milestone in the study of anti-matter, which still mystifies us due to its apparent absence in the Universe."
Gravity is the attractive force between any two objects with mass. It is by far the weakest of the four fundamental forces of nature. Anti-hydrogen atoms are electrically neutral and stable particles of anti-matter. These properties make them ideal systems in which to study the gravitational behaviour of anti-matter.

The ALPHA collaboration creates anti-hydrogen atoms by taking negatively charged anti-protons, produced and slowed down in the Anti-matter Factory's AD and ELENA machines, and binding them with positively charged positrons accumulated from a sodium-22 source. It then confines the neutral but slightly magnetic, anti-matter atoms in a magnetic trap, which prevents them from coming into contact with matter and annihilating.

Until now, the research team has concentrated on spectroscopic studies in the ALPHA-2 device, shining laser light or microwaves onto the anti-hydrogen atoms to measure their internal structure. But the ALPHA team has, also, built a vertical apparatus, ALPHA-g, which received its first anti-protons in 2018 and was commissioned in 2021. The 'g' denotes the local acceleration of gravity, which, for matter, is about 09.81 metres per second squared. This apparatus makes it possible to measure the vertical positions at which the anti-hydrogen atoms annihilate with matter once the trap's magnetic field is switched off, allowing the atoms to escape.

This is exactly what the ALPHA researchers did in their new investigation, following a proof-of-principle experiment with the original ALPHA set-up in 2013. They trapped groups of about 100 anti-hydrogen atoms, one group at a time, and then slowly released the atoms over a period of 20 seconds by gradually ramping down the current in the top and bottom magnets of the trap.

Computer simulations of the ALPHA-g set-up indicate that, for matter, this operation would result in about 20% of the atoms exiting through the top of the trap and 80% through the bottom, a difference caused by the downward force of gravity. By averaging the results of seven release trials, the ALPHA team found that the fractions of anti-atoms exiting through the top and bottom were in line with the results of the simulations.

The full study involved repeating the experiment several times for different values of an additional 'bias' magnetic field, which could either enhance or counteract the force of gravity. By analysing the data from this 'bias scan', the team found that, within the precision of the current experiment, about 20% of g, the acceleration of an anti-hydrogen atom is consistent with the familiar, attractive gravitational force between matter and the Earth.

"It has taken us 30 years to learn how to make this anti-atom, to hold on to it, and to control it well enough that we could actually drop it in a way that it would be sensitive to the force of gravity." Says Hangst. "The next step is to measure the acceleration as precisely as we can. We want to test whether matter and anti-matter do indeed fall in the same way. Laser-cooling of anti-hydrogen atoms, which we first demonstrated in ALPHA-2 and will implement in ALPHA-g when we return to it in 2024, is expected to have a significant impact on the precision."

CERN's Anti-matter Factory is a unique facility in the world for producing and studying anti-matter. Two other experiments at this facility, AEgIS and GBAR, share with ALPHA the goal of measuring with high precision the gravitational acceleration of atomic antimatter. Also, at the Anti-matter Factory is the BASE experiment. Its main focus is to compare with high precision the properties of the proton with those of its antimatter twin, and it has recently compared the gravitational behaviour of these two particles. || EΛ ||

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|| Epidemiology || Malaria Kills Nearly Half a Million Children in the African Region Every Year: The World Health Organisation Recommends R21:Matrix-M Vaccine For Malaria Prevention ||

|| Monday: October 09: 2023 || EΛ || The World Health Organisation:WHO has recommended a new vaccine, R21:Matrix-M, for the prevention of malaria in children. The recommendation follows advice from the WHO: Strategic Advisory Group of Experts on Immunisation:SAGE and the Malaria Policy Advisory Group:MPAG and was endorsed by the WHO Director-General, following its regular bi-annual meeting, held on September 25-29.

The R21 and RTS.S vaccines act against P. falciparum, the deadliest malaria parasite and the most prevalent on the African continent. The updated WHO recommendation for malaria vaccines was informed by the results of the WHO-co-ordinated Malaria Vaccine Implementation Programme, through which nearly two million children in Ghana, Kenya and Malawi have been reached with the RTS.S:AS01 malaria vaccine since 2019.

The pilot introduction of the first malaria vaccine has resulted in a substantial impact in reducing severe malaria illness, hospitalisations and child deaths. The R21 vaccine is the second malaria vaccine, recommended by WHO, following the RTS.S:AS01 vaccine, which received a WHO recommendation in 2021. Both vaccines are shown to be safe and effective in preventing malaria in children and, when implemented broadly, are expected to have high public health impact.

Malaria, a mosquito-borne disease, places a particularly high burden on children in the African Region, where nearly half a million children die from the disease each year. Demand for malaria vaccines is unprecedented; however, available supply of RTS.S is limited. The addition of R21 to the list of WHO-recommended malaria vaccines is expected to result in sufficient vaccine supply to benefit all children living in areas where malaria is a public health risk.

"As a malaria researcher, I used to dream of the day we would have a safe and effective vaccine against malaria. Now we have two." Said Dr Tedros Adhanom Ghebreyesus, WHO Director-General. "Demand for the RTS.S vaccine far exceeds supply, so this second vaccine is a vital additional tool to protect more children faster and to bring us closer to our vision of a malaria-free future."

Dr Matshidiso Moeti, WHO Regional Director for Africa, emphasised the importance of this recommendation for the continent. "This second vaccine holds real potential to close the huge demand-and-supply gap. Delivered to scale and rolled out widely, the two vaccines can help bolster malaria prevention and control efforts and save hundreds of thousands of young lives in Africa from this deadly disease."

Key features of the R21 malaria vaccine:

The updated WHO malaria vaccine recommendation is informed by evidence from an on-going R21 vaccine clinical trial and other studies, which showed:

::: High efficacy when given just before the high transmission season: In areas with highly seasonal malaria transmission where malaria transmission is largely limited to four or five months per year, the R21 vaccine was shown to reduce symptomatic cases of malaria by 75% during the 12 months, following a 3-dose series. A fourth dose given a year after the third maintained efficacy. This high efficacy is similar to the efficacy demonstrated when RTS.S is given seasonally.

::: Good efficacy when given in an age-based schedule: The vaccine showed good efficacy, 66%, during the 12 months, following the first three doses. A fourth dose a year after the third maintained efficacy.
::: High impact: Mathematical modelling estimates indicate the public health impact of the R21 vaccine is expected to be high in a wide range of malaria transmission settings, including low transmission settings.
::: Cost effectiveness: At prices of $02-$04 per dose, the cost-effectiveness of the R21 vaccine would be comparable with other recommended malaria interventions and other childhood vaccines.
::: Similarity of R21 and RTS.S vaccines: The two WHO-recommended vaccines, R21 and RTS.S, have not been tested in a head-to-head trial. There is no evidence to date, showing one vaccine performs better than the other. The choice of product to be used in a country should be based on programmatic characteristics, vaccine supply and vaccine affordability.
::: Safety: The R21 vaccine was shown to be safe in clinical trials. As with other new vaccines, safety monitoring will continue.
::: Next steps for the second recommended malaria vaccine, R21:Matrix-M, include completing the on-going WHO pre-qualification, which would enable international procurement of the vaccine for broader rollout.
At least, 28 countries in Africa plan to introduce a WHO-recommended malaria vaccine as part of their national immunisation programmes. Gavi, the Vaccine Alliance, has approved providing technical and financial support to roll out malaria vaccines to 18 countries. The RTS.S vaccine will be rolled out in some African countries in early 2024 and the R21 malaria vaccine is expected to become available to countries around middle of 2024. || ΕΛ ||

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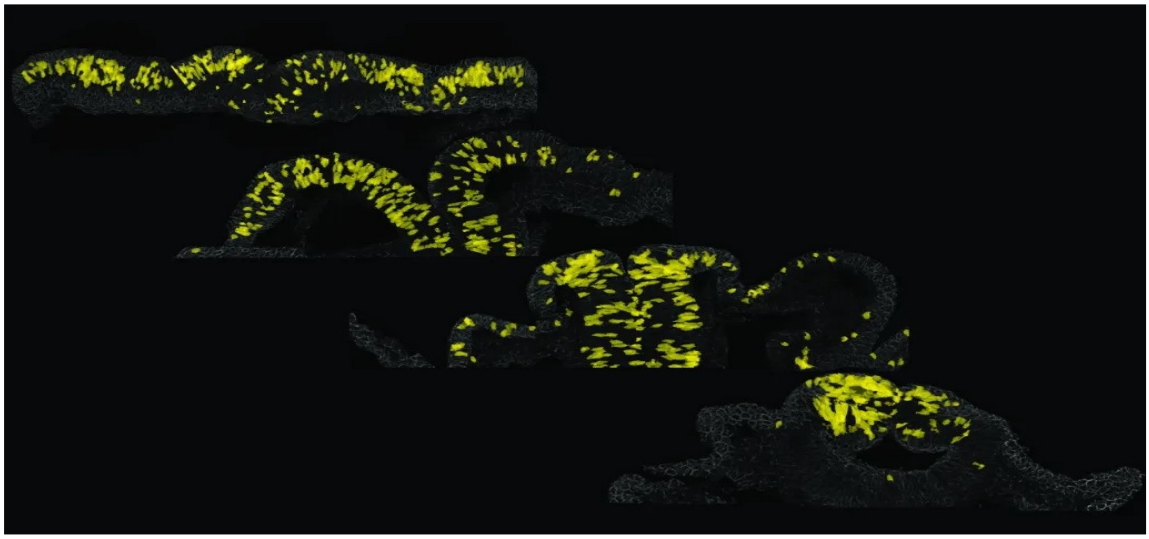
|| Molecular Biology || New Research Presents the Most Important Early Stage of Embryonic Development ||



|| Monday: October 09: 2023 || ΕΛ || A new discovery by researchers challenges our current understanding of gastrulation, the most important stage of early embryonic development. When the zygote or the fertilised egg, starts to develop, soon forming inner cell mass, a cluster of cells, that will, eventually, develop into the individual, retains its pluripotent stem cell potential for the first few weeks. In other words, every cell in this cluster has the ability to form an entire new individual and all of the hundreds of different cell types, that the human body needs.

The potential of stem cell therapies is based on this pluripotency of early embryonic stem cells. Gastrulation is a crucial stage in embryonic development where this pluripotency is lost when the germ layers of the embryo as ectoderm, mesoderm and endoderm, and the three body axes of the developing body, anterior and posterior, dorsal and ventral, left and right, are formed. In fact, gastrulation is, often, referred to as the most important stage of life, with a large share of early miscarriages, resulting from unsuccessful gastrulation.

Researchers from the University of Helsinki and the National Institutes of Health:NIH in the United States found that the ectoderm, one of the germ layers, does not lose its pluripotency in gastrulation after all. It, also, answers the long-standing question, posed by developmental biologists, on how the neural crest, which originates from the ectoderm during embryonic development, has such an exceptionally high stem cell potential.

Following gastrulation, the neural crest develops into a large number of cells, that form various parts of the body. To name a few, tissues derived from the neural crest include pigment cells in the skin, the entire peripheral nervous system, the bones of the face and neck, parts of the heart and several hormone-producing cell types, in practice, cell types, whose differentiation from a single germ layer should be impossible.

“Our findings shed new light on the chain of events in early embryonic development. The findings indicate that the expression stage of stem cell genes, needed for the production of pluripotent stem cells, continues throughout the ectoderm almost until the completion of the neural tube, a pre-cursor to the central nervous system. The findings, also, indicate a much higher plasticity in the cell fate determination process, that occurs in the ectoderm than previously thought.” Says Dr Laura Kerosuo, the Principal Investigator of the research group, a former Academy researcher at the University of Helsinki, and currently the Chief of the Neural Crest Development and Disease Unit at the NIH.

A high-resolution imaging technique, capable of analysing individual cells, helped the researchers uncover these details. Previously, the research group developed this technique for the simultaneous analysis of the expression of several genes, which they modified further for this Study to enable them to monitor the location of individual stem cells in the ectoderm at different stages of development following gastrulation.

“With this precise and effective technique, cell profiles can be identified on site in the original tissue. The technique can be applied to any question, such as, comparing sick and healthy tissue.” Says Doctoral Researcher Ceren Pajanoja from the University of Helsinki.

Neurocristopathies or disorders, originating from the neural crest, account for, roughly, one-quarter of all congenital developmental disorders. The new knowledge, gained from the Study helps to understand the pathogenetic mechanisms of neurocristopathies and identify the gene defects, that cause them already in early pregnancy. The Study can, also, help in developing alternative therapies, that could in the future be applied to the foetus during pregnancy.

Cancers, originating from the neural crest include melanoma and neuroblastoma, an often-fatal disease in infants, which Dr Kerosuo’s research group is, also, investigating from the perspective of neural crest development. “It has only recently been realised how important it is to understand the normal development of the original tissue to find out what went wrong when the cancer was activated.” Dr Kerosuo says.

In addition, techniques for the differentiation of neural crest derived tissues from stem cells hold great promise for usage for future tissue replacement therapies. The Study was published in the Nature Communications journal and is part of a doctoral thesis, currently being completed by Doctoral Researcher Ceren Pajanoja at the Department of Biochemistry and Developmental Biology, Faculty of Medicine, University of Helsinki.

The Study received funding from the Research Council of Finland, the Sigrid Jusélius Foundation, the Väre Foundation for Pediatric Cancer Research, the Emil Aaltonen Foundation and the Intramural Research Programme of the National Institute of Dental and Craniofacial Research.

Laura Kerosuo, PhD, Principal Investigator, Docent in Stem Cell and Developmental Biology at the University of Helsinki and Stadtman Investigator and Chief of the Neural Crest Development and Disease Unit at the National Institutes of Health Intramural Reserach Programme, USA: laura.kerosuo @nih.gov

Caption: The image shows cross sections from four different developmental stages in the early embryo from gastrulation, flat, to the end of neurulation. Unexpectedly, the Study showed that stem cells, that have a pluripotent signature, which are visualised in yellow, are found in the entire developing ectoderm until the neural tube closure stage, when they are restricted to the neural crest cells at the top of the neural tube: Image: Kerosuo Lab: Ceren Pajanoja || ΕΛ ||

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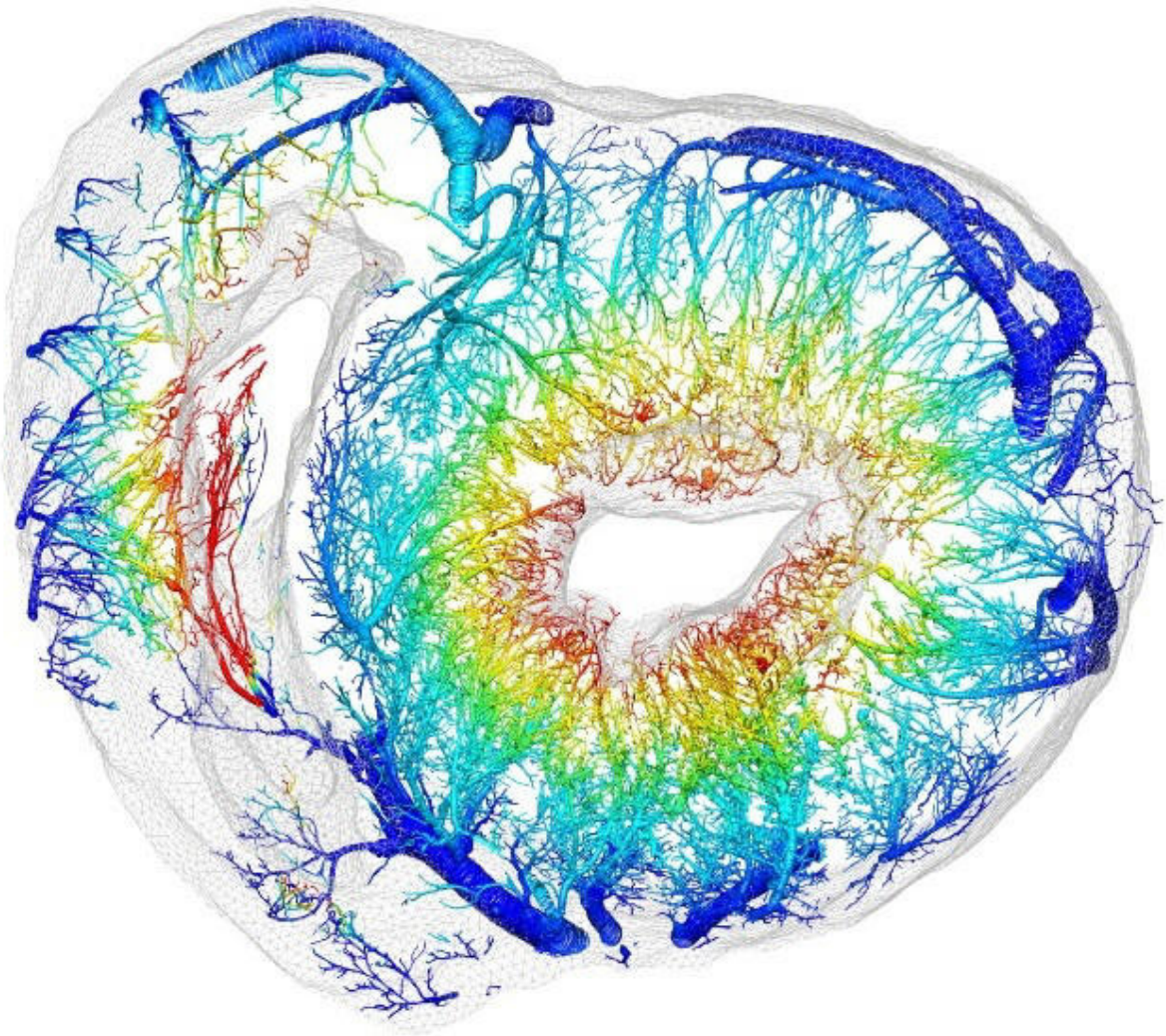
Humanics: All-For-One-One-For-All



|| 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 ||

|| Humanics: Humanity Naturale: An Infinity Unfolding Itself||

The Humanics Elleesium Declaration 2019: The Humanicsxian Manifesto: Munayem Mayenin: ISBN: 978-0-244-76474-6: Published: April 06: 2019: The Manifesto can be read at **https://thehumanion.com/TheHumanicsElleesiumDeclaration2019TheHumanicsxianManifesto.htm ::: The Humanics Elleesium Declaration 2019: The Humanicsxian Manifesto: Munayem Mayenin: ISBN: 978-0-244-76474-6: Published: April 06: 2019 https://thehumanion.com/TheHumanicsElleesiumDeclaration2019TheHumanicsxianManifesto.htm :::**

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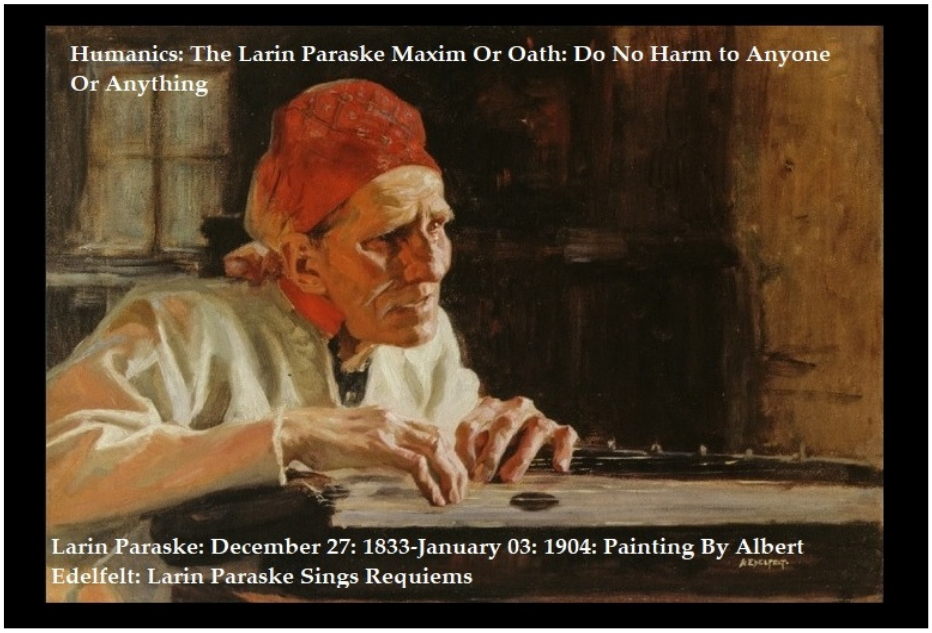
|| The Larin Paraske Maxim Or Oath: To Do No Harm to Anyone Or Anything ||



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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

Image: NASA: NASA has nothing to do with this presentation

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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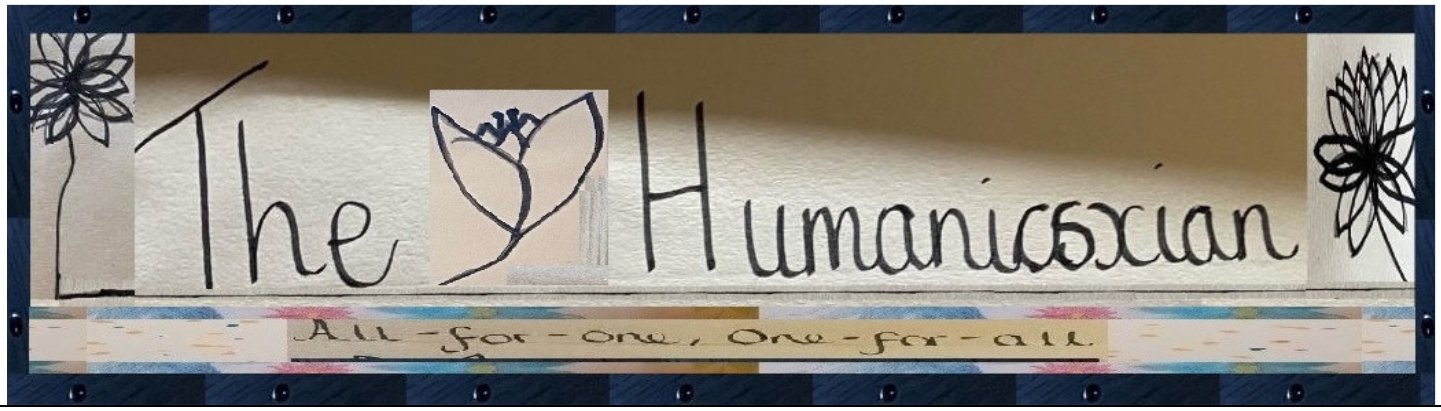
We invite you to Envision the Vision and Philosophy of Humanics and Support The Humanion, The Humanion Portable and The Foundation to Keep Taking Forward the Vision and Philosophy of Humanics, to Keep on Challenging Capitalism's Poverty Paradigm, for an Infinitely Better Humanity in an Infinitely Better Human Condition for All Humanity Across Mother Earth. Thank You.

|| The Humanicsxian ||



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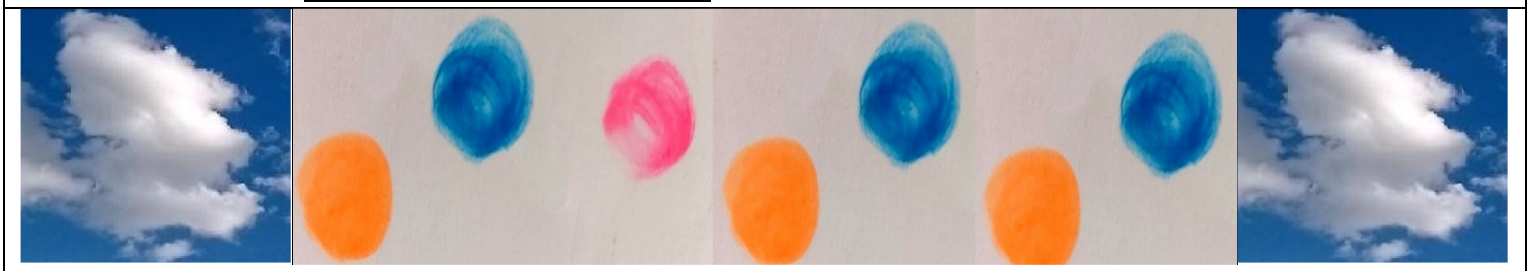

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