Jean de Rignies, US-Scientist and the Ummites

Jean de Rignies, a French civil engineer, first met an alien named Lilor in the Moroccan desert in 1962. Because of a navigation error, the extraterrestrials had to land there in order to orientate themselves.
Later, from the 1970s onwards, when Jean des Rignies lived in the Sals Valley in France, on his hikes around the Sals Valley in the Pyrenees, he repeatedly met Lilor, who described himself as the commander of an extraterrestrial base.

Between 1970 and 1990, Jean de Rignies kept a record of his meetings with Lilor. The special thing about these records is that they are mostly mathematical and physical formulas and explanations that go far beyond our current knowledge.
The material, in the form of Din A4 notebook with 65 handwritten pages, originally represented Jean de Rignies' private notes (1970 -1990) and were not intended for publication. These texts are entitled "Notes on the Differences Between Cosmic Laws and Scientific Discoveries on Earth Concerning Gravitation and Nuclear Forces, and Notes on Time and Space - Up to 1990 - Earth Year".
Jean de Rignies died in 2001. Only the accidental discovery in 2009, eight years after his death, by Werner Betz, the publisher of the Ancient Mail Verlag through Udo Vits, a friend of the Rignies family, made the publication possible.

In 2019 the book "Riss in der Matrix" **[1]** (Crack in the Matrix) was published, in which the entire text by Jean de Rignies was published for the first time in the original with a German translation. The book is structured in such a way that one page from the booklet is shown on the left-hand side and the German translation is on the right. There are also some chapters on Jean de Rignies life and his last stay in the Sals Valley.

In 2022, Klaus Piontzik received the information that there were documents that were referred to as "Letters from Planet UMMO". This is interesting because the Alien Computers chapter of “Riss in der Matrix” (Crack in the Matrix) mentions UMMO as one of the planets using the computer technology described.
The author of this essay then searched the Internet and found a large number of Ummo letters in German translation at cosmic-library.de **[2]**. After a thorough review, the following was discovered:

Matches or identities in the Ummo letters and "Riss in der Matrix":

Ummo letter	**Theme**	**Page in “Riss in der Matrix”**
D357, D731	polarity of matter	35-41
D69-5	nature of space from matter	53-57
D59-4	quantized space	59, 63
D59-3	speed of Light	61-63
D57-1	axis inversion, elementary particles	65-71
D59-4	elementary particles	65-71
D105-2, D731	cosmos and anti-cosmos	68,70,130
D69-2	inversion of spaceship mass	70
D71	computers	109-125
D731	tachyons	127
D731	multiverse	145-147
D33-1	micro and macrocosm	153
Direct citation of Ummo		109, 127

From this it can be assumed with some probability that Lilor was or is an Ummite.

In early 2023, the author published the book “Neues aus UMMO” **[3]** (News from UMMO) with the subtitle „Riss in der Matrix – Erklärt!“ (Crack in the Matrix – Explained!) in which an attempt is made to analyze Jean de Rignies’ texts using the Ummo letters.

Further research found 4 works by 5 American physicists from the years 1953 and 1954 in which parts of the essays correspond to some texts by Jean de Rignies.
The question that arises here is: did Jean de Rignies copy from these works or is it the same source that has just passed this information on to different recipients and to himself? In order to answer this question, the following comparison and analysis of the texts by Jean de Rignies and the essays by the US scholars serves.

1 - Forrest S. Mozer

Forrest S. Mozer [4] was born on February 13, 1929 in Lincoln, Nebraska. He is an American experimental physicist, inventor, and entrepreneur best known for his work measuring electric fields in space plasma and developing electronic speech synthesizers and speech recognition devices.
He received his bachelor's degree in physics from the University of Nebraska in 1951 and his master's, as well as his doctorate in philosophy of physics, from the California Institute of Technology (Caltech) in 1956. After graduating, he worked as a nuclear researcher at Caltech and continued his research at Lockheed Missiles and Space Co., at the Aerospace Corporation and at the Center National de la Recherche Scientifique in Paris.
In 1963 his interest shifted to high-energy particles in the aurora, and in 1966 he joined the physics department at the University of California, Berkeley, where he became a full professor in 1970. He was appointed Vice-Chairman of the Faculty of Physics and Deputy Director of the Laboratory of Space Sciences. His recent research continues 40 years of rocket and satellite measurements. Mozer has published more than 300 scientific publications and has received numerous honours and recognitions for his scientific work.

In 1954 he received second prize from the Gravity Research Foundation [5] for his essay "A quantum mechanical approach to the existence of negative mass and its use in the construction of gravitationally neutralized bodies". [6]
On pages 34-43 in "Crack in the Matrix" (News from UMMO: page 96-101) the text is called "Study on the existence of negative mass and its use in the construction of bodies with neutralized gravity using quantum mechanics".
There are major differences between the two texts. While Forrest Mozer speaks of negamass and posimass, Jean de Rignies uses m (-) and m (+) quanta.

Jean de Rignies (Riss in der Matrix - page 34-43):

Study of the existence of negative mass and its use in the construction of bodies with neutralized gravity using quantum mechanics
Given that the "terrestrial" existence of the overwhelming majority of electrostatic effects in quantum mechanics rests on the existence of a pair of attractive and repulsive forces arising from two types of charges. Investigating gravity using quantum mechanics can only deliver unsatisfactory results unless at least two types of mass exist. The first type of mass (+) contains all the properties associated with normal mass, while the second type of mass (-) differs in that its mass is a negative quantity.
By studying the effects of light in quantum mechanics and the existence of these 2 types of mass, a theory about gravity can be worked out. This theory will explain why negative mass (-) has never been detected and it lays out the theoretical foundations of the experimental methods to measure the existence of mass and to use it in the fabrication of gravitation-neutralized bodies.
In order to arrive at these results, we have to resort to the time-independent Schrödinger equation from which we have subtracted the movement of the center of gravity, i.e.:

$$-\frac{h^2}{2\mu}\cdot\nabla^2\Psi + V(\Psi) = E(\Psi)$$

Herein all symbols represent the conventional quantized parameters. Note in particular that the reduced mass is

$$\mu = \frac{m_1 \cdot m_2}{m_1 + m_2}$$

where m_1 and m_2 are the masses of the 2 interacting bodies

Essay by Forrest S. Mozer:

A Quantum Mechanical Approach to the Existence of Negative Mass and Its Utilization in the Construction of Gravitationally Neutralized Bodies
A quantum mechanical theory of negative mass is developed, based on the assumptions that gravitational interactions obey the laws of quantum mechanics, and that all possible interactions of negative and positive mass with themselves and each other follow the well-known inverse square law. This theory explains the experimental fact that negative mass has never been observed, and outlines plausible experimental methods of determining the existence of negative mass and utilizing it in the construction of gravitationally neutralized bodies,

Since the overwhelming majority of electrostatic quantum mechanical effects rely for their existence on an interplay of attractive and repulsive forces arising from two types of charge, few, if any, fruitful results could come from a quantum mechanical investigation of gravity, unless there should be two types of mass. The first type, positive mass, (hereafter denoted as posirnass) retains all the properties attributed to ordinary mass, while the second type, negative mass (hereafter denoted as negamass) differs only in that its mass is an inherently negative quantity. By considering the quantum mechanical effects of the existence of these two types of mass, a fruitful theory of gravity will be developed. This theory will explain why negamass has never been observed, and will offer a theoretical foundation to experimental methods of detecting the existence of negamass and utilizing it in the production of gravitationally neutralized bodies.

To achieve these results, recourse will be made to Schroedinger's time independent equation with the center of mass motion removed. This equation is:

$$-\frac{h^2}{2\mu}\cdot\nabla^2\Psi + V(\Psi) = E(\Psi)$$

where all symbols represent the conventional quantum mechanical quantities. Particular attention will be paid to the reduced mass

$$\mu = \frac{m_1 \cdot m_2}{m_1 + m_2}$$

where m_1 and m_2 are the masses of the two interacting bodies.

Jean de Rignies: The first obstacle that the theory of mass encounters is to explain why mass (-) has never been detected. This obstacle can be tackled by studying how material bodies form when an empty region in space is suddenly filled with multiple quanta of mass (+) and mass (-).
To pursue this direction, one must first comment on the nature of the associated quantized interactions between the masses (+) and (-).

1) Using the conventional gravitational interaction potential in the Schrödinger equation and solving the wave function Ψ, the result is that the probability of 2 (+) quanta being close to each other is greater than those that they are far apart. Hence it is said that there is an attraction between the quanta of mass (+).

2) By a similar calculation one can show that although the shape of the potential is the same, the quanta of mass (-) can repel each other. This is due to the fact that the reduced mass term in the Schrödinger equation is negative here.

It is thus found that the type of interaction between the masses (-) and (+) depends on the relative size of the masses with the quanta (+) and (-) interacting with each other:

a) It is repulsive if the mass with the negative quantum is higher in absolute value than the mass with the positive quantum.

a) and attractive in the opposite case.

If the two masses are equal in absolute value, the reduced mass is infinitely large and the Schrödinger equation reduces to:

$$\mu \to \infty \qquad \Rightarrow \qquad -\frac{h}{2\mu}\cdot\nabla^2\Psi = 0 \qquad \Rightarrow \qquad V(\Psi) = E(\Psi)$$

The solution Ψ=0 is of no interest in physics and one can conclude that V=E and consequently that there is no kinetic energy of relative motion. Consequently, the existence of an interaction potential between the quanta (+) and (-) of the same mass does not lead to any relative acceleration and thus to no mutual attraction or repulsion.

Forrest S. Mozer: One can approach the first obstacle that any theory of negamass faces, namely the explanation of why negamass has never been observed, by a consideration of how material bodies would be formed if a region of empty space were suddenly filled with many posimass and negamass quanta. To proceed along these lines, one must first understand the nature of the various possible quantum mechanical interactions of posirnass and negarnass.

1) Inserting the conventional gravitational interaction potential into Schroedinger's equation and solving for the wave function Ψ, yields the result that the probability of two posirnass quanta being close together is greater than the probability of their being separated. Hence, there is said to be an attraction between pairs of posimass quanta.

2) By a similar calculation it can be shown that while the potential form is the same two negamass quanta repel each other. This arises from the fact that the reduced mass term in Schroedinger's equation is negative in this latter case.

The type of negamass-posimass interaction is found to depend on the relative sizes of the masses of the interacting posimass and negamass quanta, being repulsive if

a) The mass of the negamass quantum is greater in absolute value than the mass of the posimass quantum

b) and attractive in the opposite case.

If the two masses are equal in absolute value, the reduced mass is infinite and Schroedinger's equation reduces to $(V-E)\Psi = 0$. Since the solution $\Psi=0$ is uninteresting physically, it must be concluded that V = E, and, hence, there is no kinetic energy of relative motion. Thus, while there is an interaction potential between the equal posimass and negamass quanta, it results in no relative acceleration and thus, no mutual attraction or repulsion.

Jean de Rignies: One could debate at length the philosophical implications of the contradiction between this result and Newton's second law, but it is beyond the scope of this paper. We therefore content ourselves with the above derivations in order to undertake the creation of bodies in a region that is suddenly filled with several (+) and (-) quanta.

Forrest S. Mozer: While much could be said about the philosophical implications of the contradiction between this result and Newton's Second law, such discussion is out of the scope of the present paper, and the author shall, instead, return with the above series of derivations to a consideration of the construction of material bodies in a region suddenly filled with many posirnass and negarnass quanta.

Jean de Rignies: Because of the nature of the interaction of m(+)m(+) and m(-)m(-), only the quantum m(+) combines very quickly to form small spheres of mass m(+) and none of them take a quantum from m(-) to. Since it is reasonable to assume that, in absolute value, a sphere m(+) weighs more than a quantum m(-), it will attract the quanta and start absorbing them.
This absorption continues as long as the attraction between an m(+) sphere and the free quanta m(-) has not yet reached zero.
The reduced mass becomes infinite as the sphere absorbs sufficient m(-) quanta until the algebraic mass sum of its component quanta m(+) and m(-) gives the (-) value of the following m(-) quanta.
Consequently, the theory dictates that any material body that absorbs as many m(-) quanta as it can hold involves the same minimum weight. (with the same dimensions?)

Forrest S. Mozer: Because of the nature of the posimass-posimass and negamass-negamass interactions, the individual posimass quanta soon combine into small posimass spheres, while nothing has, as yet, united any negamass quanta. Since it is reasonable to assume that a posimass sphere weighs more than a negamass quantum in absolute value, it will attract negamass quanta and begin to absorb them. This absorption continues until the attraction between a sphere and the free negamass quanta becomes zero due to the reduced mass becoming infinite. The reduced mass becomes infinite when the sphere absorbs enough negamass quanta to make the algebraic sum of the masses of its component posimass and negamass quanta equal to the negative of the mass of the next incoming negamass quantum. Thus, the theory predicts that all material bodies after absorbing as many negamass quanta as they can hold, weigh the same very small amount, regardless of size.

Jean de Rignies: Since this contradicts the experimental facts, one must conclude that the equilibrium, which occurs unexpectedly as the reduced mass becomes infinite, has not yet been reached. This means that if one assumes that there is not enough m(-) mass in the universe to allow the spheres of mass quanta m(+) to absorb all the m(-) quanta that they could absorb, then one can explain the experimental fact that the m(-) quanta could not be observed so far, with the mechanisms mentioned above, that the smaller amounts of m(-) that were present in the universe were absorbed by the larger amounts of mass m(+), which produces bodies composed of m(+) and m(-) but having a variable and positive total net mass.
One should prove that the mass (-) exists by considering the quantum mechanical problem of the small amounts of m(-) in the large spheres of the m(+). One can understand this problem by reducing it to the case of a quantum of mass (-) in a field of 2 m(+) quanta that are at a fixed distance from each other.
Besides, this simplification reduced the 3 dimensions to one by replacing an m(+) quant with rectangular barriers.

Forrest S. Mozer: Since this prediction is in violent disagreement with experimental fact, one must conclude that the equilibrium arising as a result of the reduced mass becoming infinite has not yet been reached. That is, assuming that negarnass exists at all, there are not enough negamass quanta present in the universe to allow posimass spheres to absorb all the negamass they can hold. One is thus able to explain the experimental fact that negarnass has never been observed by deriving the above mechanism in which the smaller amounts of negamass that may be present in the universe are strongly absorbed by the greater amounts of posimass, producing bodies composed of both posimass and negamass, but which have a net positive, variable, total mass.
Having thus explained why negamass has never been observed in the pure state, it is next desirable to derive an experimental test of the existence of negamass through considering the internal quantum mechanical problem of small amounts of negamass in larger posimass spheres. One is able to gain much physical insight into this problem by simplifying it to the qualitatively similar problem of one negamass quantum in the field of two posimass quanta that are

a fixed distance apart. Further simplification from three dimensions to one dimension and replacement of the posimass quanta potentials by square barriers, yields a solution in which the ground state energy E_0, of the negamass quantum in the field of one posimass quantum, is split into two energy levels in the field of the two posimass quanta

Jean de Rignies: This gives a solution in which the ground state of the energy E0 of the quantum m(-) in the field of m(+) quanta is split into two levels in the field of two m(+). These 2 levels correspond to the solutions of the wave equation with even and odd parity in the
E_{even}(Ep) is above E_0 and
E_{odd}(Ei) is below E_0.
The magnitude of the differences between E_pE_0 and E_iE_0 depends on the distance separating the two m(+) quanta, which is 0 at infinite distance and increases as this distance decreases.
One can work out a quantum theory of m(-) based on the proposition that the gravitational interactions obey the laws of quantum mechanics and that all other possible interactions of m(+) and m(-) with themselves and between each other are based on the well-known distance law ($1/r^2$ law).

Forrest S. Mozer: These two levels correspond to even and odd parity solutions of the wave equation, where E_{even} lies higher and E_{odd} lower than E_0. The magnitudes of the differences E_{even} - E_0 and E_0 - E_{odd} depend on the separation distance between the two posimass quanta, being zero for infinite separation and increasing as this separation distance is decreased.
Since the energy of a system involving negamass tends to a maximum in the most stable quantum mechanical configuration, the negamass quantum will normally be in state E_{even}. When the system is excited into state E_{odd} the negamass quantum will favour the situation in which the two posimass quanta are as far apart as possible, since E_{odd} increases with increasing separation distance between the two posimass quanta, and the system tends toward the highest energy state.
Thus, independent of, and in addition to the attractive posimass-posimass gravitational interaction, there is a repulsive quantum mechanical exchange interaction between pairs of posimass quanta, when the system is in state E_{odd}. The result of these two oppositely directed interactions is that the two posirnass quanta are in stable equilibrium at some separation distance.

The following paragraph cannot be found in the essay by Jean de Rignies in "Riss in der matrix".

Forrest S. Mozer: Since this equilibrium occurs between all posimass pairs in an elementary particle, a necessary consequence of the existence of negamass is that, when in the first excited state, elementary particles have a partial crystal structure.

This theoretical conclusion is capable of experimental verification by performing a Bragg analysis of the elementary particle crystal structure through shining high energy gamma rays on hydrogen. Part of the gamma ray energy will be utilized in lowering the system from energy E_{even} to E_{odd}, and if selective reflection is observed, it will constitute a striking verification of the existence of negamass. An order of magnitude calculation shows that, if the equilibrium distance between pairs of posimass quanta is one-one millionth the radius of an electron, 100 bev gamma rays will be required to perform this experiment.

Having discussed why negamass has never been observed, and having derived an experimental test of its existence, it is next desirable to develop an experimental method of utilizing negamass in the production of gravitationally neutralized bodies by further consideration of some ideas previously advanced. It has been pointed out that if a source of negamass is present, a posimass sphere continues to absorb negarnass quanta until equilibrium is reached as a result of the reduced mass becoming infinite. Because the sphere thus produced is practically rnassless, and because the gravitational interaction between two bodies is proportional to the product of their respective masses, it follows that the sphere is practically uneffected by the presence of other bodies. And thus, the problem of making gravitationally neutralized bodies is reduced to the problem of procuring a source of negamass quanta. This will be the next problem discussed.

The binding energy of a negamass quantum in a posimass sphere may be obtained as one of the eigenvalue solutions to Schroedinger's Equation. If the negamass quanta in a body are excited to energies in excess of this binding energy by shining sufficiently energetic gamma rays on the body, these negamass quanta will be emitted and a negamass source will thus be obtained.

To estimate the gamma ray energy required to free a negarnass quantum from a posimass body, certain assumptions must be made concerning the size and mass of posimass and negamass quanta. Since these quantities are extremely indefinite, and since the whole theory at best qualitative, attempting to estimate the energy would be a senseless procedure. Suffice it to say that, because of the intimate, sub-elementary particle nature of the posirnass-negarnass interaction, it seems reasonable to assume that quite energetic gamma rays will be required to break this strong bond.

Jean de Rignies: This theory explains why the mass m(-) has never been verified experimentally and provides feasible experimental methods that allow the existence of m(-) to be established with the aim of constructing gravitationally neutral bodies according to Prof. Mozer.

Forrest S. Mozer: To briefly review what has been shown, a quantum mechanical theory of negamass has been developed, based on the assumptions that gravitational interactions obey the laws of quantum mechanics and that all possible interactions of negamass and posimass with themselves and each other follow the well-known inverse square law. This theory explains the experimental fact that negamass has never been observed, and outlines plausible experimental methods of determining the existence of negamass and utilizing it in the construction of gravitationally neutralized bodies.
While these experimental methods may perhaps be out of the realm of practicality at the present, there is every reason to hope that they will be performable in the future. At that time, the plausibility of the existence of negarnass and the theory behind the construction of gravitationally neutralized bodies from It, will meet their final tests.

Result

On page 43 in "Riss in der Matrix" the work of F. Mozer is explicitly referred to by name and the text by Jean de Rignies is thematically almost identical to Mozer's essay, but there are some differences in the linguistic execution.
In addition, Jean de Rignies' text is missing a whole section, namely the one dealing with the experimental confirmation of the theory, so that one can assume that Jean de Rignies' text is not a copy or translation of the essay by F. Mozer can be.
In addition, a full elaboration (with formulas) would have been worthy of a Nobel Prize, but there is no evidence that this ever happened. One can therefore conclude that Forrest Mozer's essay was also a given text, of the Ummites, which he passed off as his own work, but was unable to provide the full mathematical solution.
This can also be seen in the fact that the references to Newton's 2nd law and the simplification of three dimensions to one dimension and replacing the posimass quantum potentials with quadratic barriers could only be made by someone who has already fully calculated and thought through the subject.

In "Riss in der Matrix" and also in the essay by Forrest Mozer, the concept of negative mass is simply thrown around and you don't really know why and how.
In the case of Mozer, this is still understandable, since J. Luttinger, in 1951, won 4th prize with the essay “About negative mass in the theory of gravitation” **[7]** and A. Stoliar, also in 1951, 5th prize with the work “The Dirac “hole” theory and negative mass” **[8]** at the Gravity Research Foundation **[9]**. However, both works deal rather critically with this hypothesis. But it was Mozer who first provided a mathematical guide to enable the creation of a theory of negative mass.
It is worth noting here that the negative ground derivation appeared about 1 year after the Ummites landed on Earth.

Only the passages from D357-2 and D731 quoted in Chapter 8 of "Neues aus UMMO" make the subject of negative mass clear, since four types of mass are spoken of here. The fact that matter occurs as normal and imaginary masses in polar terms is what makes the concept of negative mass understandable. In the previously published Ummo letters on the Internet, the subject of negative masses only appeared in D357-2 (03/12/1987) **[10]** and D731 (03/20/187) **[11]** in 1987.

Paul Dirac's theory of elementary particles already contained negative solutions in 1928. Hermann Bondi, following Luttinger's idea, suggested in an article in Reviews of Modern Physics in 1957 that mass could be both negative and positive. In 1964 William B. Bonnor and then in 1989 Robert L. Forward described some of the expected properties of negative mass.
On April 10, 2017, Engels' team created a negative effective mass by lowering the temperature of rubidium atoms to near absolute zero, creating a Bose-Einstein condensate. **[12]**

It should also be noted that the subject of negative mass now forms its own branch of science in physics

2 - Stanley Deser and Richard Lewis Arnowitt

Stanley Deser [13] was born on March 19, 1931 in Rovno, Poland. He is an American theoretical physicist, mainly concerned with gravitational physics.
Deser received his bachelor's degree from Brooklyn College in New York in 1949 and his master's degree from Harvard in 1950, where he received his doctorate in 1953 ("Relativistic Two Body Interactions"). From 1953 to 1955 he worked at the Institute for Advanced Study in Princeton and at the same time in 1954/55 at the Radiation Laboratory of the University of California, Berkeley. From 1955 to 1957 he was at the Institute for Theoretical Physics in Copenhagen (as a Fellow of the National Science Foundation) and in 1957/58 as a lecturer at Harvard University.
Deser has been a professor since 1958 (from 1980 Enid and Nate Ancell Professor of Physics) at Brandeis University in Waltham. He has been Professor Emeritus there since 2007.
Deser is known for the Arnowitt-Deser-Misner (ADM) formulation of the equations of motion of general relativity (and, related thereto, a new mass/energy definition in that theory), which he collaborated with Richard Arnowitt and Charles Misner in the late 1950s and early 1950s developed in the 1960s.

In the 1970s he was one of the pioneers of string theory. With Bruno Zumino, independently of Lars Brink, Paul Howe and Paolo Di Vecchia, he stated the action of fermionic strings and, in general, a formulation of the action of string theories in analogy to two-dimensional general relativity (with reparameterization invariance), later known as the Polyakov action.
In 1994 he received the Dannie Heineman Prize for Mathematical Physics with Arnowitt and Misner, and the Albert Einstein Medal with Misner in 2015. He was a Guggenheim Fellow, a Fulbright Fellow and a Fellow of the American Physical Society, and holds honorary doctorates from Stockholm University (1978) and Chalmers University of Technology (2001). He has been a Fellow of the American Academy of Arts and Sciences since 1979 and a Fellow of the US National Academy of Sciences since 1994. He has been an external member of the Accademia delle Scienze di Torino since 2001 and an external member of the Royal Society since 2021.

Richard Lewis Arnowitt [14] was born in New York City on May 3, 1928 and died on June 12, 2014. He was an American theoretical physicist.
Arnowitt studied at the Rensselaer Polytechnic Institute (master's degree in 1948) and received his doctorate in 1953 from Harvard University ("The hyperfine structure of hydrogen"). From 1954 to 1956 he was at the Institute for Advanced Study in Princeton. Later he was a professor at Northeastern University in Boston. He was most recently (2007) Distinguished Professor Emeritus at Texas A&M University in College Station, Texas.
Arnowitt became known through the Arnowitt-Deser-Misner (ADM) formulation of the equations of motion of the general theory of relativity (and related to it a new mass/energy definition - ADM mass - in this theory), which he developed with Stanley Deser and Charles W. Misner Developed in the late 1950s and early 1960s.
He worked extensively with his colleague at Northeastern University, Pran Nath, e.g. B. in the 1960s on current algebras (current algebras e.g. in chiral symmetric models of the interaction of pions in the 1970s on one of the first supergravity theories and the U(1) problem in quantum chromodynamics. He employed from the 1980s, in particular with experimental predictions of string theory, supergravity (minimal supergravity model of the GUT, with Pran Nath and Ali Chamseddine, mSugra for short) and with signals for the discovery of dark matter and supersymmetry at the large particle accelerator experiments (such as LHC).
Arnowitt was a Guggenheim Fellow in 1975/76. In 1994 he received the Dannie Heineman Prize in Mathematical Physics with Deser and Misner.

In 1954, Deser and Arnowitt received first prize from the Gravity Research Foundation for their essay "The New High-Energy Nuclear Particles and Gravitational Energy". [15]
In pages 43-45 and 49-51 in "Riss in der Matrix" (Neues aus UMMO: page 115-118) the text is called "Relationship between gravitation and nuclear energy" or "About Einstein's mistake" and there are also serious one's differences between the two texts.
Jean de Rignies' text is not in the same order as Deser and Arnowitt, and passages are included in the text that are not included in the American scholars. In addition, the text by Jean de Rignies is only an excerpt from the essay by Deser and Arnowitt.

Essay by Stanley Deser and Richard Lewis Arnowitt:

The New High-Energy Nuclear Particles and Gravitational Energy
Until very recently, it was thought by leading physicists, and indeed by the main body of scientists, that the building-blocks of the universe were all known, as well as the qualitative laws governing them. It was then felt that the domains governed by the Einstein General Relativity Theory was either completely separate from, or only very weakly interacting with, the more energetic electromagnetic and nuclear forces. Under those circumstances, it was felt by the experts that conventional gravitational could not profitably be employed to activate matter.
These beliefs may well have been gravely shaken by a whole flood of new evidence which has been filling the technical journals of all nations.
While it is hardly possible to enter into a detailed analysis of these results in this short essay, we should like to outline here the nature and possible implications of these new events. The original observations consisted of hitherto unknown particles seen to interact strongly with nuclear matter both in photographic emulsions and Wilson cloud-chambers. These particles {now classified as hyperons and K-particles) of which an astonishing variety is by now known to exist, have furthermore been produced in controlled experiments by the latest high-energy machines such as the Brookhaven "cosmotron". This last fact is to be especially noted, for science can best study entities which can be manipulated at the will of the experimenter. The properties which these particles exhibit are extremely strange and have not been fitted into any existing theoretical framework. This is not surprising, since conventional theories form a closed system, which is not flexible enough to allow for this rich variety of interactions. Most common among the hyperons is the so-called A particle which decays into a π-meson (boson field) and a proton (fermion field). This is the first of a family, the others having higher masses and an interlocking decay scheme, between them. Of special significance is the amazingly long lifetime of 10^{-10} sec. (compared with nuclear" times of 10^{-23} sec.). The second class of new particles, the K's, consists of lighter particles, which do not involve nucleons, but only mesons. This is exemplified by the θo and $\pi\pm$particles which decay by the scheme:

$$\theta_0 \rightarrow \pi^+ + \pi^-$$
$$r^\pm \rightarrow \pi^\pm + \pi^+ + \pi^-$$

They are also long-lived. As a final extremely recent example, we mention the very high energy photon (electromagnetic) shower reported in the August 1, 1954 Physical Review. There a burst of gamma-rays was observed to emanate from a single point, with energy much greater than ever seen before in a purely electromagnetic interaction. No known particle can explain the origin of such a phenome.

The discussion thus far has been concerned with the nuclear and sub-nuclear domain governed by the Quantum Theory of Fields. We must at this point make an excursion into what is at first sight the very opposite realm of physics, Relativistic Cosmology. This field is concerned *with the application of the General Theory of Relativity and Gravitation to the problems of the structure of the universe. The particular theory upon which we shall focus is one recently enunciated by Bondi, Hoyle, and others.
The chief experimental fact to be explained is the expansion of the universe (while still maintaining the elegant and satisfying aspects of a steady state theory). This has been a central point in several other previous attempts, notably by Einstein and others. Guided by a general Cosmological Principle which states that the universe presents the same aspect from any place at any time (aside from local irregularities) it was possible to set up a complete cosmological theory in agreernent with observation. The fundamental principle apparently implies the existence of a steady state universe. This would appear superficially to be in contradiction with the expanding universe. However, it is a consequence of the theory that solutions involving expansion are actually allowed. This would lead to an inconsistency with the fundamental principle since the density of matter would decrease in time. (the available matter distributing itself in an increasingly larger volume) unless simultaneously matter was created. This last is the most crucial aspect of the Bondi-Hoyle theory, and of the highest significance to our development.

It is a completely accepted view that the Quantum Theory is valid only for macroscopic regions (10^{-8} cm) while the General Theory of Relativity holds only at macroscopic sizes. The biggest unsolved problem of modern physics, in fact, centers about the unifications or these disciplines. It has been felt that, were this achieved, gravitation would indeed come to include domains of strong interaction and thus permit extraction of gravitational energy without outside sources. This unification is still in the distant future. However, what we wish to submit here is that at this one point, the continuous creation postulate, cosmology does overlap with the quantum domain.

The necessity for our detour into the macroscopic theory is now apparent. For this continuous creation of matter (and hence energy) is to be linked with precisely those subnuclear events that were discussed above. In fact, we should like to suggest that these new particles represent the conversion of gravitationally produced energy into the potentially useful nuclear energy. While it is not within the scope of this essay to discuss the practical use of the released energy, but only to point out its existence, it is worthy of note that nuclear energy is an optimal form of such released power, especially when the particles involved are sufficiently Long-lived to be dealt with as desired. It is now also clear why the examples of new particles given above encompassed not only electromagnetic but nuclear and subnuclear (mesonic) energy releases.

Of course, we have yet to discuss the theoretical framework within which the above facts can be described. Interesting preliminary work in this direction has been done by Prof. B. DeWitt of Berkeley. Unfortunately, as Prof. DeWitt later discovered, his suggestion did not correctly take into account Pais' original theory. In general, the conversion process mentioned above may be envisaged as follows: the expansion of the universe, viewed thermodynamically, is analogous to the adiabatic expansion of a piston. In this case the energy lost in the expansion instead of being transferred to the walls disappears. In order to preserve the basic steady state of the Bondi theory (i-e. conservation of total energy) this energy must manifest itself in the new hyperon and K-particles. Thus, there is necessarily a coupling between the large-scale equations governing the behaviour of the universe as a whole and the small-scale equations of the new particles. More quantitatively we propose the following field equations describing the above phenomena:

$$-k \cdot T_{\mu\nu} = R_{\mu\nu} + \frac{1}{2} \cdot R \cdot g_{\mu\nu} + C_{\mu\nu}(\Phi, \Psi)$$

$$\left(\frac{1}{i} \cdot \gamma^{\mu} \cdot \delta_{j\mu} + m + \lambda \cdot \sigma^{\mu\nu} \cdot K_{\mu\nu}(x) \right) \Psi = 0$$

with a similar equation for Φ. In the above Ψ represents the hyperon wave function, and Φ the K-particle quantized field operators. The first three terms of the first equation are the usual structures in the Einstein General Relativity. The last term, $C_{\mu\nu}$, is the "creation tensor“, which is to give us our conversion from gravitational to nuclear energy. It is like $T_{\mu\nu}$ in being energy-momentum term. In the second equation $\delta_{j\nu}$ represents the covariant derivative while γ^{μ} is a generalized Dirac matrix arranged so that the second equation is indeed covariant under the general group of coordinate transformations.

The $\sigma^{\mu\nu} K_{\mu\nu}$ term will automatically include the higher hyperon levels. $C_{\mu\nu}$, is a functional of the hyperon and K-field variables Ψ and Φ. As can be seen these equations are coupled in two ways: first the creation term $C_{\mu\nu}$ depends upon the field variables Ψ and Φ while the gravitational metric tensor $g_{\mu\nu}$ enters through the covariant, derivative, etc. λ is a new universal constant giving the scale of the level spacings of the hyperons. Rigorously speaking the field equations should be, of course, second quantized. For purposes of obtaining a workable first approximation it is probably adequate to take expectation values and solve the semi-classical equations. The creation tensor $C_{\mu\nu}$ must be a bilinear integral of the Φ and Ψ fields and may have cross terms as well of the form $\int \varphi \overline{\psi} \psi dx$. These equations will indeed be difficult to solve, but upon solution will give the distribution of created energy and hence lead eventually to the more practical issues desired.

We have attempted in this work to show how it may be possible to, bring, gravitation at last to bear on matter in its most useful state, i.e. the nuclear state. This, particular result is but a special application of a general attempt to describe the nature of the physical universe in the light of the latest experimental findings. Of course, both the experimental and theoretical results quoted here are preliminary and need deeper investigation. These investigations should serve as guides to the more elaborate theories which will eventually be evolved. This is consonant with the development of other physical ideas as the history of science shows. One of the most hopeful aspects of the problem is that until now gravitation could be observed but not experimented on in any controlled fashion while now with the advent in the past two years of the new high energy accelerators (the Cosmotron and the even more recent Berkeley Bevatron) the new particles which have been linked with the gravitational field can be examined and worked with at will. Furthermore, the previously insuperable stumbling block to any useful application of gravitation has been removed by the suggested transformability of gravitational energy into the strongly coupled nuclear particles.

Jean de Rignies (page 43-45):

Relationship between gravity and nuclear energy
Let's start with the following quantitative field equation:

$$-k \cdot T_{\mu\nu} = R_{\mu\nu} + \frac{1}{2} \cdot R \cdot g_{\mu\nu} + C_{\mu\nu}(\Phi, \Psi)$$

$$\left(\frac{1}{i} \cdot \gamma^{\mu} \cdot \delta_{j\mu} + m + \lambda \cdot \sigma^{\mu\nu} \cdot K_{\mu\nu}(x) \right) \Psi = 0$$

With a similar equation for Φ. In the equation above, Ψ stands for the wave function of the hyperons and Φ stands for the quantum operators of the field. The first three terms in the first equation are the visible structure of Einstein's general theory of relativity. The last term $C_{\mu\nu}$ is the tensor of "creation" which gives us our conversion of gravitational energy into nuclear energy. $C_{\mu\nu}$, like $T_{\mu\nu}$, is a kinetic energy term.
In the second equation, $\delta_{j\nu}$ represents the covariant derivative, that is, $g_{\mu\nu}$ is a generalized Dirac matrix of the form that the second equation is covariant under the group of general coordinate transformations. The term $\sigma^{\mu\nu} K_{\mu\nu}$ automatically includes the highest levels of the hyperon.
$C_{\mu\nu}$ is a function of the variables of the hyperonic field, and the fields K,Φ and Ψ. So, you can see that these two equations are related in two ways:
The generation term $C_{\mu\nu}$ depends on the variables Phi and Psi, while the metric gravitational tensor $g_{\mu\nu}$ enters via the covariant derivative. λ is a new universal constant that indicates the scale of the hyperon spacing level. The field equations must of course be quantified. For this you have to take initial values and solve the semi-classical equations. The generation tensor $C_{\mu\nu}$ must be the bilinear integral of the fields Ψ and Φ and can contain cross terms of the form

$$\int \varphi \overline{\psi} \psi dx$$

These equations are difficult for terrestrial science to solve at the moment, but when solved with computers they give the distribution of the generated energy and raise practical questions.

Jean de Rignies (page 49-51):

About Einstein's mistake
Einstein's fundamental error in the relativity of the question of light as a wave-like nature, which does not explain why and how light can propagate through apparently non-inertial space. With his friend Schrödinger he was able to correct and work out a complete theory of existence. This theory, which is called the unified field theory, has not yet been solved on this earth and at the current state of science. This theory foreshadows the relationship between gravity and the strong interaction, from which the interaction of gravity and heat can be derived.

The unified field theory relation is actually a starting point or exit tensor for relating the strong interaction fields to gravitational fields via appropriate matrices. It is:

$$R_{\mu\nu} - \frac{1}{2} \cdot R \cdot g_{\mu\nu} = 8\pi \cdot k \cdot T_{\mu\nu}$$

$R_{\mu\nu}$ = curvature tensor of space with 10 Ricci components
$g_{\mu\nu}$ = metric tensor
R = selected scalar Ricci components
$T_{\mu\nu}$ = (potential) components of the energy conservation tensor
k = universal constant proportional to the gravitational constant of neutrons
π = the usual constant (incorrect) One must take 22/7
$T_{\mu\nu}$ = the (potential) components of the energy conservation tensor

As long as the earthlings continue to work with π = 3.14159... it will be wrong. Once the earthlings have understood the unified field theory and formulated it correctly, it will explain why
the protons are exactly 1836 heavier than electrons,
why there is no neutral μ meson of mass 200
why (h) is a constant
and why hc/e^2 is always equal to 137.

But will they use this knowledge for good?

Result

The text by Jean de Rignies represents only a section from the essay by Deser and Arnowitt, and the supplementary description of Einstein's error is completely absent from the explanations of the American physicists.

In addition, a complete mathematical elaboration of the creation tensor $C_{\mu\nu}$ would have been worth a Nobel Prize, but there is no evidence that this ever happened.
The specification of the quantitative field equation for Ψ can only be done if one knows the creation tensor $C_{\mu\nu}$. Then one would also have been able to name the quantitative field equation for Φ. But that didn't happen, because in order to solve the equation of the unified field theory, we would first have to be able to understand and calculate the plane of the elementary particles (Neues aus UMMO - Chapter 6). So, we are still decades, maybe even centuries, away from it. Likewise, the mention of the bilinear integral and the cross terms in the calculation of the creation tensor is only possible for someone who has done this calculation before.
One can therefore conclude that parts of Deser's and Arnowitt's essays were also text provided by the Ummites, which they claimed to be their own work, but were unable to provide the full mathematical solution.

3 - Martin Lewis Perl

Martin Lewis Perl [16] was born on June 24, 1927 in New York City and died on September 30, 2014 in Palo Alto, California. He was an American physicist. In 1995 he shared the Nobel Prize in Physics with Frederick Reines for his discovery of the tauon.
Perl was the son of Jewish immigrants from Poland, which was then part of Russia. He graduated from high school in Brooklyn in 1942 and studied chemical engineering at Brooklyn Polytechnic Institute, where he graduated summa cum laude in 1948. During World War II he served in the merchant marine and then worked as an engineer for General Electric in Schenectady from 1948 to 1950. There he was mainly involved in the production of electron tubes and decided to study physics. In 1955 he received his doctorate at Columbia University with Isidor Isaac Rabi with an atomic physics experimental work (measurement of the quadrupole moment of the sodium nucleus). On Rabi's advice, he switched to elementary particle physics and went to the University of Michigan as an instructor in 1955, where he initially worked in Donald Glaser's bubble chamber group. He became an associate professor at the University of Michigan before becoming a professor at the Stanford Linear Accelerator Center (SLAC) in 1963, where he worked for most of his career. From 2004 he was Professor Emeritus there.
In 1981 he became a member of the National Academy of Sciences before being elected to the American Academy of Arts and Sciences in 1997. In 1982 he received the Wolf Prize in Physics.

In 1953 he received second prize from the Gravity Research Foundation for his essay "The Implications of Some Experimental Findings Concerning the Possibility of the Existence of Weight and Mass Anomalies." **[17]**
In 1952 he also received second prize from the Gravity Research Foundation for his essay "An experiment to measure the weight-to-mass ratio of elementary particles". **[18]** However, this essay is not dealt with here, since it does not appear in the texts of Jean de Rignies.

On pages 47-49 in "Riss in der Matrix" (Neues aus UMMO: page 107-108) the text is called "Anomalies of Weight and Mass" and there are also serious differences between the two texts.

Essay by Martin Lewis Perl

The implications of some experimental findings to the possibility of the existence of weight and mass anomalies

One of the major assertions of gravitational theory is that the weight to mass ratio of a material body is independent of the nature of that body. This law is assumed to hold even if the body is an atom or an elementary particle. In fact, this law, in the form of the principle of equivalence, is the cornerstone of general relativity. However, this law is of primary importance to gravitational experimentation for more direct reasons than its connection with general relativity. For if this law is completely true, the possibility of altering the gravitational behaviour of matter is small. 0f course the law of the constancy of the weight to mass ratio has been shown to hold very accurately by the experiments of Eotvos and Southerns for material bodies large enough to be weighed. These experiments will be described in more detail later. This paper discusses the evidence, from these and other experiments, which are relevant to the application of this law to individual atoms, protons, neutrons and electrons.

First it will be useful to review the definitions of mass and weight, the weight to mass ratio being the ratio of these two properties of the same body. Suppose a body has an acceleration due to the action of a force of any type upon it. Then according to Newtons second law, the ratio of force to acceleration is a constant, which is independent of the nature of the force, and depends only on the nature of the particles. This constant is called the inertial mass or more simply, the mass. Weight, on the other hand, is related only to a gravitational force. Specifically, a body in a gravitational field undergoes a gravitational force which is equal to the product of the gravitational field intensity and the weight of the body.

With no further information one might expect some bodies to have weight, and some to have no weight. In other word a gravitational field might exert a force on some bodies but none on other bodies. However, experiments have shown not only that all bodies have weight, but that the ratio of the weight to the mass of a body is a constant which is the same for all matter. The most precise of these experiments was carried out by Eotvos in the early part of the century. He compared the weight to mass ratios of platinum, copper, water, wood, copper sulphate, copper, sulphate solution, asbestos and tallow. He found that the weight to mass ratios were the same to better than one part in one hundred million. This established the law with tremendous precision for material bodies large enough to be weighed. This constant ratio shall be referred to as the large body ratio in this paper. Southerns carried out similar experiment on radioactive material showing that mass, which is later converted to energy, also has this same ratio.

For atoms or subatomic particles two types of deviations from the law of constant weight to mass ratio mi be imagined. These are:

(1) The ratio of one type of particle might differ from the ratio for another type of particle. For example, a proton might have a different ratio from an electron.

(2) The ratio for a slngle type of particle might have a spread about some average value for that ratio.

(3) For example, it is conceivable that the ratio could differ among individual electrons but that the ratio average for all electrons would equal the large body ratio.

Consider the first type of deviation, the possibility that different types of particles have different ratios. That is this part of the discussion is concerned only with the average ratio for a type of particles. The question of whether the second kind of deviation also exists will be discussed later. Since the Eotvos type experiments were performed for so many different elements and compounds, it is certain that the average ratio of any particular kind of atom is equal to the large body ratio. For too many different substances were used to allow the possibility of fortuitous cencellation of differences in the ratio among different elements. However, what the Eotvos experiment says about the weight to mass ratio of neutrons, protons and electrons is not as evident. Different substances have different relative numbers of protons, neutrons and electrons. Thus, helium has two protons, two electrons, and two neutrons. Uranium has one hundred forty-six neutrons, ninety-two protons and ninety-two electrons. Now if protons, neutrons and electrons have different weight to mass ratio then the total weight to mass ratio for the atom depends on the relative numbers of different particles making up the atom. To show this, let the weight to mass ratio for the proton, neutron and electron be written as X_p X_n and X_e, and their respective masses as M_p, Mn and Me. However, some of the mass of the particles making up a nucleus is converted into energy on formation of the nucleus. Let Mb be the mass equivalent of the released energy and let X_b be ist weight to mass ratio. Since the energy is different for each atom we denote it by the name of the atom in parenthesis. Thus, for helium, the weight to mass ratio is:

$$\frac{2X_pM_p + 2X_eM_e + 2X_nM_n - X_b\left(M_b \text{ of Helium}\right)}{2M_p + 2M_e + 2M_n - \left(M_b \text{ of Helium}\right)}$$

This expression comes about because X_pM_p is the proton weight, X_nM_n is the neutron weight and so forth. On the other hand, the ratio for the uranium 238 atom is:

$$\frac{92X_pM_p + 92X_eM_e + 146X_nM_n - X_b(M_b \ of \ Uranium238)}{92M_p + 92M_e + 146M_n - (M_b \ of \ Uranium238)}$$

We can write similar expressions for many other types of atoms.

To write the general expression for the weight to mass ratio of an atom it should be observed that the Eotvoes type experiment only applies to neutral atoms. Therefore, in all these expressions the number of protons equals the number of electrons. Hence, the general expression for an atom with Z protons and N neutrons is:

$$\frac{2(X_pM_p + X_eM_e) + N \cdot X_nM_n - X_b(M_b \ of \ Atom)}{2(M_p + M_e) + N \cdot M_n - (M_b \ of \ Atom)} = large \ body \ ratio$$

Since Z, N and Mb can have as many different sets of values as, there are atoms, these expressions can only be true if

$$X_n = X_b = \frac{X_pM_p + X_eM_e}{M_p + M_e} = large \ body \ ratio$$

Since X_b was used here only as a mathematical convenience, it will not be discussed further. The above equality holds almost to the accuracy of the Eotvos experiment itself. Now

$$\frac{X_pM_p + X_eM_e}{M_p + M_e}$$

is the weight to mass ratio for a proton plus an electron. Thus, from the Eotvos type experiment it follows that the ratio for the neutron or for a proton plus an electron is equal to the large body ratio.

To determine the ratio for protons alone or for electrons alone other data is needed. Essentially, ionized material must be weighed or the gravitational deflection of free protons or neutrons must be measured. At the end of this essay the difficulties of such an experiment are discussed. However, from general observations, it can be concluded that no very large deviations of the proton or electron ratio from the large body ratio exist. Examples of such observations are that no change of weight on charging a body have ever been noticed or that proton beams show no detectable abnormal gravitational behaviour. On the other hand, there is no experimental evidence of the possibility of small deviations. For example, the electron might have no weight and the proton have a weight equal to the product of the large body ratio and the mass of an electron plus a proton. Such a deviation, while beyond the observational limits of any experiment yet performed, still exactly satisfies the requirement that large body ratio.

The second possible type of deviation from the law of constancy of weight to mass ratio is that a single type of particle might have an entire set of different ratios. It is only required that the average of these ratios would equal the large body ratio. Such a spread could not be determined by the Eotvos type experiments because these methods give information only on the average properties of particles. To study this type of deviation, the gravitational effect on individual particles must be measured. The author proposed a method of doing this with neutral atoms in e previous assay. It has since been pointed out that an experiment of Stern, Estermann and Simpson while performed for another purpose, and differing in some respects from the experiment proposed by the author, gives the same information. This experiment of Stern et. al. was carried out to study velocity distribution in a beam. A two-meter-long beam of caesium atoms was produced in a very good vacuum. The gravitational force was balanced out by a magnetic force produced by the interaction of the atomic magnetic moment with an inhomogeneous magnetic field. From the vertical deflection, the strength of the magnetic field and the ratio of magnetic moment to mass, the weight to mass ratio can be calculated. The average vertical deflection gave a ratio equal to the large body ratio, as would be expected from the previous discussion. From the spread in the vertical deflections, differences in the weight to mass ratio of individual atoms can be determined. However, the spread in vertical deflections agreed to within a few percent with the deflections expected from the velocity distribution of the beam. A similar experiment with potassium atoms gave similar results. Thus, to within a few percent the weight to mass ratio of individual caesium or potassium atoms is the same as the large body ratio and. no appreciable deviation of the second kind exists.

There is also experimental data available on the weight to mass ratio of individual neutrons. McReynolds measured the gravitational deflection due to the Earths field of a beam of thermal neutrons. Specially, the beam was twelve

meters long, and deflection between two different velocity distributions was measured. The average weight to mass ratio is equal, within the experimental error, to the large body ratio in agreement with the conclusions drawn from the Eotvos experiment. Further, the spread in gravitational deflection is explainable by the velocity distribution. Thus, here as with the neutral atoms, there is no evidence that there is any variation in the weight to mass ratio among individual neutrons.
Little can be said on experimental grounds of the possibility of deviations of the second kind in protons, because the average weight to mass ratio of protons is known only very roughly. The absence of appreciable ratio variation in individual neutral atoms means only that no very large deviation would be expected among individual protons. Since the electron comprises less than one two-thousandth of the mass of an atom, nothing can be said about deviations of the second kind in electrons.

In summary, the experimental facts show that the large body weight to mass ratio is equal to the weight to mass ratio of all types of atoms and neutrons. Further, the large body ratio is equal to the average value of the ratio of a proton plus an electron. Also, no deviations of the second kind occur in neutrons or atoms. That is, every individual atom and individual neutron has the same ratio. Experimentally the weight to mass ratio for protons or electrons, while not showing very large anomalies cannot be proven equal to the large body ratio with any accuracy.

Thus, there is a great need for a precise experimental determination of the weight to mass ratio of protons or electrons. Since the ratio for a proton plus an electron is known already, the determination of the ratio for either particle is sufficient. The difficulty of a direct determination of the gravitational deflection of a charged particle, in an experiment similar to the neutron or neutral atom experiment, is due to electrical forces being much greater than gravitation forces. For example, one electron five meters away from a second electron exerts as much force on that second electron as the gravitational field, does. Thus, stray electrons or ions which are always present on the walls of an apparatus can exert sufficient force to completely mask the gravitational force. Even if the surface charges are neglected, image charges of the electron beam itself and self-repulsion in the beam may obscure the gravitational deflection. This last problem is avoided in a static measurement of the ratio such as a weighing of ionized matter. However, this last method has the additional difficulty or requiring a high proportion of ionized to un-ionized matter in the sample being weighed. Of course, all these problems can be resolved to some extent, but it is questionable if an experiment of either of the above types can be designed in which all the adverse effects can simultaneously be sufficiently minimized. Probably a completely new type of experiment will have to be devised to measure the weight to mass ratio of the proton or electron. Such a measurement may detect a deviation from the law of constant weight to mass ratio. If such an anomaly can be shown to exist there is the possibility of finding a material which would be acted upon in an unusual manner in a gravitational field.

Jean de Rignies (page 47-49):

Anomalies of weight and mass
Normally, in order to establish the relation of weight and mass in protons and electrons, since one already knows the relation of a proton and an electron, it should suffice to establish the relation of one particle to the other particle, or the difficulty involved in this derivation of the Gravitational deflection of a charged particle in a similar experiment to the experiment of the neutron and the neutral atom takes into account the fact that the electric forces are stronger than the gravitational forces. For example, an electron 5 meters away from the second electron exerts as much force on the electron as the gravitational field.
Likewise, interfering electrons and ions, which are always found on the side walls of an apparatus, can exert a force large enough to cancel out the gravitational force. Another problem is the Earth's magnetic field. Electrons of a few volts are subject to the Earth's field, a force billions of millions of times more important than gravitational deflection.
One can avoid this problem by static measurement of the ratio such as the measurement of ionized matter, a problem arises from the large proportion of ionized and non-ionized matter in the sample to be weighed: Laboratories must find a new means of measuring the mass ratio of measure electron and proton. Once this anomaly is confirmed, one can invent a material that is subject to unusual effects of the gravitational field.

Result

Up to the last paragraph, the Perl text corresponds to the current state of knowledge at the time. An anomaly has not been detected so far, since no one has undertaken a corresponding experiment.
The last paragraph is beyond our knowledge because it predicts that one can find material subject to unusual effects of the gravitational field.

The text by Jean de Rignies is thematically the same, but in detail it is so different from the text by Perl that it cannot be assumed that it is a pure translation.
It can therefore be assumed that both people received a text tailored to them on the same topic.

It can also be noted that a work on a similar topic was published in 1952. In 1952, G. Strasser received first prize from the Gravity Research Foundation for his essay "Gravity and the Dimensional Constant "G". **[19]** However, this essay is not dealt with here since it does not appear in the texts of Jean de Rignies.

4 - Jos. W. Wickenden

About **Jos W. Wickenden**, no information is available either about the person or about his development. Except for his essay at the Gravity Research Foundation, he has not entered the history of science

In 1953 he received the 3rd prize from the Gravity Research Foundation for his essay "Gravitation" and in 1954 the 4th prize. The 1954 paper is reproduced here since the 1953 essay has only the text without equations. **[20]**
In pages 45-47 in "Riss in der Matrix" (Neues aus UMMO: page 111-113) the text is called "Interaction, Gravitation, Heat" and there are also serious differences between the two texts.

Essay by Jos. W. Wickenden

Gravity
It would be singular if the law of gravity as given by Newton centuries ago exhausted completely the subject; yet no worthwhile advances in it have been made until of late years; these advances, although they supported the great Cambridge scholar, yet differed from him widely in ultimate results. Based on unimpeachable demonstration, Newton gave the „how“ of gravity; said nothing, however, on the “why“. Taken by and large the more statement of this law of the inverse square left us standing in our tracks, and so it continued, until Einstein flashed „Sit Lux“ across our line of vision.

In fact, so little lucid knowledge of gravity made its appearance that we began to suspicion that all was not right; that perhaps even the entire body of fundamentals were not all they should be and among these „space“ was losing all credibility in steady manner. From debates in quasi – scientific societies to learned body, it was sought to pin some identifying badge on this elusive myth or phantom reality and whatever clarity was gained in the end was usually lost in the semidarkness that surrounded the whole subject. That, however, it is a vital matter to all, is evidenced by its ever-present reflection on our sense-perceptions, it’s here, it’s everywhere.

This is perhaps a favourable point to turn our attention to Euclid, formerly reputed to be an authority in matters pertaining to space. In small scale he indeed was, but went astray in his conception regarding parallels, a vexed question not settled for centuries. But either he or some unknown predecessor was first to enunciate that unique quality of the geodesics – „the shortest distance between two given points is a straight line“. Had he also been much of a natural philosopher as well, probably he would have observed that freely falling bodies move also in geodesics; that geodesics are favoured in natural phenomena; his era, however, had no inkling of what might if plane surfaces were replaced by curved ones.

Illustrative of the advance made since Newton, we no longer see such mathematical hybrids as many of us saw in our early texts on Analytic Dynamics, such as – „If a body is situated in a homogenous sphere free to move, and is acted on by an attractive force in its line of motion which varies directly as the distance of the particle from the center of force, it will describe vibrations, whose amplitude ist he diameter of the sphere“.

This theorem was assumed to cover the performance of a body that could pass through the earths center from perimeter to perimeter and the time of a single vibration**, t**, was given as

$$\mu = \cos^{-1} \frac{x}{a}$$

The constant **μ** is the unit gravitational force, a radius of sphere, **x** the position of the particle as measured from the center. Under such conditions, <u>t= 21 minutes + 6 seconds</u>.

If we now turn to the diagram facing Sheet I (drawing is missing), we see a representation of the coordinate axis, Cartesian style, and a mass situated at P on the Z axis, vertically below is 0, its projection on the XY plane for a freely falling body of P, the line PO represents the path followed a geodesic. This is valid for an observer in the ZX plane. But to a space observer, situated say to the right of Z somewhere in the first quadrant it is not, owing to the earth’s diurnal and orbital motions the end of descent is at Q in the XY plane. Both observers are right in their conclusions, but these in turn are functions of their positions, in one case the path travelled is rectilinear, in the other curvilinear, yet both are geodesics. The physicist says the terminal momenta are the same and times of descent identical. Thus, one of the commonest of phenomena, a falling body is capable of diametrically opposite interpretations. The facts themselves, as always, are incontrovertible invariant, but factors appear in the interpretation which are in their essence transient, without fixation.

The mathematical expressions for these paths of a falling body are as diverse as the lines themselves: vis for PO: s= ½ gt^2 the simple time-distances formula; **g** - the acceleration due to gravity; PQ however is a second order differential containing fundamental tensors and a Christoffel symbol of the first kind. As the second covers all phases of the action when a body falls under the influence of gravitative action, then the first must have been incomplete in its description of the phenomenon. This was established firmly after Einstein's corps of Relativists moved in. This type of demonstration was similar to others in the classical method and, as Riemann showed in 1857, the whole structure of classic mathematics, especially geometry, shared this shortcoming.

For the reasons set out we cannot accept the idea of Euclidian space (N) as a veracious and trustworthy picture of space, generally spoken of as the cosmos. We will consider as a substitute Riemannian space, whose Metric

$$S = \sqrt{\frac{g_{2j} \cdot x \cdot dx_2 dx_j}{df \cdot df}}$$

$$S^2 = x^2 + y^2 + z^2$$

replaces the familiar. The integral are here functions of the X; all other terms have their usual meanings. In addition, we postulate a spherically symmetric field of gravitation, and static. This leads us to a metric of the form given as:

$$ds^2 = \int_1 rdt^2 - \int_2 rdr^2 - r^2(d\theta)^2 - r^2 \sin^2\theta \cdot d\Phi^2$$

where the velocity of light is taken as Integral for simplicity of the usual c; Integral 1 and Integral 2 are functions of r, radius; they will be denoted by e^μ an e^λ respectively and will so keep the signature = -2. These substitutions made, the above equation becomes:

$$ds^2 = -e^\lambda(dr)^2 - r^2(d\theta)^2 - r^2 \cdot \sin^2\theta(d\Phi)^2 + e^\mu(dt)^2$$

Taking this equation as starting point instead of the deceptively simple equation of Einstein R_{ij} = 0, Schwarzschild deduced a complete solution

$$\gamma = e^\mu = I - \frac{2m}{r}$$

where m can be intentified with the mass of the sun, r any radius of the gravitational field, sun at the origin. We see that as r→∝ both λ and μ tend to 0, hence γ=Integral. Substituting this value for γ, we will have

$$ds^2 = -(dr)^2 - r^2(d\theta)^2 - r^2 \cdot \sin^2\theta(d\Phi)^2 + (dt)^2$$

for a gravitative field in the Riemannian manifold, N_A. This is Schwarzschild's equation, representing a geodesic. It will be seen here that time holds a position practically establishing the geodesic as a part of gravity, on an equal footing with other variables, which is unquestionable as it should be and this advance we owe directly to relativity. As we are now dealing with geodesics, their defining form is called for, in generalized form it is:

Formula is missing

It is needless to solve this equation here, as it is given in appropriate texts (for instance see Barry Spain, Trinity College, Dublin, 1953). But if we choose the super script, our case, i = 4, the solution becomes easy and yields:

$$\frac{d^2 f}{ds^2} + \frac{1}{\gamma} \cdot \frac{dy}{dr}\frac{dt}{ds}\frac{dr}{ds} = 0$$

$$\frac{d^2 f}{ds^2} + \frac{1}{\gamma} \cdot \frac{dy}{ds}\frac{dt}{ds} = 0 \quad \text{or} \quad \frac{d}{ds}\left(\gamma \frac{df}{ds}\right) = 0$$

where γ has the original value = e^μ and all other symbols have their customary meanings, and the braces indicate the Christoffel symbol of the second kind.

We are now in a position to evaluate some of the questions asked as to the possibility of insulating or absorbing gravity by any means, but employing only gravity itself to accomplish such objective.

Let us suppose that we have to investigate the question whether gravitative action alone upon some given substance or alloy can produce heat. We do not specify its texture, density nor atomic structure; we assume simply the flux of gravitative action followed by an increase of heat in the alloy.

If we assume a small circular surface on the alloy, then the gravitative flux on it may be expressed by Gauss theorem and it is $4\pi M$, where M represents mass of all sub-surface particles; the question is, can this expression be transformed into heat. We will assume it can be. Now recalling the relativity law connecting mass and energy

The law of Einstein is:

$$M = m_0 + \frac{T}{c^2}$$

where:
T = kinetic energy
m_0 = initial mass
c = velocity of light
M = resultant mass

We set:

$$4\pi M = m_0 + \frac{T}{c^2} = m_0 + \frac{m_0 v^2}{2c^2}$$

But v^2/c^2 is a proper fraction, hence:

$$M = m_0 + \frac{1}{2k} m_0$$

In the boundary case where v = c:

$$M = m_0\left(1 + \frac{1}{k}\right)$$

For all other cases:

$$4\pi M = m_0\left(\frac{k+1}{k}\right) \quad if \quad k \neq 0$$

Should be preceded by a conversion factor as $1/\chi$ but if inserted, it does not alter results. Thus, if gravity could produce heat, the effect is limited to a narrow range as the result shows.

If merits stress that in a gravitational field the flow lines – lines of descent – are geodesics

Jean de Rignies (page 45-47):

Interaction, gravity, heat
We know that a gravitational impact on an object, matter or substance or alloy generates heat. If we take a small circular surface on the alloy, the gravitational flux through that area can be expressed using Gauss' theorem: $4\pi M$ or μ, which represents the mass of all particles below the surface. One can try to rephrase this expression in terms of warmth. Using Einstein's law relating mass to energy:

The law of Einstein is:

$$M = m_0 + \frac{T}{c^2}$$

Where is:
T = kinetic energy
m_0 = initial mass
c = speed of light

Then you have:

$$4\pi M = m_0 + \frac{T}{c^2} = m_0 + \frac{m_0 v^2}{2c^2}$$

Always take π = 22/7; 3.14159… is wrong

But v^2/c^2 is a fraction less than 1:

$$M = m_0 + \frac{1}{2k} m_0$$

In the boundary case when v = c:

$$M = m_0\left(1 + \frac{1}{k}\right)$$

if one has the formula in all other cases applies:

$$4\pi M = m_0\left(\frac{k+1}{k}\right) \quad if \quad k \neq 0$$

M should be preceded by the conversion factor $1/\chi$, but including it doesn't change the results. Consequently, gravity can produce heat, but this could be destroyed, but in some cases by other means that are more difficult for Earth's inhabitants.

It should be emphasized that in a gravitational field on this planet, the streamlines - lines of descent - are geodesic.

Result

Wickenden's essay mainly deals with the movement of bodies in the gravitational field, which occurs on geodesic lines. In the last paragraph, without any logical background, we switch to the subject of gravity and heat. The only component connecting the last paragraph to the rest of the text is gravity.
Jean de Rignies only has the last sentence left from the first part of Wickenden's essay.

Up to the last paragraph, Wickenden's text corresponds to the current state of knowledge at the time. The last paragraph about heat generation is beyond our knowledge. Jean de Rignies' account is identical to Wickenden's account. However, both have only provided abbreviated derivations here and not the complete calculation, as presented in Chapter 11 (Neues aus UMMO).
Also, with both calculations it is not directly recognizable why gravitation should generate heat in bodies. This happens indirectly only in the additional chapter 11.1. (Neues aus UMMO)
Jean de Rignies also contains the comment on the number π.

The differences in the texts suggest that both individuals received a text tailored to them on the same subject.

It should also be noted that on the subject of heat and gravitation, J. Beams wrote in 1951 for his essay "On the Possibilities of Discovering an Alloy Whose Atoms Can Be Moved or Rearranged by Gravitational Stress in order to Dissipate Heat" at the Gravity Research Foundation received 3rd prize. **[21]** However, this essay is not dealt with here, since it does not appear in the texts of Jean de Rignies.

5 - Conclusion

1) The order of the individual paragraphs in the essays by the US scientists and the texts by Jean de Rignies are identical. However, the texts differ in part, so that it cannot be assumed that these are translations of the American works.
Especially since with Jean de Rignies only parts of the American essays are the same. In comparison to Mozer's work, a whole section is missing, namely the one dealing with the experimental proof of the presented theory on negative mass.
In Deser's and Arnowitt's work, only a single paragraph is identical to Jean de Rignie's texts. The same with the work of Perl and Wickenden.
Jean de Rignies only has paragraphs that go beyond the state of our science. If Jean de Rignies had copied his texts from the US scientists, then the question arises: Why did he only take the paragraphs that go beyond our knowledge and ignore the rest of the texts? It is more likely that Jean de Rignies only received the parts of Lilor that are also in

"Crack in the Matrix" and that the American scientists, due to their level of knowledge and their position in science, received far more connections.

A small summary of the texts of the 5 scientists can be found on the Internet under the title "The Gravitics Situation" by Martin L. Perl **[22]** from 1956. It is noteworthy here that Appendix 2, 4, 5 and 6 contain exactly the passages from the essays by the US scientists that appear in the texts of Jean de Rignies.

The argument sometimes comes up here that Jean de Rignies merely copied the Ummo texts and the work of the US scientists. The following should be noted in this regard:

Books by e.g. Antonio Ribera about the Ummites only appeared in French in 1979, 9 years after Jean de Rignies began his notes. Books exist in Spanish before 1970, but there is no evidence that Jean de Rignies was ever interested in the Spanish language.
If 65 DinA4 pages were created in 20 years and an average of about 3 pages per year, then Jean de Rignies wrote about 27 pages by 1979, i.e. about half of his texts.

Assuming Jean de Rignies had owned the original work of the US scientists and also material on the Ummo letters. According to Udo Vits, who manages the literary estate of Jean de Rignies, nothing of the sort is included in Jean de Rignies' estate. There would be a few popular science magazines and things about astronomy (Jean was also a member of an astronomical society), but no physics textbooks or anything like that.
So what sense does it make to copy parts of it into a magazine and then destroy the original material and then simply leave the whole magazine lying around and gathering dust? One would have to assume that Jean de Rignies speculated that his notebook would be found and published after his death. That's highly unlikely.

2) There is also no evidence that Jean de Rignies had any contacts with the American scientists and had the original work at his disposal. Only one contact with NASA can be proven, which came about because Jean de Rignies borrowed a measuring device from there, with which he carried out geological investigations on his property.
The work of the American scientists was published in 1953-1954. Jean de Rignies made his notes from 1970 to 1990 and therefore a purchase of the American work via the Internet can also be ruled out.
The Internet as such was not publicly available beyond the universities until after 1990, and widespread house connections only became established much later. At the time Jean de Rignies wrote the texts, he didn't even have an internet connection in his house in the Sals Valley, quite apart from the question of whether these documents were even available on the internet at the time. So, this possibility is ruled out.

You have to remember that in 1954 he was still working as a road engineer in Morocco, later on other projects, and only came to the Sal's source in 1970, where he subsequently came into contact with the UFO commander Lilor. As is well known, he lived there very isolated, the nearest university library was far away and as Udo Vits, who manages the estate, confirmed to us again, Jean did not own any physical or mathematical specialist literature.

Due to the lack of elaboration on the connection between quantized space and the number π (Neues aus UMMO - Chapter 5.1), as well as the reduced mass (Neues aus UMMO - Chapter 8), the connection between gravitation, heat and matter (Neues aus UMMO - Chapter 11) and also the erroneous calculation about tachyons (Neues aus UMMO - Chapter 15). conclude that the mathematical and physical knowledge of Jean de Rignies can be classified as rather mediocre.
Since he probably only had a mediocre knowledge of English, it would have been a considerable difficulty or achievement for Jean de Rignies to translate the American essays into French using dictionaries and to interpret them so freely that the textual differences came about would be.

Of course, one cannot assume that the US physicists cheated on Jean de Rignies for their work, because his notes were made much later. There is little evidence for the opposite possibility, because then Jean de Rignies would have had connections of which nothing is known. However, such connections are unlikely, since Udo Vits received all the essential information about Jean de Rignies through his good contacts with his family.

3) Forrest S. Mozer was born in 1929 and was an experimental physicist, inventor and entrepreneur best known for his work in the field of measuring electric fields in space plasma and for the development of electronic speech synthesizers and speech recognition devices. In 1951, at the age of 22, he graduated from the University of Nebraska with a Bachelor of Science degree, a degree for programs typically lasting three to five years. He quickly climbed the career ladder and published more than 360 scientific publications. None of them had a topic touching on the content of his 1954 award-winning essay.

Stanley Deser was born in 1931 and was also an American physicist known for his contributions to general relativity. He received his Bachelor of Arts with honors “Summa cum laude” at the age of 18 from Brooklyn College in New York and just one year later he completed his studies at Harvard with a master's degree. Like Mozer, he received numerous awards for his scientific work.

Richard Arnowitt was born in 1928 and was able to prove his master's degree at the age of 20. From the late 1950s, together with Stanley Deser and Charles W. Misner, he formulated the equations of motion of the general theory of relativity and, related to this, a new mass-energy definition and later did research in the field of supergravity theories, string theory, as well as dark matter and supersymmetry.

Martin Lewis Perl was born in 1927 and was also an American physicist. Perl graduated from high school in Brooklyn in 1942 and studied chemical engineering at Brooklyn Polytechnic Institute, graduating summa cum laude in 1948. During World War II he served in the merchant marine and then worked as an engineer for General Electric in Schenectady from 1948 to 1950. There he was mainly involved in the production of electron tubes and decided to study physics. In 1955 he received his doctorate at Columbia University with Isidor Isaac Rabi with an atomic physics experimental work (measurement of the quadrupole moment of the sodium nucleus).
He switched to elementary particle physics and went to the University of Michigan as an instructor in 1955, where he initially worked in Donald Glaser's bubble chamber group. He became an associate professor at the University of Michigan before becoming a professor at the Stanford Linear Accelerator Center (SLAC) in 1963, where he worked for most of his career. From 2004 he was Professor Emeritus there.
In 1981 he became a member of the National Academy of Sciences before being elected to the American Academy of Arts and Sciences in 1997. In 1982 he received the Wolf Prize in Physics. In 1995 he shared the Nobel Prize in Physics with Frederick Reines for his discovery of the tauon.

In summary, one can say that all four scientists completed their degrees in a very short period of time and found their way to their special fields. Deser and Arnowitt, as well as Perl - in contrast to Mozer - concentrated on the topics of theoretical physics and were probably pioneers in the further development of so-called "modern physics" at their time.
Her work came very close to the knowledge that Lilor had conveyed to Jean. Their ideas were also ahead of their time, because they embarked on completely new paths.

This is also consistent with the information given by Elena Danaan in “A Gift from the Stars” **[23]** (see chapter 21.2.3) where she says of the Ummites:
...by contacting civilians, who are often tech-savvy professionals and able to understand the content of the message, rather than turning to official scientists. In doing so, they reveal detailed technical information about various technologies and theories in order to expand scientific know-how.

By sharing technical information, transforming scientific cultures and global education, the Ummiten assist in global solutions for new scientific paradigms and the development of green technologies.

4) American scientists have never spoken out about receiving information from extraterrestrials, which is understandable since their reputations and careers would have been instantly ruined if they had. This is still the case today. Werner Betz tried for years to get scientists to deal with the material from "Rift in the Matrix". Only the author was willing to do this.

According to the Ummites, on March 28, 1950, the first spacecraft from the planet Ummo landed in the French foothills of the Alps.
It then started in 1965 when about 20 public figures received strange letters. Others received mysterious calls at the same time, with synthetic-sounding voices explaining that they were from the planet UMMO.
In doing so, they answered scientific questions from a wide variety of areas, often lasting hours, with precision. One of the recipients of these mysterious letters, UFO researcher Prof. Fernando Sesma, collected them and wrote a book about them entitled “UMMO. Otro Planeta Habitado” – UMMO. Another inhabited planet.
From 1967, the letters came not only from Spain, but also from Paris, Buenos Aires, New York, Adelaide, East and West Berlin and London. They all appear to be from the same sender and are typewritten, often with extremely intricate, clean technical and scientific graphics.
According to the Ummites, they have sent 170,000 letters to date. In the meantime, 7,000 letters written on more than 18,000 pages have become public. Only a little over 300 letters can be viewed on the Internet.

Assuming that Jean de Rignies received his information from an Ummite named Lilor between 1970 and 1990, here is a connection between the "Riss in der Matrix", American essays and the Ummites, from which it can be concluded:

In the 1950s, the Ummites supported and promoted terrestrial research on the subjects of relativity theory - gravitation - quantum mechanics.

5) Then there are the texts on scientific topics that do not appear in the Ummo letters nor in any scientific papers, as on pages 49-51 in "Riss in der Matrix" "About Einstein's Error", page 70 das Diagram below that shows the transition from the 3rd to the 4th dimension with an equation, or on page 127 the calculation for the luminous particles (tachyons) or on page 130 the diagram and the integral for the anticosmos.
Jean de Rignies should have dreamed that up. But there is no evidence that the technical knowledge of Jean de Rignies had progressed to the point that he would have been able to do so. On the contrary, the texts and calculations show that Jean de Rignies had only mediocre physical and mathematical knowledge. So where do these passages in the book come from?

The argument that Jean de Rignies was taken in by someone who knew the Ummo material and the work of the American scientists sometimes comes up here.
Assuming that this is so, then the question arises, where did this individual get the other information that is not in the Ummo letters or other scholarly works, such as the texts just listed? Either he would have worked it out from his own deductions, which would be absolutely brilliant, or he would have gotten this information from someone else. Then the question would arise: From what source?
On the other hand, this point of discussion is completely obsolete in that Jean de Rignies' narrative suggests that Lilor and the person in the Moroccan desert are identical.
You would have to question the meeting in the desert. However, since Jean de Rignies prepared a work report for the "Sociètè Gènèrale d'Etudes de Travaux d'Irrigation au Maroc" (S.O.G.E.T.I.M.), further research would have to prove that this meeting actually took place.

In addition, there are the texts from the spiritual area in "Rift in the Matrix" such as "The Cosmic Council" on pages 101-107, "Divination and Clairvoyance" on pages 85-87, about the Master Instructors on page 93, about the Merkabah on pages 104-105, "The Purification of the Earth" on page 135 and "Chronicle of the Destructions of the Earth" on page 153, which are also not included in the officially accessible 300 Ummo letters.

As already mentioned, about 18,000 of the 170,000 letters sent have become known. That's only about 10% and the 300 letters reproduced on the Internet are just 0.2% of the total material. Therefore, it cannot be ruled out that the texts by Jean de Rignies are included in the letters that have not become public knowledge.
One must also warn against declaring this 0.2% to be the Holy Grail, on which all other texts that may appear have to be based and one must reckon with the fact that information can still appear there that conveys completely different perspectives.

It is also noteworthy here that Jean de Rignies himself did not tell his wife Renée everything that he experienced with Lilor or learned from him. It can therefore be assumed that Jean de Rignies received considerably more information than is stated in his booklet. On some subjects, Jean de Rignies left only very rudimentary information on some subjects.
It can be assumed that he received information tailored to his needs and only put down in writing the information that particularly interested him, namely gravitation, nuclear power, space and time. This is also expressed in the title of his booklet: "**NOTES** ON THE DIFFERENCES BETWEEN THE COSMIC LAWS AND THE SCIENTIFIC DISCOVERIES ON EARTH ABOUT GRAVITATION AND THE NUCLEAR FORCE AND **NOTES** ON TIME AND SPACE - up to 1990 - Earth year". Since Jean de Rignies took his knowledge with him to the grave, it will probably remain an eternal secret about the total knowledge he had.

Overall, it can be assumed that Jean de Rignies, as well as the US scientists, and probably other people, received information from the same source, but it was tailored to the individual recipients.

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