Microgravity

Fluctuations of the planetary gravitational field and nonlinear interactions with matter.

Work Status (2021-12-24) Translated from German into English by DeepL.

Foreword

The hypothesis presented here arose by chance. My experience with the creation of a mathematical model for the calculation of partially coherent light waves through optical systems, applied to the planetary system, led to an algorithm that can be interpreted as a nonlinear interaction of microgravity with matter. This does not describe causalities but only correlations with probability character.

With the found correlation function the structure formation of human intelligence, the stability of mental processes but also the triggering of earthquakes was investigated.

The results suggest that the correlation function may be suitable to describe influences on further processes of human evolution.

The book begins with a derivation of the correlation function as it can be derived from the physical conditions of the planetary system.

The aim of this book is to encourage further research. For this purpose, the research program is described in its application. For research, this program can be used free of charge.

The research has been presented at various international scientific meetings (see bibliography). A selection of them is listed in this book.

The research was done by me privately without any support than that of my wife and my son Marc, whom I thank here for that. I thank Marc especially for the professional support in the C++ programming of the complex computer program.

Michael Nitsche
1921-10

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1 The model of nonlinear interactions

1.1 Fluctuations of the planetary gravitational field

Galaxies in space, planetary systems, clouds, geological formations, plants and animals, human societies, our nervous system, quantum physical systems form simple and also complex structures on scales of different sizes. It is possible that the formation of such structures can be described from a model of more or less strongly coupled, oscillating subsystems.

One such oscillating subsystem is the planetary system. The sun and moon are weakly coupled with the system of oceans, causing them to oscillate even in the ebb and flow of the tide. Cause and effect are related in a relatively simple and proportional way. But are there also non-linear relationships in which cause and effect are not directly proportional?

The development of computer technology makes it increasingly possible to study complex systems with nonlinear dynamics in nature and society.

One hypothesis underlying such investigations is the assumption that nature, but also society, can be modeled by nonlinear coupled oscillators on many scales. Starting with quantum fluctuations and ending with the "great cosmic rhythms of our solar system" [1], the complex human organism is influenced in its evolution but also in its individual development. The mathematical model for the influence of fluctuations of the gravitational field on complex systems in nature (triggering of earthquakes) and the human organism has emerged more or less by chance from different, originally separate investigations.

The publication aims to draw attention to this oscillating subsystem (the solar system) and to stimulate further research. The computer program developed for this purpose is accessible for research projects.

There are a number of indications that the relatively weak fluctuations of the planetary gravitational field influence structure formation processes in a nonlinear way. Frequencies of the fluctuation that remain relatively stable over longer periods of time show a correlation with biological structures.

A correlation function that indicates stabilizing and destabilizing states with a certain probability is suitable for describing these processes. The underlying hypothesis is the oscillation between stable and unstable states throughout evolution. The pursuit of a stable state can only ever be a stage of evolution that maintains that state for more or less time.

Also our very stable planetary system will leave Mercury as the first planet one day in the distant future.

The gravitational forces themselves are very weak. The first experimental determination of the gravitational constant G was performed by Cavendish in 1798. Two masses m (730g) were deflected by two large masses M (158kg) by means of a rotating balance.
Now one can ask, how large the gravitational force change of the planets is, compared with terrestrial, moving masses. A clear idea of this can be obtained by converting the planetary forces to equivalent acting lead balls at a distance of 10 metres from a test body.

Force changes are illustrated by lead balls rolling on a circle at a distance of 10 m. Table 1 shows the weight and diameter of the lead balls equivalent to the planets.

"Planet"	weight [kg]	Diameter of the lead ball [m]
Sun*	8,892 10^9	114,4
Mercury	1477	0,63
Venus	21779	1,54
Moon*	50969529	20,46
Mars	1237	0,59
Jupiter	313097	3,75
Saturn	27748	1,67
Uranus	1047	0,56
Neptune	506	0,44
Pluto	0,05	0,02
* *little meaningful values*		

Table 1. conversion of the gravitational forces of the planets to equivalent acting lead spheres at a distance of 10 meters.

The structure and development of physical systems is determined by the interaction of different parts of the system with each other and between systems and the environment. Four groups of interactions are distinguished: strong, electromagnetic, weak and gravitational. These interactions are not equally effective on the different scales of nature, but they are also not completely decoupled in their effect.

The human organism, especially the nervous system with its high complexity, is certainly exposed to the influences of all interactions, including gravitational ones.
If one restricts oneself in the investigations to only one interaction, then the results will always remain incomplete and take on the character of more or less probable statements. It is then left to a future to bring together the separately investigated interactions, but without ever reaching the "power of Laplace's mind".

The aim of these investigations here is to develop a model based on gravitational interaction that is suitable for demonstrating an influence of cosmic rhythms of the planetary system on structures and processes of varying complexity in nature and society.

The planetary system of the sun is on the one hand an object of research in astronomy, but on the other hand also a factor of influence on the evolution of the earth and its inhabitants. Thus, the Earth's moon not only acts in the formation of romantic and mystical ideas in human consciousness, but also through its stabilizing effect on the Earth's axis. Thus it guarantees the relative stability of climatic conditions necessary in biological evolution.
Although Einstein's general relativistic theory of gravitation forms the basis for today's cosmology, Newton's theory of gravitation is sufficient for investigations on the scale of the solar system.

1.2 Nonlinear interactions

The fundamental Newtonian equation of motion of N mass points has the form:

$$\ddot{r}_i = G\sum_{\substack{j=1\\ j\neq i}}^{N} M_j \frac{r_j - r_i}{\left|r_j - r_i\right|^3} \qquad (1)$$

r_i, r_j = position vectors of planets i, j with masses M_i and M_j;

G = gravitational constant

This equation is the starting point for the derivation of the "Cosmic Fluctuations", but it is not yet in the form favorable for the present problem of the fluctuations. For this purpose, it becomes necessary to take into account first ordering points of view, which result from the structure and dynamics of the planetary system.

They are:

A) The stability of the solar system.

The present solar system is about 4.5 billion years old and consequently must have manifested itself as a quasi-stable structure during this time.
Although Newton's equations of motion (1) are nonlinearly coupled, the structure of the planetary system is preserved over longer periods of time.
The Lyapunov constant tL, which indicates the time at which the orbital shapes of the planets are entirely different, was determined by Laskar to be tL~ 5 million years. For the outer planets from Jupiter onwards, even larger Lyapunov periods were calculated. This gives fairly tight bounds on the orbital elements of the major planets over periods of time the size of the age of the solar system.

B) Cosmic rhythms are considered over very long periods of evolution.

Therefore, above all the cosmic rhythms (frequencies), which are stable over longer periods, will be able to exert an influence. So it is not so much the absolute forces of the major planets, but rather their periodic changes that come into consideration. A stable alternating part is filtered out.

C) The planets of the solar system all move around the sun on circular orbits that are almost in one plane.

They represent natural oscillators whose couplings produce the superposition frequencies of the cosmic fluctuations.
A cosmic cycle begins with the conjunction (seen from Earth) of two planets i, j and ends after the opposition with the next conjunction.

From the ordering points of view A, B and C a model of the cosmic fluctuation can be set up.
Heliocentrically considered, circular frequencies i,j can be given for
the cosmic cycles, which are relatively stable and change only little with time.

$$\omega_{i,j} = \frac{2\pi}{T_{i,j}} \qquad (2)$$

$T_{i,j}$ = time duration from conjunction to conjunction of planets i, j.

Without considering the direction of the resulting planetary forces (only direction-invariant processes are investigated), one can apply for the changes of the planetary forces (in a first approximation).

$$F_{i,j} \propto f_{i,j}(t) + k_{i,j}(t) \cdot \cos(\omega_{i,j} \cdot t) \qquad (3)^*$$

t = Zeit

**Relation (3) follows from the vector addition of the forces Fi and Fj.*

$$\mathbf{F}_{i,j} = \mathbf{F}_i + \mathbf{F}_j$$

$$\mathbf{F}_{i,j}^2 = \mathbf{F}_i^2 + \mathbf{F}_j^2 + 2 \cdot |\mathbf{F}_i||\mathbf{F}_j| \cos(\alpha)$$

The quantities $f_{i,j}(t)$ and $k_{i,j}(t)$ contain the slowly and not very regularly changing components resulting from distance changes of the planets.

From a geocentric point of view, cosmic cycles are not quite so stable, so instead of i,j(t) it is easier to substitute the angle i, j at which planets i, j appear from Earth into (3).

$$F_{i,j} \propto f_{i,j}(t) + k_{i,j}(t) \cdot \cos(\alpha_{i,j}) \qquad (4)$$

For the further investigations only the faster and more "regular" changing cosine part in (4) is considered for the cosmic fluctuations. For a conjunction (i,j = 0°) Fi,j is maximal and for the opposition (i,j = 180°) minimal.

The weak gravitational field changes, in particular their cosine component, can be considered as a kind of excitation field strength on matter.

$$F_{i,j} = f_{i,j}(t) + k_{i,j}(t) \cdot \cos(\alpha_{i,j}) \qquad (5)$$

The quantities $f_{i,j}(t)$ and $k_{i,j}(t)$ are set approximately constant since they change weakly and less regularly with time.

$$F_{i,j} = f_0 + k_0 \cdot \cos(\alpha_{i,j}) \qquad (6)$$

The interactions of these "waves" (6) with matter and its different structures will be non-linear. It must be noted that these are not the gravitational waves derived from a linearization of Einstein's

General Relativity. In analogy to other nonlinear interactions with matter (e.g. nonlinear optics), with

$$\gamma_1 = \frac{k_1}{k_0}; \gamma_2 = \left(\frac{k_2}{k_0}\right)^2; \ldots\ldots \qquad (7)$$

a general correlation function Hi,j for the influence of two planets i, j can be established.

$$Hi,j(\alpha) = \gamma_1 F_{i,j} + \gamma_2 F_{i,j}^2 + \gamma_3 F_{i,j}^3 + \ldots\ldots \qquad (8)$$

Better suited is the transformation of (8) into a Fourier series.

$$Hi,j(\alpha) = a_0 + a_1\cos(\alpha) + a_2\cos(2\alpha) + a_3\cos(3\alpha) + \ldots\ldots \qquad (9)$$

with $\alpha = \alpha_{i,j}$

The form (9) of the correlation function shows the emergence of "higher harmonics" in the interaction of cosmic fluctuations with matter.

1.3 The correlation function

The problem of the correlation function is the determination of the coefficients ak in (9) and the definition of the meaning of H.
It is not intended to measure a force or a "deflection" with H. This would certainly cause insurmountable difficulties experimentally.
This would certainly cause insurmountable difficulties experimentally, if one wanted to determine the influence of the fluctuations on test specimens with rotating lead balls (approximately according to Table 1). Moreover, evolution, which has extended over millions of years, is unlikely to be simulated experimentally.
Since the fluctuations of the planetary gravitational field are very weak in their effect, only the following areas come into question for correlations:

a) spatial structure-forming processes that are not or only very slightly determined by other effects.

b) Formation of not fully determined biological patterns.

c) Critical states in high-dimensional dissipative systems.

d) Highly complex systems, far from thermal equilibrium and on the edge of chaos.

The coefficients ak will thus be determined from the study of interactions with regions a) to d).
It is obvious to construct a correlation function H interacting with stable (harmonic) and unstable (disharmonic) states in regions a) to d).
Determining the coefficients a_k
from statistical studies of unstable or chaotic processes, where small perturbations can have an effect, is very costly. Therefore, it seems reasonable to first obtain an approximation for the coefficients ak from theoretical considerations, which can then be adjusted by optimization procedures if necessary.
Since we are dealing with cosmic cycles from conjunction to conjunction, one can take structural considerations about these oscillations as a starting point. If one takes the circle division as a basis (Fig 1), then the following structural points can be found:

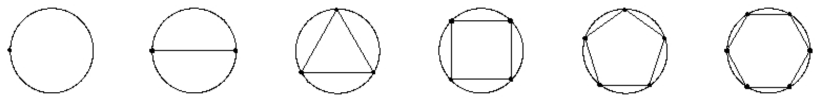

Fig 1. structures of the circle division. The starting point is the conjunction, followed by the opposition, and so on.

1 point: "starting point" (conjunction)

2 points: polar structure; opposites that need balancing. Due to their tension and, if necessary, the impossibility of balancing them, they can nevertheless form a unity over a longer period of time.
Score: strongly disharmonic

3 points: very stable structure; especially in engineering it is a prerequisite for stability in mechanical constructions.
Score: very harmonious

4 points: unstable, dynamic structure; in engineering, this structure is often the basis for lever gears.
Score: disharmonious

5 points: quasi-stable pentagram - structure; borderline between stability and instability. Complicated patterns and structures can be formed that do not repeat.
Score: indifferent

6 points: Honeycomb - structure; close to the circle, relatively stable structure in the compound with good use of space.
Rating: harmonious

The addition of further points is possible, but the changes in the qualities become smaller as the structure becomes more similar to the circle. These qualitative statements are quantified step by step and plotted in a diagram (Fig. 2).

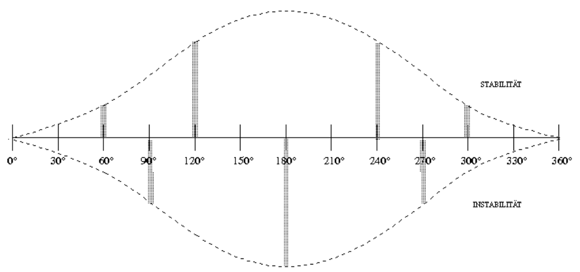

Fig. 2. quantification of the circular pitch subdivided according to structural aspects. A symmetrical oscillation and decay process is assumed. The image is the basis for a Fourier transform for the 1st approximation of the coefficients a_k.

Since this is a periodic cycle, a Fourier transform can be performed.
The coefficients obtained are the first Fibonacci numbers (alternately mirrored, see 11.). The correlation function takes the following form:

$$Hi, j = \sum_{s=1}^{N\cdot 12-1} a_k \cos(s\cdot\alpha); mit(k = s \bmod 12) \quad (10)$$

$$a_k = \{0,1,-2,3,-5,0,3,0,-5,3,-2,1\} \quad (11)$$

The first-order correlation function is shown in Fig 3, which is a first approximation for the study of the influence of cosmic fluctuations on the stable and unstable states of complex systems.

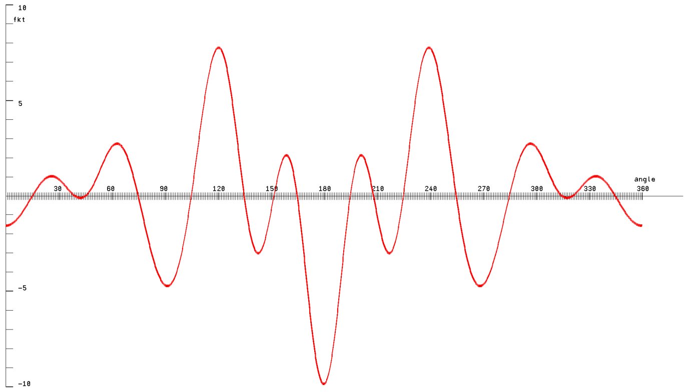

Fig 3. 1st order correlation function Hi,j according to equation (10) with N=1. It was obtained via a Fourier transform from the structural aspects of Fig 2.

Consideration of higher orders may need to be made dependent on the problem under investigation. In general, it can be said that the higher orders will be more suitable for resonance and triggering.

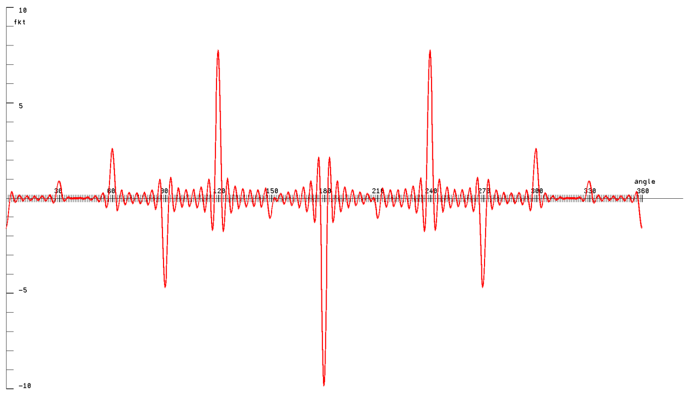

Fig 4. 7th order correlation function Hi,j according to equation (10) with N=7. The higher orders of the correlation function are suitable for resonance problems.

It must be said at this point that the hypothesis: "Stable and unstable processes of complex systems are reflected in the structures of the circle division" seems daring at first. Only practical investigations can bring confirmation that these assumptions are sufficient for a first approximation.

For this purpose, it must be ensured that the correlation function (10) is not only suitable for describing one process, but also provides useful results for different processes and states. Expected values, at least in the tendency, must occur and no negative correlations may occur, in that, for example, the correlation function (10) indicates a higher probability for stability, but in reality there is a higher probability for an unstable state.

Complex nonlinear processes are widespread in nature and society. High-dimensional complex systems are the rule. Far from thermodynamic equilibrium, these processes exhibit diverse spatiotemporal behavior.
The fluctuations of the planetary gravitational field are, in absolute terms, certainly very weak. However, they act on a very large scale and on all material structures of the Earth. Crucial for the proof of the influence of these fluctuations is the emergence of the "higher harmonics" in the complex structures of matter.

It is to be expected that the lower frequencies (1st order of correlation) will have a triggering or structuring effect on large-scale structures, the higher frequencies on small-scale areas.

In figures 5 to 7 different orders and thus different high frequencies have been calculated. They give a first impression of the different oscillations. In Fig. 5 the 1st order of the correlation function Hi,j (10) for the month July of the year 2001 is represented by curves of the row (resp. column) sums. Thus, the curve of the Sun shows the sum of all correlations of the Sun with the other objects (Moon to Pluto). The upper sum curve is the sum of all curves or the sum of all elements of the correlation matrix Hi,j (10).
The transition to a higher order (Fig 6 and Fig 7) sustainably shows the influence of the higher frequencies, which change the stability behavior in time.
To what extent planetary fluctuations of the gravitational field can affect spatial growth processes or labile equilibria of critical states, which are little or not at all otherwise determined, will be investigated with the following examples.

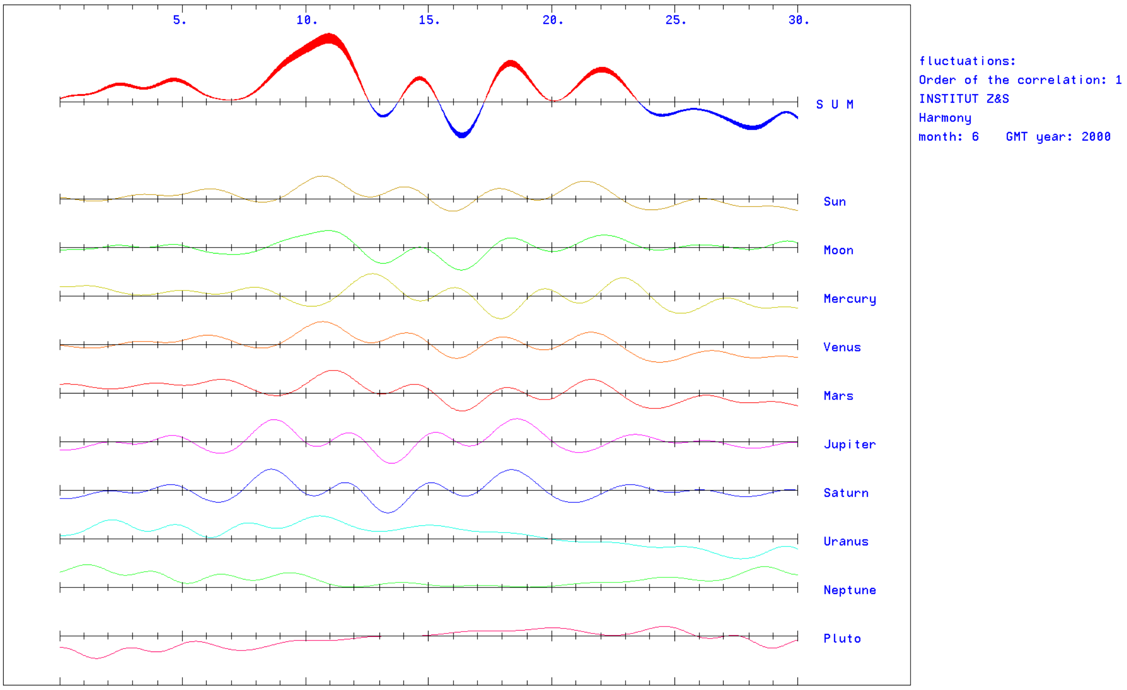

Fig 5; Planetary fluctuations of the Sun Moon and the major planets. Order of the correlation function: 1st order. The row sums and the total sum of the correlation matrix Hi,j (10) are shown for June 2000.

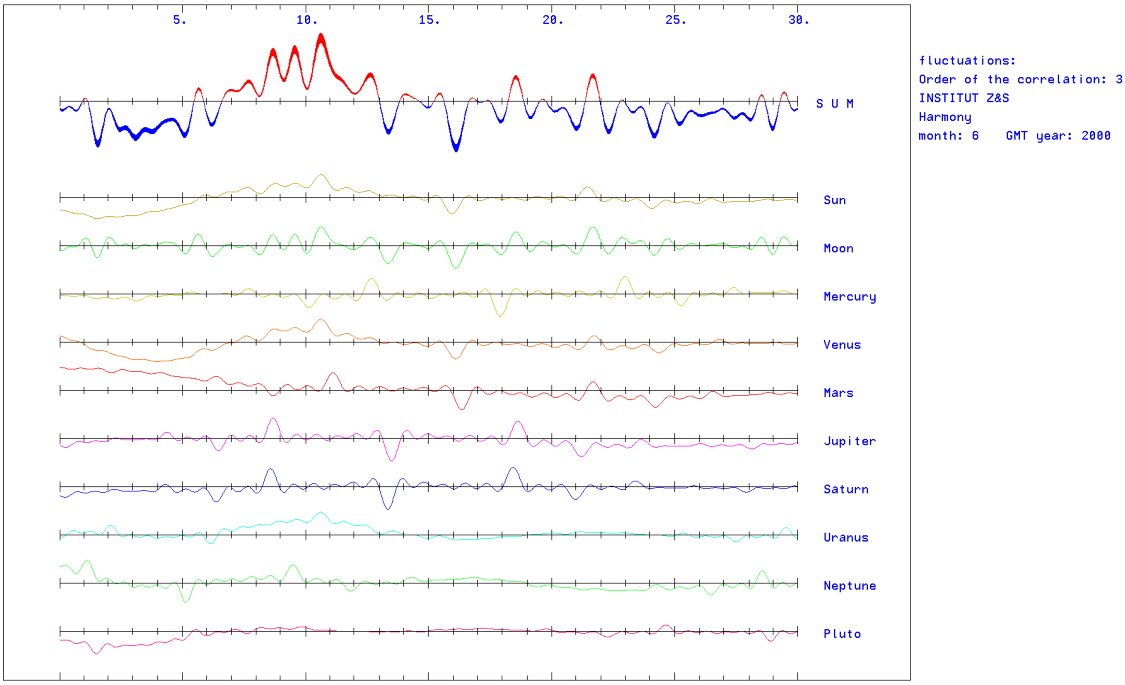

Fig 6. planetary fluctuations of the Sun Moon and the major planets. Order of the correlation function: 3. The row sums and the total sum of the correlation matrix Hi,j (10) are shown for June 2000.

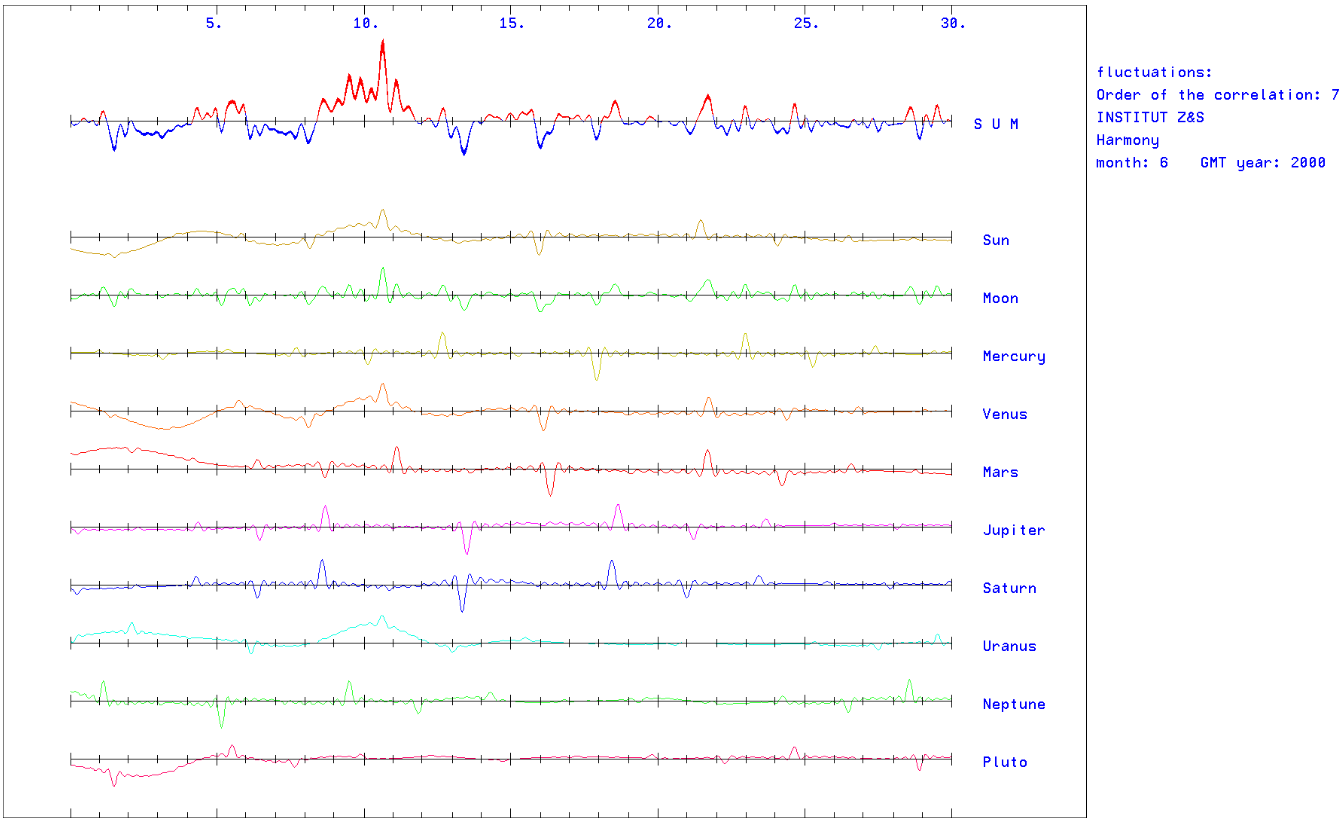

Fig 7. Planetary fluctuations of the Sun Moon and the major planets. Order of the correlation function: 7. The row sums and the total sum of the correlation matrix Hi,j (10) are shown for June 2000.

2.1 An initial study of 41 of the strongest earthquakes

Are earthquakes triggered by the planetary gravitational field?

(For data see 9.1 The 41 strongest earthquakes)

This is particularly interesting because when strong earthquakes occur in densely populated areas of the earth, there is usually a lot of damage to buildings and, above all, many lives are lost.
Prior to an earthquake, stresses build up in the earth's crust, which then reach a critical state after a certain time. Generally starting with foreshocks, these tensions discharge in an earthquake, whereby a prediction of the strength of the earthquake is not possible.

The investigations on the influence of planetary fluctuations on the triggering of earthquakes are based on the hypothesis that the reaching of a critical state of the stresses in the earth's crust happens within a certain time window. For this extremely unstable state, large-scale excitation field strengths of certain frequencies of the planetary fluctuations can then lead to the triggering of the earthquake and thus the relaxation of the earth's crust.

According to this hypothesis, the following results are expected:

Only relatively stable excitation frequencies that are decoupled from the Sun will show correlations. Mercury and Venus always appear close to the Sun from Earth, they are not decoupled and are dominated by the Sun. Similarly, Mars' correlations are decoupled from the Sun, but because of the relatively large changes in distance from Earth, its excitation frequencies cannot be said to be stable. (Mars would first have to be removed from the statistical studies and examined separately).
The correlation function (10) will take a negative value (instability) in the coherent superposition of all relevant planets, which is significantly far from the general expected value.
Taking into account the foreshocks, the mean value of the first derivative will be positive. This means that the correlation function will be even more negative on average before the actual earthquake.
Only the frequencies of the fluctuations will show a correlation, which also gravitationally develop the largest forces. Pluto (and the planetoids) will therefore hardly show any correlation (see Table 1).
Can these expectations be confirmed?

These are the "strongest earthquakes" of the last century and the quakes with the highest loss of life, a total of 41 events being studied.
To evaluate the influence of planetary fluctuations on "earthquake" events, the following calculations were performed:

1.
a) Superposition of the correlation function Hi,j (harmonic function)

b) Superposition of the absolute amounts / Hi,j /("energy" function)

c) Superposition of the 1st derivative according to the correlation function Di,j (time dynamics)

d) Superposition of the absolute values of the 1st derivative according to the correlation function / Di,j /(time dynamics absolute)

a) to d) Superposition of all 41 earthquake events related to sun, moon and selected planets.

2.
100 000 events were correlated over the period from 1900 to the end of 2000. The events are equally distributed over the period. The superposition, normalized to a group strength (here the 41 earthquakes), gives the statistically expected mean values.

3.
Monte Carlo simulation was used to calculate the density function, since an exact calculation for 41 events leads to unacceptable computing times. As a control, the exact density function was calculated numerically for up to 6 events.
10 000 groups of 41 events each were randomly selected in the period from 1900 to the end of 2000.

4.
To test the hypothesis: "The correlation function of the 41 earthquakes is significantly discordant", a one-sided significance test is performed. The percentage of randomly selected event groups that have equal or smaller values for the superimposed correlation function Hi,j is calculated. This percentage value represents the probability of error of the hypothesis.

If one first looks at the density distribution of Hi,j (Fig 8) for the Sun, Moon and all planets and compares both with the mean value (expected values), the sum of all 41 earthquakes Hi,j is definitely still within the range of the expected values.
The correlations of sun, moon and all planets are below the expected value and also the "energy" is below the expected value but all in all there is no significant influence of the planetary fluctuations.

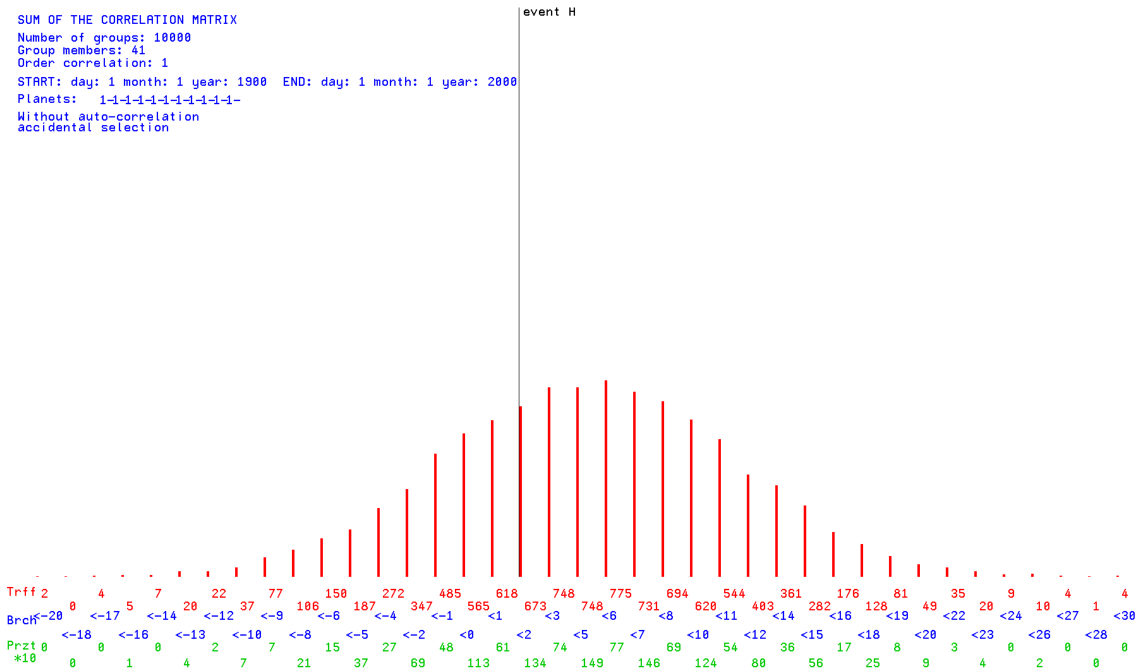

Fig 8. 1st order density function Hi,j according to equation (10) with N=1. All planets were correlated. The blue numbers indicate the range, the red numbers show the hits in this range and the green numbers indicate the relative hits in per mil.

This changes immediately when the influences of the Sun, Moon, Jupiter, Uranus and Neptune, which are to be expected according to the hypothesis, are considered separately (Fig 9.). The harmonic function Hi,j is now highly significant far below the expected value (0.03% probability of error for the hypothesis). If Saturn, whose frequencies do not play a major role here, is added, the result is still highly significant 0.85% (99.15% of the 10 000 control groups are more harmonic)

Here is the computer printout for all major planets (red and blue indicate significance):

```
tatistics 4: Probability of events: correlation matrix H

 Order of the correlation: 1 ; time shift d: 0 h: 0;
 GROUP-MEMBERS: 41 ; NUMBER OF THE GROUPS: 100000
 Julian-date-start: 2415019.458333 Julian-date-end: 2451544.458345
 Accidental selection;  TEST: Number of accidental selection >= correlation

  CORRELATION-MATRIX H AS INPUT
           1        2        3        4        5        6        7        8        9       10

  1        *     -1.07       *        *        *     -0.72     0.56    -0.52    -0.56      *
  2     -1.07      *         *        *        *      0.09     0.60    -0.73    -0.72      *
  3        *       *         *        *        *        *        *        *        *        *
  4        *       *         *        *        *        *        *        *        *        *
  5        *       *         *        *        *        *        *        *        *        *
  6     -0.72     0.09       *        *        *        *     -0.75    -0.50    -0.96      *
  7      0.56     0.60       *        *        *     -0.75       *     -0.27     1.08      *
  8     -0.52    -0.73       *        *        *     -0.50    -0.27      *      -1.05      *
  9     -0.56    -0.72       *        *        *     -0.96     1.08    -1.05      *        *
 10        *       *         *        *        *        *        *        *        *        *

  Matrix H of the probability of error:
            1         2         3         4       5           6          7          8          9       10

  1        *      97.47      *        *        *      93.26    15.43    84.00    85.56      *    PR  97.71
  2     97.47      *         *        *        *      43.76    13.44    90.97    90.57      *    PR  93.14
  3        *       *         *        *        *        *        *        *        *        *    PR   0.00
  4        *       *         *        *        *        *        *        *        *        *    PR   0.00
  5        *       *         *        *        *        *        *        *        *        *    PR   0.00
  6     93.26    43.76       *        *        *        *      91.65    82.20    96.36      *    PR  99.00
  7     15.43    13.44       *        *        *      91.65      *      72.51     1.79      *     PR  15.19
  8     84.00    90.97       *        *        *      82.20    72.51      *      81.46      *     PR  98.49
  9     85.56    90.57       *        *        *      96.36     1.79    81.46      *        *     PR  91.59
 10        *       *         *        *        *        *        *        *        *        *     PR   0.00
  bigger are:   99.15 %

 1=SUN;  2=MOON;  3=MERKUR;  4=VENUS;  5=MARS;  6=JUPITER;  7=SATURN;  8=URANUS;  9=NEPTUN; 10=PLUTO; 11=IC;
 BEGIN: year: 1900 month: 1 day: 1 hour: 0  END: year: 2000 month: 1 day: 1 hour: 0
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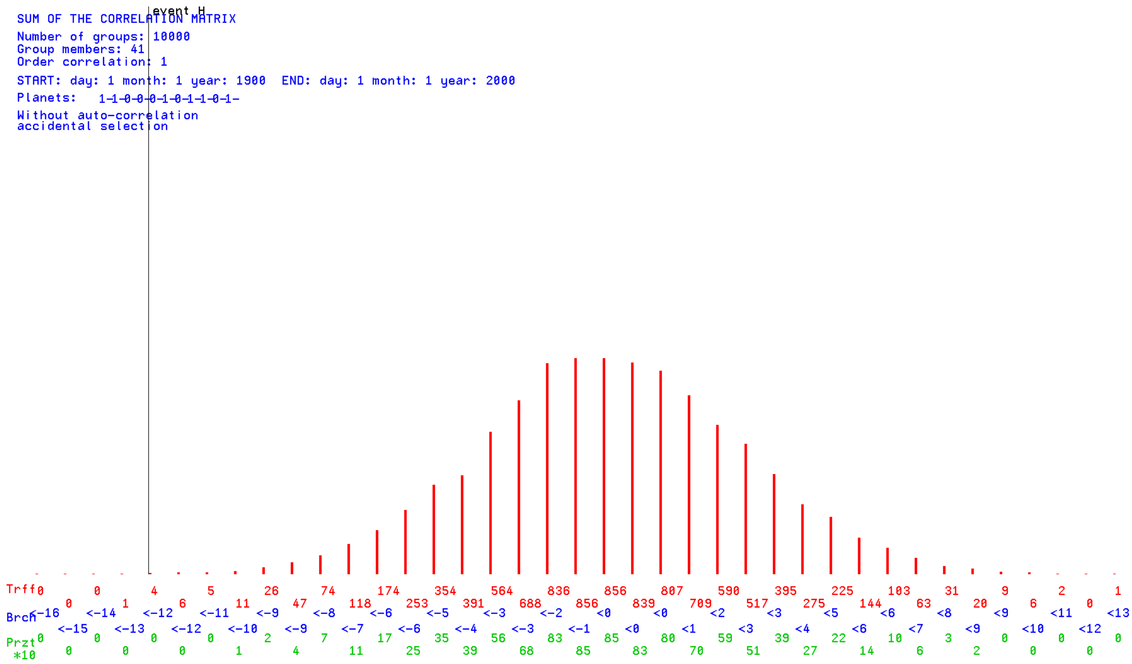


Fig 9. 1st order density function Hi,j according to equation (10) with N=1. Sun, Moon, Jupiter, Uranus and Neptune were correlated. The significance is very high 0.03% (99.97 % of the 10 000 control groups are more harmonic).

The expected values of the correlation Uranus - Neptune are caused by the large oscillation period (approx. T1 = 172 years in the fundamental frequency) of this correlation. According to equation (10), the following shorter periods still occur for this correlation : T2 = 86 years, T3 = 57 years, T4

= 43 years, T6 = 29 years, T8 = 22 years, T9 = 19 years, T10 = 17 years and T11 = 16 years (all values rounded). The two planets had an opposition in the last century in 1906/1908, a trine in 1935/1937, a square in 1949/1951, a sextile in 1963/1965 and a conjunction in 1992/1994. In the last century the negative parts of the function H8,9 predominate.

It was not the aim of this first investigation to derive concrete probabilities for the triggering of earthquakes. First of all, it is important to prove the effectiveness of planetary fluctuations of the gravitational field on highly complex processes on Earth, as represented by earthquake dynamics. This has been confirmed with the above investigations with an error probability of less than 1%. On the other hand, the correlation function derived from structural considerations of stability and instability is to be tested for its ability to describe the probability of stability and instability of complex processes and structure formation processes. It was therefore logical to apply this function also and perhaps primarily to a process which makes an influence of gravitational fluctuations on complex physical systems seem plausible from the outset.

Two investigations are still connected here.

1. Are the higher orders (harmonics) better at indicating triggering of earthquakes?

2. s the period before and after the earthquake more meaningful?

3. Which frequencies could be relevant for triggering?

The following table shows the probabilities for orders 1 to 12 of the correlation function for Sun, Moon, Jupiter, Saturn, Uranus, Neptune.

Order/Probability	1	2	3	4	5	6	7	9	12
Correlation	99.15	77.29	85.26	95.82	94.59	87.11	45.78	34.87	36.59
Energy	45.32	98.06	85.80	98.40	95.03	98.84	96.99	96.99	98.14
Dynamic	90.49	23.32	64.51	43.03	51.67	62.31	88.69	53.53	32.19
Dynamic absolut	44.68	43.78	36.78	83.49	52.92	95.56	81.71	82.81	80.01

Table 2. probabilities in % for the correlation function and its 1st derivative. The significant values are drawn in blue. The correlation function shows relatively high values up to the 6th order. From the 2nd order on, the energy becomes significant (with the exception of the 3rd order).

Order 1 time-shift/ Probability	-5d	-3d	-2d	-1d	-6h	**0**	+6h	+1d	+2d	+3d	+5d
Correlation	74.90	96.95	87.26	97.84	99.18	**99.15**	99.32	93.35	91.22	95.66	63.02
Energy	67.46	87.18	86.37	56.45	46.27	**45.32**	50.21	59.80	64.61	30.93	23.89
Dynamic	30.35	73.59	31.18	76.54	90.42	**90.49**	93.60	65.70	49.11	94.54	64.58
Dynamic absolut	78.70	66.45	80.57	57.62	53.92	**44.68**	36.46	55.88	64.52	71.83	88.74

Table 3. time shift to 5 days before and after the event for the 1st order.

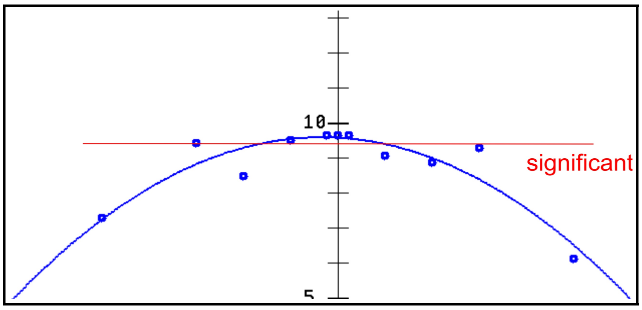


Fig 10. graphical representation to table 3 for the correlation. The compensation curve indicates the maximum significance for 8 hours before the event. However, this is not certain and would need further verification.

Order 7 time-shift/ Probability	-5d	-3d	-2d	-1d	-6h	**0**	+6h	+1d	+2d	+3d	+5d
Correlation	66.42	77.35	52.19	26.07	67.48	**45.78**	50.14	33.28	25.50	79.75	17.83
Energy	97.87	94.69	72.97	95.27	88.58	**96.99**	97.97	96.46	98.30	63.50	69.23
Dynamic	44.61	45.91	33.62	46.74	10.58	**88.69**	64.40	17.84	42.15	40.13	98.96
Dynamic absolut	90.39	87.67	74.76	54.04	81.56	**81.71**	78.54	92.18	62.45	45.11	21.25

Table 4. time shift to 5 days before and after the event for the 7th order. The energy is relatively low for the entire period. A trend cannot be identified with certainty. While the 1st order correlates more strongly with the quality of time (stability-instability), the triggering effect of the higher frequencies (see Fig. 4) of the 7th order is remarkable for the energy.

Generally, it is expected that the energy for triggering could be high. Moreover, the high frequencies of the Sun and Moon should be particularly suitable. The correlation function for the 12th order does not indicate this:

```
Statistics 4: Probability of events: correlation matrix H
Order of the correlation: 12 ; time shift d: 0 h: 0;
GROUP-MEMBERS: 41 ; NUMBER OF THE GROUPS: 10000
Julian-date-start: 2415019.458333 Julian-date-end: 2451544.458345
Accidental selection;  TEST: Number of accidental selection >= correlation
 CORRELATION-MATRIX H AS INPUT
          1        2        3        4        5        6        7        8        9       10

 1        *     -0.19       *        *        *     -0.02    -0.12    -0.02     0.06      *
 2     -0.19       *        *        *        *      0.33     0.19    -0.04    -0.03      *
 3        *        *        *        *        *        *        *        *        *        *
 4        *        *        *        *        *        *        *        *        *        *
 5        *        *        *        *        *        *        *        *        *        *
 6     -0.02     0.33       *        *        *        *      0.03    -0.08    -0.11      *
 7     -0.12     0.19       *        *        *      0.03       *      0.06     0.04      *
 8     -0.02    -0.04       *        *        *     -0.08     0.06       *      0.03      *
 9      0.06    -0.03       *        *        *     -0.11     0.04     0.03       *        *
10        *        *        *        *        *        *        *        *        *        *

 Matrix H of the probability of error:
          1        2        3        4        5        6        7        8        9       10

 1        *     89.47       *        *        *     57.89    80.66    57.86    31.86      *    PR  80.92
 2     89.47       *        *        *        *      2.02    10.35    63.91    59.03      *    PR  22.38
 3        *        *        *        *        *        *        *        *        *        *    PR   0.00
 4        *        *        *        *        *        *        *        *        *        *    PR   0.00
 5        *        *        *        *        *        *        *        *        *        *    PR   0.00
 6     57.89     2.02       *        *        *        *      41.61    68.11    78.90      *    PR  30.23
 7     80.66    10.35       *        *        *      41.61       *     27.41    41.16      *    PR  26.67
 8     57.86    63.91       *        *        *      68.11    27.41       *     34.58      *    PR  47.75
 9     31.86    59.03       *        *        *      78.90    41.16    34.58       *        *    PR  47.10
10        *        *        *        *        *        *        *        *        *        *    PR   0.00
 bigger are:   36.59 %
1=SUN;  2=MOON;  3=MERKUR;  4=VENUS;  5=MARS;  6=JUPITER;  7=SATURN;  8=URANUS;  9=NEPTUN; 10=PLUTO; 11=IC;
BEGIN: year: 1900 month: 1 day: 1 hour: 0  END: year: 2000 month: 1 day: 1 hour: 0
```

Statistics 4: Probability of events: energy I
Order of the correlation: 12 ; GROUP-MEMBERS: 41 ; NUMBER OF THE GROUPS: 10000
Accidental selection; TEST: Number of accidental selection >= correlation
MATRIX I energy AS INPUT (absolut)

	1	2	3	4	5	6	7	8	9	10
1	*	0.31	*	*	*	0.21	0.33	0.24	0.29	*
2	0.31	*	*	*	*	0.65	0.32	0.16	0.34	*
3	*	*	*	*	*	*	*	*	*	*
4	*	*	*	*	*	*	*	*	*	*
5	*	*	*	*	*	*	*	*	*	*
6	0.21	0.65	*	*	*	*	0.20	0.37	0.27	*
7	0.33	0.32	*	*	*	0.20	*	0.20	0.22	*
8	0.24	0.16	*	*	*	0.37	0.20	*	0.30	*
9	0.29	0.34	*	*	*	0.27	0.22	0.30	*	*
10	*	*	*	*	*	*	*	*	*	*

Matrix I of the probability of error:

	1	2	3	4	5	6	7	8	9	10		
1	*	61.11	*	*	*	84.07	50.05	79.44	64.15	*	PR	91.69
2	61.11	*	*	*	*	5.29	55.89	98.61	50.47	*	PR	56.65
3	*	*	*	*	*	*	*	*	*	*	PR	0.00
4	*	*	*	*	*	*	*	*	*	*	PR	0.00
5	*	*	*	*	*	*	*	*	*	*	PR	0.00
6	84.07	5.29	*	*	*	*	90.71	40.01	67.73	*	PR	59.01
7	50.05	55.89	*	*	*	90.71	*	91.09	86.20	*	PR	97.17
8	79.44	98.61	*	*	*	40.01	91.09	*	66.55	*	PR	98.00
9	64.15	50.47	*	*	*	67.73	86.20	66.55	*	*	PR	91.07
10	*	*	*	*	*	*	*	*	*	*	PR	0.00

bigger are: **98.14 %**
1=SUN; 2=MOON; 3=MERKUR; 4=VENUS; 5=MARS; 6=JUPITER; 7=SATURN; 8=URANUS; 9=NEPTUN; 10=PLUTO; 11=IC;
BEGIN: year: 1900 month: 1 day: 1 hour: 0 END: year: 2000 month: 1 day: 1 hour: 0

Statistics 4: Probability of events: dynamics
Order of the correlation: 12 ; GROUP-MEMBERS: 41 ; NUMBER OF THE GROUPS: 10000
Accidental selection; TEST: Number of accidental selection >= correlation
MATRIX D dynamics AS INPUT (absolut)

	1	2	3	4	5	6	7	8	9	10
1	*	-14.64	*	*	*	-8.19	-3.41	7.55	25.65	*
2	-14.64	*	*	*	*	-39.52	13.05	7.42	6.41	*
3	*	*	*	*	*	*	*	*	*	*
4	*	*	*	*	*	*	*	*	*	*
5	*	*	*	*	*	*	*	*	*	*
6	-8.19	-39.52	*	*	*	*	6.63	10.75	-5.18	*
7	-3.41	13.05	*	*	*	6.63	*	14.83	5.91	*
8	7.55	7.42	*	*	*	10.75	14.83	*	0.32	*
9	25.65	6.41	*	*	*	-5.18	5.91	0.32	*	*
10	*	*	*	*	*	*	*	*	*	*

Matrix D of the probability of error:

	1	2	3	4	5	6	7	8	9	10		
1	*	87.19	*	*	*	75.85	61.24	26.72	2.66	*	PR	39.52
2	87.19	*	*	*	*	99.73	15.21	28.17	29.26	*	PR	82.33
3	*	*	*	*	*	*	*	*	*	*	PR	0.00
4	*	*	*	*	*	*	*	*	*	*	PR	0.00
5	*	*	*	*	*	*	*	*	*	*	PR	0.00
6	75.85	99.73	*	*	*	*	30.92	19.13	65.70	*	PR	89.97
7	61.24	15.21	*	*	*	30.92	*	15.66	35.15	*	PR	12.77
8	26.72	28.17	*	*	*	19.13	15.66	*	50.43	*	PR	9.78
9	2.66	29.26	*	*	*	65.70	35.15	50.43	*	*	PR	13.05
10	*	*	*	*	*	*	*	*	*	*	PR	0.00

bigger are: 32.19 %
1=SUN; 2=MOON; 3=MERKUR; 4=VENUS; 5=MARS; 6=JUPITER; 7=SATURN; 8=URANUS; 9=NEPTUN; 10=PLUTO; 11=IC;
BEGIN: year: 1900 month: 1 day: 1 hour: 0 END: year: 2000 month: 1 day: 1 hour: 0

```
Statistics 4: Probability of events: dynamics abs
 Order of the correlation: 12 ; GROUP-MEMBERS: 41 ; NUMBER OF THE GROUPS: 10000
 Accidental selection TEST: Number of accidental selection >= correlation

  MATRIX DA dynamics abs AS INPUT (absolut)
           1        2        3        4        5        6        7        8        9       10

  1        *      38.47      *        *        *      31.56    34.31    31.65    40.00     *
  2      38.47      *        *        *        *      79.24    31.09    30.59    39.88     *
  3        *        *        *        *        *        *        *        *        *       *
  4        *        *        *        *        *        *        *        *        *       *
  5        *        *        *        *        *        *        *        *        *       *
  6      31.56    79.24      *        *        *        *      28.32    36.75    40.13     *
  7      34.31    31.09      *        *        *      28.32      *      35.29    36.19     *
  8      31.65    30.59      *        *        *      36.75    35.29      *      34.80     *
  9      40.00    39.88      *        *        *      40.13    36.19    34.80      *       *
 10        *        *        *        *        *        *        *        *        *       *
  Matrix DA of the probability of error:
           1        2        3        4        5        6        7        8        9       10

  1        *      54.98      *        *        *      71.64    64.87    77.70    47.62     *    PR  84.09
  2      54.98      *        *        *        *       0.36    79.72    82.15    48.87     *    PR  27.81
  3        *        *        *        *        *        *        *        *        *       *    PR   0.00
  4        *        *        *        *        *        *        *        *        *       *    PR   0.00
 5       *        *        *        *        *        *        *        *        *       *    PR   0.00
  6      71.64     0.36      *        *        *        *      86.24    54.86    43.01     *    PR  23.89
  7      64.87    79.72      *        *        *      86.24      *      60.59    54.95     *    PR  91.90
  8      77.70    82.15      *        *        *      54.86    60.59      *      76.56     *    PR  93.07
  9      47.62    48.87      *        *        *      43.01    54.95    76.56      *       *    PR  67.58
 10        *        *        *        *        *        *        *        *        *       *    PR   0.00
  bigger are:   80.01 %
 1=SUN;  2=MOON;  3=MERKUR;  4=VENUS;  5=MARS;  6=JUPITER;  7=SATURN;  8=URANUS;  9=NEPTUN; 10=PLUTO; 11=IC;
 BEGIN: year: 1900 month: 1 day: 1 hour: 0  END: year: 2000 month: 1 day: 1 hour: 0
```

The low energy (***98.14%*** *of the 10 000 control groups have a higher energy*) at the time of the earthquake seems strange. It is reasonable to assume that before the time of the event the energy is higher.

An investigation can confirm this assumption for the sun and moon:

Order 12 time-shift/ Probability So-Mo	-24h	-11h	-10h	-9h	-8h	-7h	-6h	-5h	-3h	**0**	+3h	+6h	+9h	+12h	+18h	+24h
Correlation	17.18	95.33	97.84	95.08	81.22	61.59	63.91	70.05	27.52	**89.45**	66.08	59.67	69.49	**99.09**	35.91	83.90
Energy	57.78	15.71	13.17	18.17	4.51	**0.95**	3.10	30.73	73.21	**60.87**	67.15	96.44	36.68	11.08	68.76	66.61
Dynamic	85.55	85.62	44.46	11.44	11.90	37.09	62.17	45.59	23.15	**86.90**	25.11	17.90	98.92	8.47	41.71	88.09
Dynamic absolute	69.35	43.28	21.45	1.80	2.80	53.10	19.60	5.58	78.23	**54.10**	44.15	61.82	29.24	60.94	73.11	74.05

Table 5. time shift for correlation of sun and moon.

Accordingly, 10 hours before an earthquake, the correlation is very discordant, with simultaneous increases in energy first in the dynamics and then in the correlation function.

Are these random oscillations? Can this be generalized? Does this only apply to these very large earthquakes?

2.2 A study of 588 earthquakes

The study of the strongest earthquakes of a century has shown that a correlation with the harmonics of the planetary gravitational field can be demonstrated. This could be proven with an error probability of less than one percent.

Nevertheless, it cannot be ruled out that it is an artifact. Therefore, further groups of earthquakes in smaller time periods were examined. The addition in magnitude of smaller earthquakes could cause a stronger noise, so that no significant correlations are detectable.

The following investigations refer to earthquakes in the years 1996 to 2002, in total earthquakes with a magnitude of m = 6.5 and greater or which caused severe damage [6].

The following questions were examined:

Which order of correlation best describes a possible triggering of the earthquakes.

Are there special frequencies that are suitable for triggering?

The results are shown in the following table:

Order /Probability 1996-2003 Periode	1	3	4	5	7	9	12	12 1900-2100 Periode
Correlation Harmonie; all planets just sun and moon all planets with gravity*	31.47 78.63 73.47	79.43 27.33 30.53	85.8 28.87 12.77	65.1 35.33 15.03	62.13 74.90 34.10	58.87 61.33 44.97	60.40 63.80 41.23	62.37
Energy; all planets just sun and moon all planets with gravity*	19.10 4.73 21.83	55.93 3.07 18.57	41.9 1.23 12.67	39.43 1.03 11.27	35.90 0.97 8.07	19.50 0.33 2.97	27.41 0.17 1.47	0.20
Dynamic; all planets just sun and moon all planets with gravity*	93.27 99.27 92.07	38.7 79.67 40.27	34.23 69.73 24.57	46.37 77.73 83.30	16.6 23.13 75.37	37.0 53.13 57.37	12.52 62.53 97.80	61.99
Dynamic absolut; all planets just sun and moon all planets with gravity*	30.7 72.10 59.47	21.13 27.47 63.33	56.7 27.53 64.07	51.0 24.03 61.90	54.97 15.60 62.17	82.47 21.73 69.27	31.40 2.00 38.69	1.97

Table 6. 588 Earthquakes unsorted; *(Earthquakes of magnitude 6.5 or greater or ones that caused fatalities, injuries or substantial damage. BRK--Berkeley. PAS--Pasadena.) ;* Time period 1996 to 2003. Significance is marked in red and blue.

* Weighting of the planets, oriented to the effect of gravity	sun weight: 57.20 moon weight: 10.24 mercury weight: 0.31 venus weight: 0.77 mars weight: 0.30 jupiter weight: 1.87 saturn weight: 0.84 uranus weight: 0.28 neptun weight: 0.22 pluto weight: 0.01 IC weight: 57.20

For this list of earthquakes only the energy of sun and moon is significant and highly significant. This is also true for a larger time period (1900 to 2100) of the comparative calculations according to the Monte Carlo simulation.

The 4th order shows for the matrix of correlation (harmony and dysharmony) the largest values for disharmony. With 85% the control groups are more harmonious than the earthquake group. A look at the matrix shows that strongly differentiated behavior of the individual correlations: strongly disharmonious are Sun-Venus, Moon-Mars, Venus-Saturn, Saturn-Uranus, Moon-Neptune, Venus-Pluto, Mars-Pluto, Venus-IC (Imum Coeli, represents the center of the Earth), Saturn-IC.

Looking at the row sums of the correlation matrix, Venus and the IC are significantly disharmonic. There does not seem to be an explanation for this based on the effect of gravity.

Statistics 4: Probability of events: correlation matrix H

Order of the correlation: 4 ; time shift d: 0 h: 0;
GROUP-MEMBERS: 588 ; NUMBER OF THE GROUPS: 3000
Julian-date-start: 2450083.458333 Julian-date-end: 2452640.458345
Accidental selection; TEST: Number of accidental selection >= correlation

CORRELATION-MATRIX H AS INPUT

	1	2	3	4	5	6	7	8	9	10	11
1	*	0.04	-0.10	-0.06	0.06	-0.08	0.01	0.07	-0.00	0.00	0.09
2	0.04	*	0.04	0.02	-0.13	-0.02	-0.04	0.02	-0.12	0.08	-0.02
3	-0.10	0.04	*	0.11	-0.05	-0.06	-0.05	0.05	0.10	0.15	-0.08
4	-0.06	0.02	0.11	*	0.06	-0.04	-0.09	0.02	-0.06	-0.08	-0.15
5	0.06	-0.13	-0.05	0.06	*	-0.09	-0.17	0.21	0.12	-0.05	-0.08
6	-0.08	-0.02	-0.06	-0.04	-0.09	*	0.03	0.05	-0.02	0.09	0.04
7	0.01	-0.04	-0.05	-0.09	-0.17	0.03	*	0.10	0.32	-0.15	-0.14
8	0.07	0.02	0.05	0.02	0.21	0.05	0.10	*	-0.00	0.56	0.02
9	-0.00	-0.12	0.10	-0.06	0.12	-0.02	0.32	-0.00	*	-0.18	-0.04
10	0.00	0.08	0.15	-0.08	-0.05	0.09	-0.15	0.56	-0.18	*	-0.08
11	0.09	-0.02	-0.08	-0.15	-0.08	0.04	-0.14	0.02	-0.04	-0.08	*

Matrix H of the probability of error:

	1	2	3	4	5	6	7	8	9	10	11	PR	
1	*	29.47	67.13	100.00	25.33	93.60	48.90	17.10	50.40	50.23	10.10	PR	39.53
2	29.47	*	32.37	41.20	96.83	57.60	68.43	36.63	95.10	13.40	61.10	PR	70.90
3	67.13	32.37	*	46.40	82.60	62.93	75.17	61.37	33.97	12.40	86.30	PR	64.80
4	100.00	41.20	46.40	*	50.03	88.90	94.67	42.63	62.50	98.40	97.97	PR	99.90
5	25.33	96.83	82.60	50.03	*	25.03	19.87	33.27	7.57	96.63	86.27	PR	60.70
6	93.60	57.60	62.93	88.90	25.03	*	93.27	17.10	13.70	6.83	29.73	PR	35.00
7	48.90	68.43	75.17	94.67	19.87	93.27	*	95.87	5.13	28.30	97.83	PR	81.03
8	17.10	36.63	61.37	42.63	33.27	17.10	95.87	*	90.63	47.80	44.87	PR	43.47
9	50.40	95.10	33.97	62.50	7.57	13.70	5.13	90.63	*	70.57	71.23	PR	21.47
10	50.23	13.40	12.40	98.40	96.63	6.83	28.30	47.80	70.57	*	84.97	PR	49.67
11	10.10	61.10	86.30	97.97	86.27	29.73	97.83	44.87	71.23	84.97	*	PR	97.50

bigger are: 85.80 %

1=SUN; 2=MOON; 3=MERKUR; 4=VENUS; 5=MARS; 6=JUPITER; 7=SATURN; 8=URANUS; 9=NEPTUN; 10=PLUTO; 11=IC;

BEGIN: year: 1996 month: 1 day: 1 hour: 0 END: year: 2003 month: 1 day: 1 hour: 0

9 out of 55 elements of the matrix are significant at <=5% p<=0.05 Probability of error: 0.0015

2 of 11 elements are significant with p<=2% p=0.025 Probability of error: 0.0296

It can be seen from Table 6 that the energy is significant over all orders for the Sun and Moon and even highly significant from order 7 onwards. The density function for the energy can be seen in Fig 11 for the 12th order.

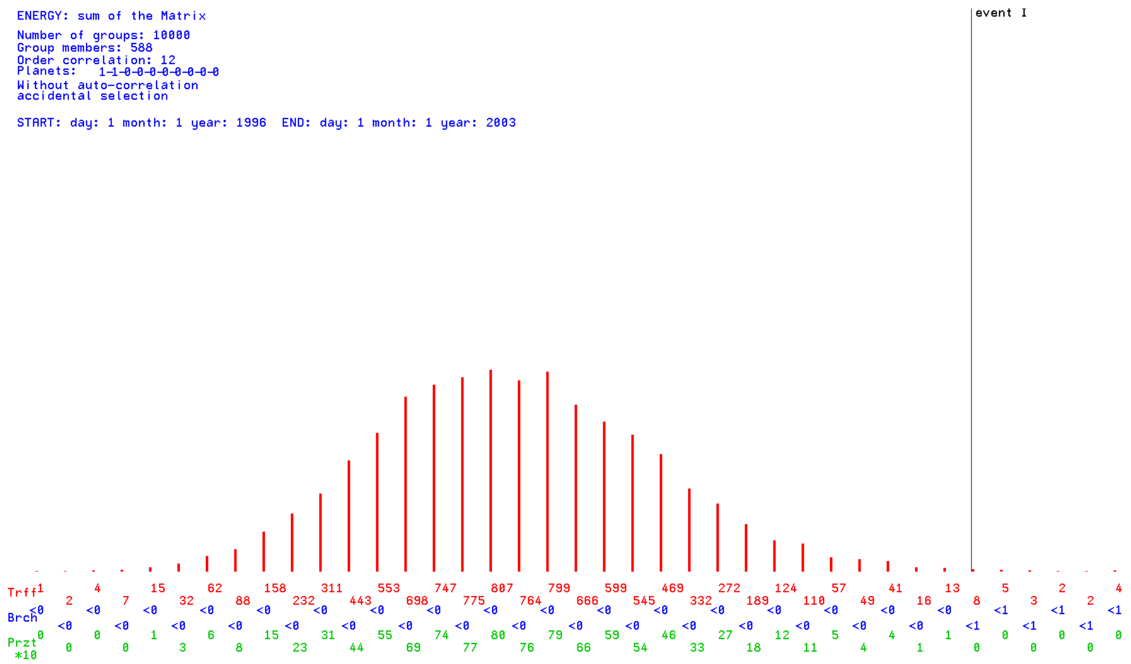


Fig 11. density function for the 12th order energy of the Sun and Moon for 588 earthquakes.

This result suggests that for this group of earthquakes the energy could be a trigger. 588 earthquakes distributed over 7 years corresponds to an average of 7 earthquakes per month. It is understandable that in such short periods the major planets show only small changes in their correlation function. The sun and moon are better for that.

To illustrate this, December 2000 is examined in more detail here. During this period 8 earthquakes took place.

Nummer in Liste der Erdbeben	Magnitude	Länge	Breite	Datum	Zeit
495	7.0	54.48	39.34	06.12.2000	17:11:06
401	6.4	152.43	-4.13	06.12.2000	22:11:06
374	6.1	-82.41	6.90	12.12.2000	05:26:46
174	5.9	31.21	38.27	15.12.2000	16:44:48
532	6.5	-179.74	-21.11	18.12.2000	01:19:22
253	6.2	-74.40	-39.48	20.12.2000	11:23:54
105	6.5	154.21	-9.14	20.12.2000	16:49:43
424	6.4	151.73	-5.42	21.12.2000	01:01:28

Table 7. 8 earthquakes for the period 2000-12 from the list of 588 earthquakes.

The results are shown in Table 8:

Order Probability in %	1	3	6	9	12
Correlation	1.17	0.15	0.37	0.27	0.34
Energy	1.02	0.03	0.05	0.01	0.03
Dynamic	37.12	82.59	36.09	0.23	0.91
Dynamic absolute	76.63	31.20	2.24	1.86	0.17

Table 8. Correlation funktion according to zthe Monte-Carlo-Simulation (10000 control groups, each with 8 random selected events); 8 earthquakes for the period 2000-12 from the list of 588 earthquakes.

The high significances for the high orders are remarkable.

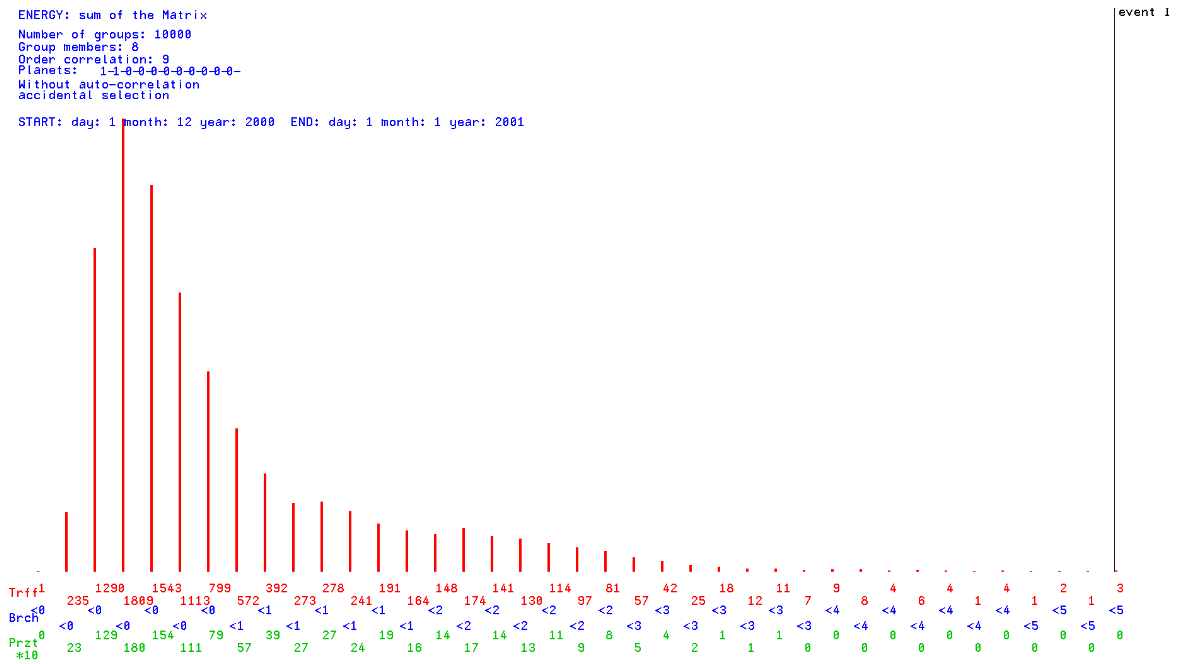


Fig 12. 9th-order energy curve of the Sun and Moon for 8 earthquakes during 2000-12.

Can these results be used for earthquake forecasting?

Fig 13 shows the correlation function and its first derivative. Assuming an energy level, 5 out of 8 earthquakes could be related to the correlation of the Sun and Moon. The expected value is 1.5 earthquakes out of 8 if there is no influence. Accordingly, about 3 earthquakes would be due to triggering by the Sun and Moon. However, it is only one month out of a period of 84 months (1996 -2002).

If the investigations are extended to the entire period, then 96 of 588 events are above the level. The expected value for this entire period is 83 events.

According to this, only 13 events would be due to a triggering of the sun and moon, which is 2.2%. This is too low for forecasting, but it clearly shows that there is also a certain increase in probability from the many other influences that can trigger an earthquake. This probability can be increased somewhat by adding other frequencies (those of Jupiter, Saturn and the IC) and the 1st derivative of the correlation function.

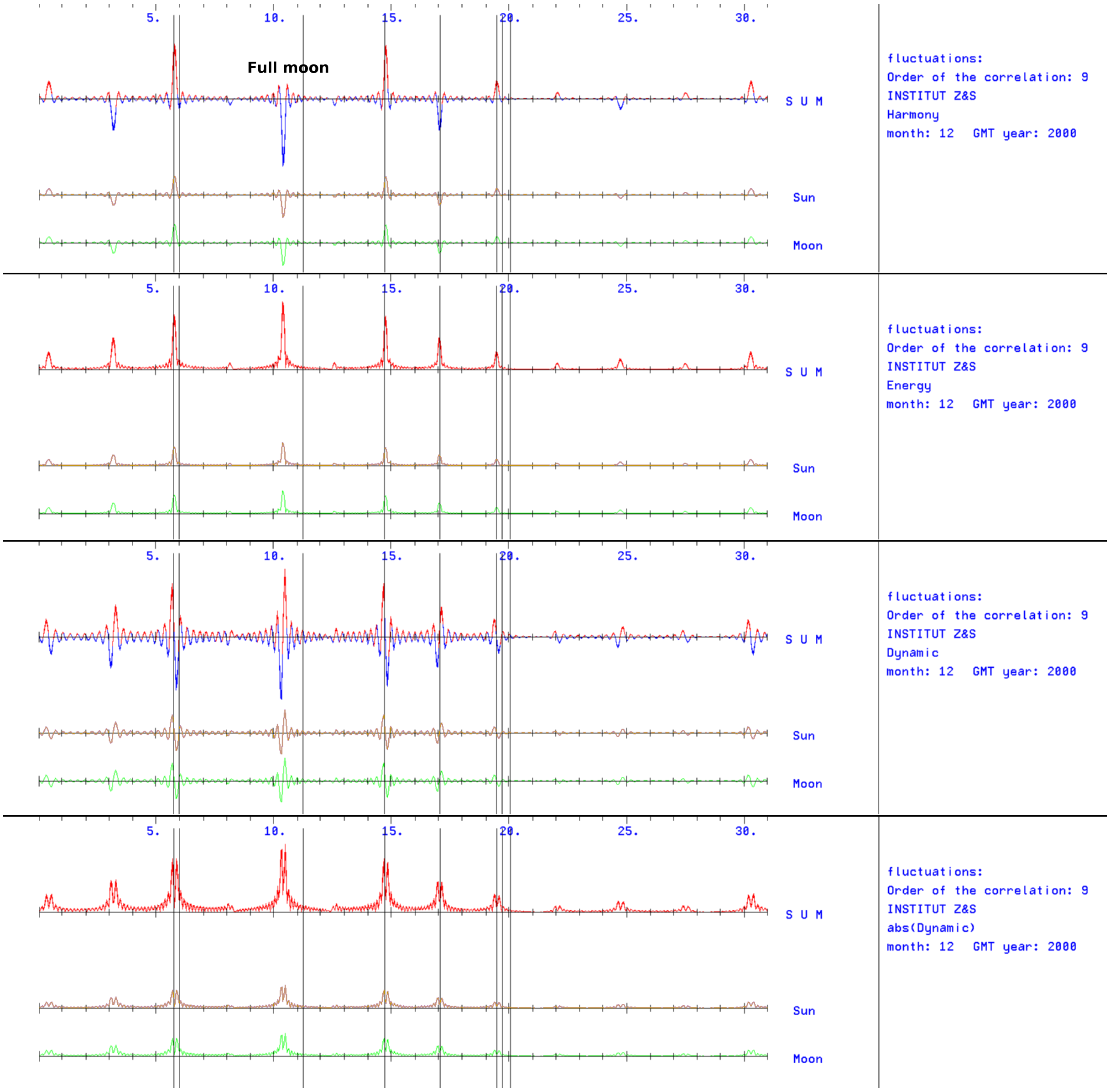


Fig 13. correlation function and 9th-order first derivative of the Sun and Moon for 8 earthquakes during 2000-12. the solid vertical black lines indicate the events.

The same research applied to the first study of 41 earthquakes gives similar results. Of the 41 earthquakes, 8 are above the level for energy, the expected value is 5.9 earthquakes. There could be 2 of the 41 earthquakes triggered by the sun and moon.

These initial investigations are only intended to show that further investigations appear to be useful.

As can be seen in Fig. 13, in such a small period of time only high frequencies, as they are given by the sun and the moon, are suitable for a possible triggering of earthquakes. At the time of the full moon no earthquake took place. However about 24 hours later. Further investigations would have to show whether this is significant. Figure 14 shows the correlation function for the 1st order for comparison. It does not seem to be suitable for triggering.

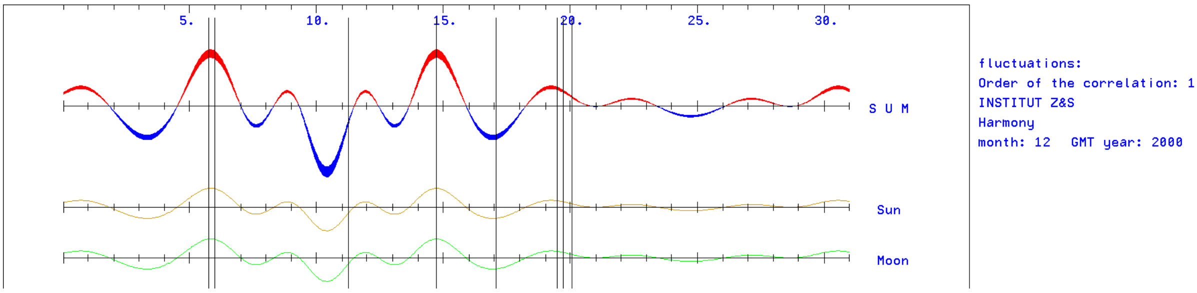


Fig 14. correlation function (harmonic) for 1st order Sun and Moon for 8 earthquakes during 2000-12.

Do the 588 earthquakes show similar behavior to the group of 41?

Very many smaller earthquakes are certainly not to be compared with few, very large ones. There are also no groups formed according to depth or location!

Order 12 time-shift/ Probability So-Mo	-24h	-11h	-10h	-9h	-8h	-7h	-6h	-5h	-3h	**0**	+3h	+6h	+9h	+12h	+18h	+24h
Correlation	53.60	94.54	84.98	33.52	4.72	4.42	22.16	48.72	35.86	**63.20**	53.42	17.44	98.88	90.28	99.78	19.30
Energy	71.26	98.96	96.12	92.14	96.20	89.80	67.06	27.30	61.00	**0.30**	6.90	10.78	2.34	6.46	26.42	81.86
Dynamic	30.26	43.22	6.66	1.26	15.34	80.86	93.16	70.38	35.80	**62.86**	23.28	91.20	33.70	65.64	83.86	19.14
Dynamic absolute	79.70	65.24	90.64	98.06	85.74	67.26	58.32	77.82	25.20	**2.38**	0.30	1.50	0.24	0.20	0.36	53.88

Table 9. time shift for 588 earthquakes

In Table 9, we can at least see that at the time of the event, the energy in the correlation function was very high, as was the energy in the dynamics.

A low energy (-11h) is driven to a high energy by a high dynamic (1st derivative), likewise the energy of the dynamic increases until the event. Can this scenario also be stated for the much larger period from 1900 to 2100. The results are shown in Table 10.

Order 12 time-shift/ Probability So-Mo	-6h	-3h	-2h	-1h	**0**	+1h	+2h	+3h	+6h
Correlation	20.28	34.63	35.40	51.18	**64.58**	66.40	61.74	54.10	16.32
Energy	67.96	63.24	67.66	29.32	**0.22**	**0.00**	**0.86**	7.16	10.78
Dynamic	93.08	34.72	63.38	74.16	**63.88**	51.18	39.88	21.78	91.14
Dynamic absolute	58.10	25.08	15.32	1.78	**1.96**	32.78	**0.06**	**0.30**	1.86

Table 10. time displacement for 588 earthquakes during the period 1900 to 2100.

Despite the much larger time period, the characteristic remains. That is amazing.

If we add the Earth's rotation as another high frequency, we get the results in Table 11.

Order 10 time-shift/ Probability So-Mo-IC	-6h	-5h	-4h	-3h	-2h	-1h	**0**	+1h	+2h	+3h	+4h	+5h	+6h
Correlation	66.72	36.08	64.64	41.16	32.96	25.90	**38.98**	69.78	61.64	66.18	9.12	7.36	61.38
Energy	92.06	35.04	64.60	56.82	81.02	30.72	**0.10**	1.75	19.46	3.24	4.90	80.32	5.70
Dynamic	85.62	95.04	92.36	32.72	6.36	84.56	**74.78**	84.66	42.46	1.84	4.22	60.60	79.40
Dynamic absolute	65.26	41.40	63.12	48.20	6.98	1.92	**60.54**	27.70	2.38	17.02	2.92	66.82	4.46

Table 11. time offsets for 588 earthquakes in the period 1996 to 2002. they are the correlations of the Sun, Moon and IC (Earth's rotation).

The expected value for high energy is 203 earthquakes. 222 have a higher energy in the correlation function. According to this, 19 earthquakes could be triggered by the sun, moon, and IC, which is 3.23 percent. That's a 1% increase. The IC, as expected, brings an increase in the probability of triggering because the local energy maxima indicated by the IC with the Sun and Moon occur at different times than those of the Sun and Moon.

Certainly the major planets Jupiter and Saturn (lower frequencies) in interaction with the high frequency of the earth's rotation are also of influence.

This is shown in Table 12:

Order 10 time-shift/ Probability Ju-Sa-IC	-6h	-5h	-4h	-3h	-2h	-1h	**0**	+1h	+2h	+3h	+4h	+5h	+6h
Correlation	55.02	7.54	26.24	71.50	64.88	56.24	**61.08**	69.78	3.16	88.48	55.96	69.50	62.68
Energy	20.76	65.46	83.54	72.32	58.30	43.56	**0.58**	1.75	0.02	10.30	23.62	84.92	28.32
Dynamic	41.70	26.12	98.00	41.92	78.18	25.58	**89.82**	84.66	95.94	57.84	83.06	47.34	91.90
Dynamic absolute	36.00	75.98	84.02	72.58	26.74	14.56	**14.58**	27.70	1.38	19.46	34.08	63.14	14.44

Table 12. time offsets for 588 earthquakes in the period 1996 to 2002. they are the correlations of Jupiter, Saturn and IC (Earth rotation).

The energy peaks between the IC and the planets Jupiter and Saturn are at different points on the time axis than those from the IC with the Sun and Moon. The expected value is 159 earthquakes. 176 earthquakes show higher energy, which is 2.9% above the expected value.

Summary

According to the calculations, it seems possible that about 6% of the 588 earthquakes are triggered by the Sun, Moon, IC, Jupiter and Saturn. This figure of 6% can certainly be increased if the energy level is optimized and other elements of the correlation function are added. For further investigation, it can be hypothesized that a trigger or threshold energy exists that is constantly decreasing. Before this threshold energy becomes zero, small external disturbances (e.g., weather events) may be triggering. But this can also be the fluctuations of the planetary gravitational field in the higher frequencies. Earthquakes occur at all times. When the threshold energy drops, they can also be triggered by harmonics of the gravitational field. This seems to be a characteristic of highly complex, nonlinear systems, that small external energies can trigger large changes.

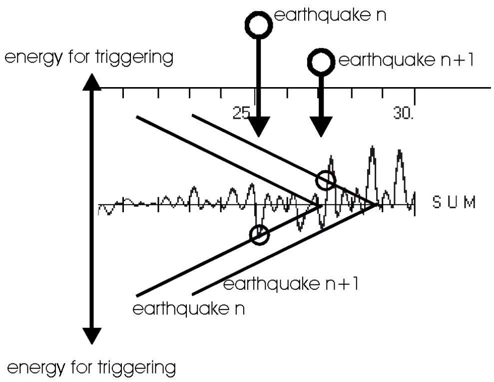


Fig 15. model of the triggering of earthquakes.

Our planetary system is highly complex. The nonlinear dynamics of this system also has an influence on the triggering of earthquakes. This now seems to be a fact and opens the door for further investigations.

3 Structure formation of biological patterns

3.1 An initial study of the IQ of 186 individuals

The human brain is a highly complex system of nerve cells whose organization and interconnection via synapses is neither genetically nor otherwise completely determined. Thoughts, feelings and strategies of the human intellect are not predetermined in all details. In the course of the evolution of the human brain, the ability to learn has emerged as an important element of human development. Learning due to synaptic plasticity is a lifelong process.
The extent to which planetary fluctuations could possibly gain influence on the structural formation of the brain in the course of evolution will be investigated in the following calculations. Here, the intelligence of the brain is assumed to be a complex system performance for survival strategy, characterized by stability and instability of the neuronal structures. A generally accepted definition of intelligence does not exist today.
The development of intelligence of a human individual depends on many influencing factors. Very important is the genetic constellation, which is given by the parents. In addition, many environmental factors also influence this development. Last but not least, the psychological personality concept is also significantly involved in the further formation of intelligence.
The observation of children whose intelligence quotient was measured at about 10 years of age and whose further school career was followed clearly indicate the great influence of such personality factors as ambition, diligence, motivation, etc. on the formation of intelligence.
Thus, it is not expected that planetary fluctuations will have a dominant influence on structural formation processes of the brain. In fact, it is doubtful that such influences can be detected at all and are not simply an artifact. If planetary fluctuations do have an effect on structure-forming processes of the brain, it will certainly be for a lifetime.
For a proof of this influence the following hypothesis is assumed.

Hypothesis:

1.planetary fluctuations have a lifelong effect on structure formation and stabilization processes of the brain.

2.Especially in times of great synaptic plasticity, the influence will be greatest.

3. the short period of the individual's becoming autonomous - his birth period - will be particularly formative for the structural formation of the brain.

4.A harmonious correlation function at the time of birth will have a positive stabilizing effect on intelligence development.

5.A positive 1st derivative of the correlation function will also have a positive effect on intelligence development.

6.It is to be expected that especially the higher frequencies in smaller spatial areas (the human individual) exert an influence.

The 5th point of the hypothesis highlights the importance of the period immediately before and after birth.
Since there is no generally accepted definition of intelligence, there are the most diverse methods and procedures to measure the intelligence of a person with an intelligence quotient (IQ). This problem cannot be dealt with here, although it would certainly lead to new insights if, for example, the connection between personality type and intelligence form were also examined. The following studies also show that there can be such a connection.

Baseline data:

1. a group of 160 children for whom IQ was determined with the PSP (according to Horn).

2. a group of 14 low intelligent people who have "special school level". The IQ is not known.

3. a group of 12 higher intelligent people, mainly academically active. The IQ is not known.

(The birth times are listed under 9.2. The group of children was tested at the Pädagogisches Zentrum Hechingen. Groups 2 and 3 are a compilation of the teacher Walter Böhr).

The group of 160 children is not representative in terms of the cross-section of the population. They are all children who have been tested with learning problems in a therapeutic institution for dyslexia and dyscalculia for diagnostic reasons. At the same time, not all children are dyslexic. Nor were there any "special needs" students among the children tested and certainly very few will go on to pursue academic careers.
Of group 1, the hour of birth is not known, so the correlations were calculated for 12 o'clock. For groups 2 and 3, the hours and places of birth are known.
With respect to group 1, group 2 is beyond the lower intelligence level and group 3 is above the upper intelligence level.

Comments on the research method:

The group of children was sorted into 20 subgroups (8 children each) by ascending IQ score.
For each child, the correlation matrices Hi,j, Ii,j, Di,j and DAi,j were calculated at the time of birth and superposed within the subgroup. Table 4 shows the sums over i and j as H, D, I, and DA in columns 5, 7, 9, and 11, respectively. All values in the table were calculated for the 3rd order correlation function.
For each subgroup, 10000 control groups were calculated, each with 8 randomly selected birth times. This was done to test how many groups had a smaller value than the group of 8 children. These values calculated with the control groups are listed in percentages under H[%], D[%], I[%] and DA[%] in columns 5, 6, 7 and 8. They indicate how rare this group is and are the probability of error for the corresponding hypothesis. The control groups were selected from the same period in which the 8 children were born.
The third column contains the mean IQ of the group's IQ scores, and the fourth column contains the range of IQ scores.

The 1st row contains the scores for group 2 of the 14 less intelligent individuals. Row 23 contains the less intelligent 12 individuals of group 3.

Probability/Nr.:	Number of people	IQ mean	IQ area	H [%]	I[%]	D[%]	DA[%]
1	14	70*		98.50	1.43	27.31	17.52
2	8	77,2	70-80	88.78	17.87	75.72	58.44
3	8	83,8	82-86	77.47	94.10	26.09	35.19
4	8	87,3	86-88	91.87	22.82	84.68	34.92
5	8	90,3	89-91	0.08	64.22	99.25	85.71
6	8	93,3	92-94	97.68	25.01	6.83	10.49
7	8	95	94-97	9.67	62.92	10.13	37.42
8	8	97,4	97-98	95.48	82.92	81.06	57.09
9	8	99,3	98-100	85.75	27.09	46.65	29.47
10	8	100,8	100-101	6.80	90.81	76.58	79.29
11	8	101,7	101-102	74.88	79.59	57.33	34.42
18	8	102,9	102-104	65.45	64.69	55.19	80.57
19	8	104,9	104-106	52.62	85.31	59.88	89.22
14	8	106,9	106-107	6.49	69.74	83.96	57.76
15	8	108,3	107-109	5.75	55.97	18.59	82.82
16	8	110,0	109-111	11.15	45.63	8.86	92.28
17	8	111,6	111-113	80.82	97.31	44.31	84.26
18	8	114,1	113-115	37.07	27.46	19.62	19.41
19	8	115,8	115-117	72.35	76.38	91.96	37.55
20	8	119,1	117-124	15.87	65.94	65.04	81.65
21	8	128,9	125-135	15.20	18.33	90.71	37.21
22	160		70-135	36.05	91.55	78.11	90.19
23	12	135*		5.30	33.37	72.39	6.69
* estimated value							

Table 13. results of the investigation on the influence of planetary fluctuations on IQ measured according to Horn. Shown are the values of frequency H[%], D[%], I[%] and DA[%], compared with randomly chosen control groups of this period. The description of the table is included in the text. Note: Since no exact birth times are known, the IC (earth rotation) was not included in the calculation, nor was the examination of the time shift.

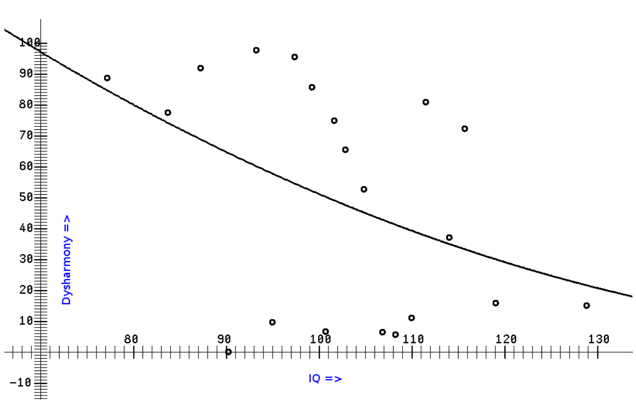
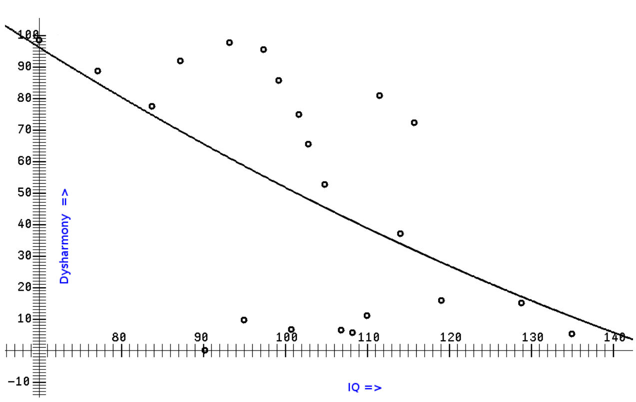


Fig 16. trend of harmony with the increase of IQ of the 160 tested children. Despite the variations due to the small groups, a trend can be identified: The higher the IQ, the more harmonious the correlation function H becomes.



The trend intensifies when the marginalized groups of special education students and academics are added.

If the individuals from Table 12 are divided into 4 equally strong groups, then the strong fluctuations are balanced and the trend becomes more visible.

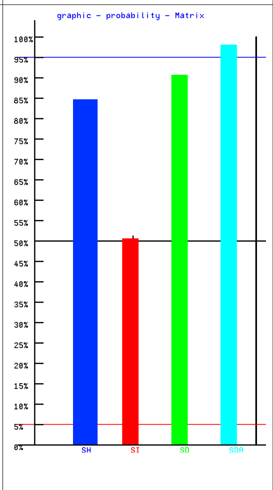
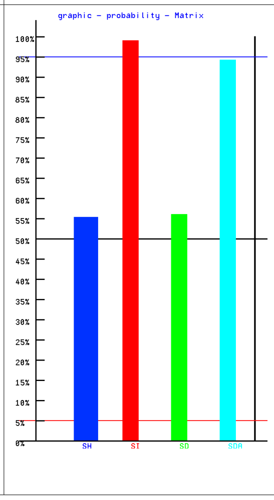
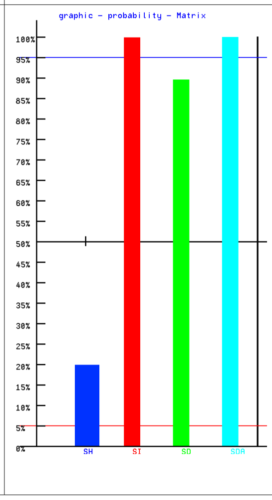
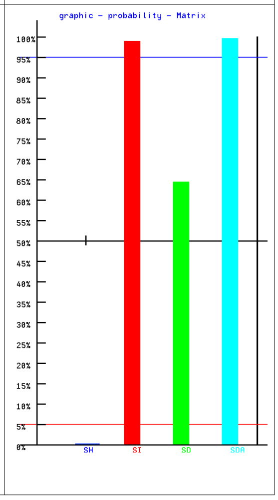
Grupp/ Probability	1	2	3	4
Correlation	84,67	55,31	19,45	**0,23**
Energy	50,54	**99,03**	**99,75**	**98,92**
Dynamic	90,60	56,06	89,05	64,48
Dynamic absolute	**98,02**	94,29	**99,95**	**99,63**
medium IQ	96	100	109	122
				

Table 14. subdivision of Table 13 into 4 groups ordered by IQ. A very clear trend is the increase in Harmony H with increasing IQ. The rapid decrease in energy is surprising. This, combined with the weak dynamics, suggests a maximum at the time of birth. It is hard to imagine that these planetary constellations alone should affect the structural formation of the brain. After all, this harmony also applies to all persons in the environment of the born child. One can speak of a harmonious quality of time, which can also have a favourable effect on the later intelligence of the child.

Of course, it must always be stressed that these are statistical statements that cannot say anything about individual cases.

If we form two marginal groups, one group consisting of the 16 lowest IQ-scoring children and one group consisting of the 14 individuals with special education levels in group 2, then the probability of error is 1.05% for the statement. "Individuals with low IQ scores have a greater probability of a discordant correlation function at birth" .
If one proceeds in the same way with the marginal groups of higher IQ scores and forms a new group from the 16 children with the highest IQ scores and Group 3 of academics, then the probability of error is 1.51% for the hypothesis: "Individuals with a higher IQ score have a greater probability of a harmonic correlation function at the time of birth" .

A summary of these results is presented in Table 15.

3. Ordnung	Anzahl	H [%]	I [%]	D [%]	DA [%]
lower IQ	30	**98,95**	29,67	44,27	85,6
high IQ	28	**1,51**	54,47	92,77	61,57

Table 15. results of the association of IQ score and correlation matrix for 30 individuals with low IQ score and 28 individuals with high IQ score. The error probabilities for H confirm a highly significant relationship. All calculations were performed for the 3rd order correlation function. To interpret the numerical values: for the group of 30 persons with low IQ, H[%] = **98.95,** which means that 98.95% of the control groups have a higher value for harmony.

Which oscillators are essential for the differences between the two groups of IQ?

The sums of the matrices do not give any information about this. The following pictures give exemplary the error probabilities for the row sum for comparison.

Matrix H

In Fig 17, 8 out of 10 oscillators (planets) are above 61%. The probability of error that 8 and more are above 61% is 0.01.

In Fig 18, 9 out of 10 oscillators are below 46%. The probability of error that 9 and more are below 46% is even 0.005.

Matrix I

Fig 20 and Fig 21 show a similar picture for the energy. Striking is the low energy of Mars, Saturn and Uranus for both groups of events. Moon and Pluto have a lot of energy for the low IQ group.

Matrix D

The high dynamics for the Moon and Uranus in Fig 22 are striking. The dynamics indicate the speed of the changes, compared with the control groups

Matrix DA

Mars Saturn and Uranus have little energy in the dynamic for the low IQ group. Similar is the case for the higher IQ group. Here it is Jupiter, Saturn and Uranus that bring little energy to the dynamic.

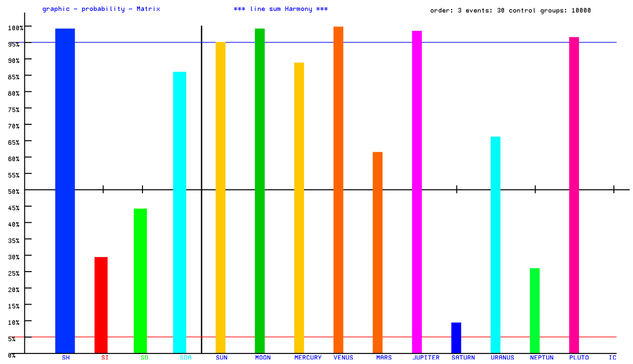


Fig 17. matrix and row sums for H with low IQ.

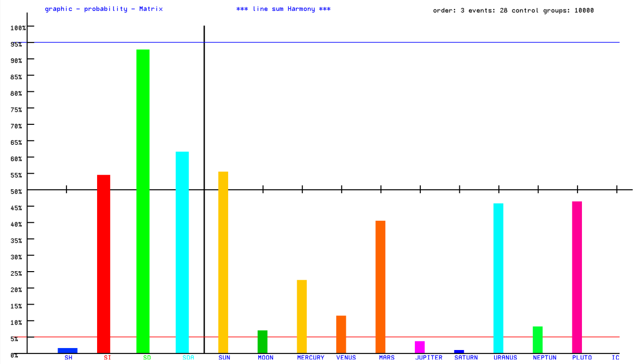


Fig 18. matrix and row sums for H with high IQ.

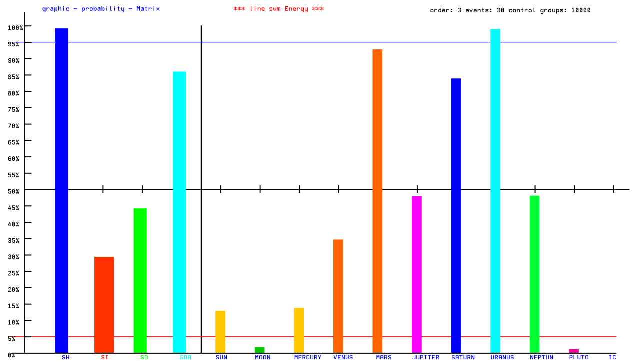


Fig 19. matrix and row sums for I with low IQ.

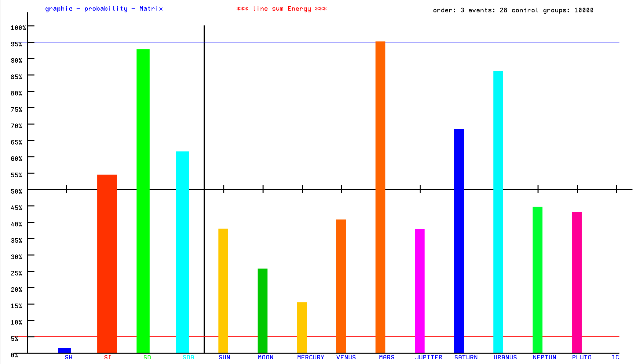


Fig 20. matrix and row sums for I with high IQ.

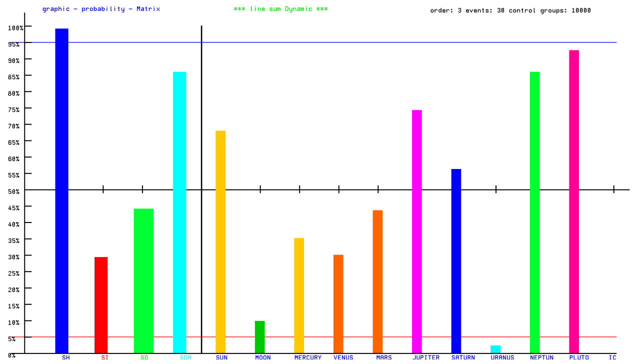


Fig. 21. matrix and row sums for D with low IQ

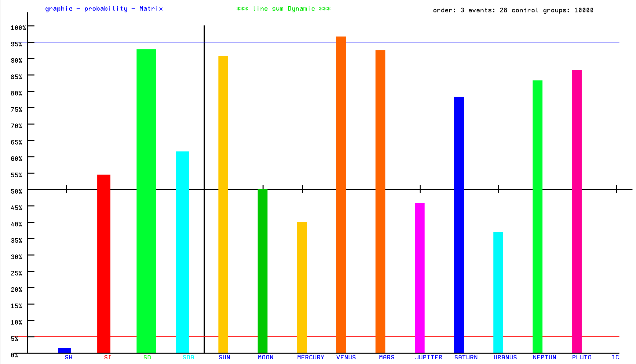


Fig 22. matrix and row sums for D with high IQ.

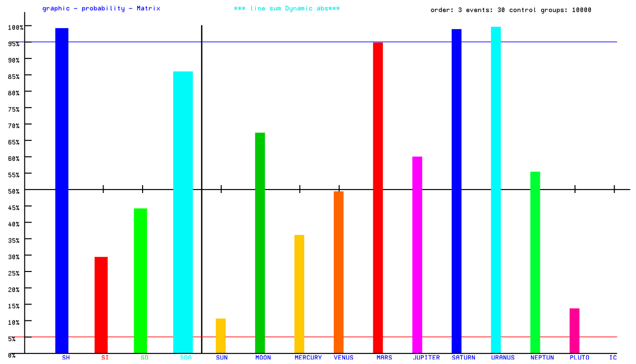


Fig 23. matrix and row sums for DA with low IQ.

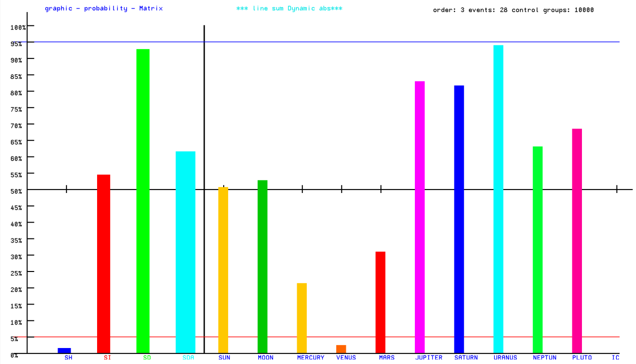


Fig 24. matrix and row sums for DA with high IQ.

It is still interesting to examine the different orders of the correlation function on the marginal groups for high and low IQ scores. Not only will the correlation function at birth be influential, but the period immediately before and after birth will also be influential. These ratios are described by the 1st derivative of the correlation function.
It must be noted at this point, however, that a harmonic correlation function, around birth, will also have an effect on the environment, e.g. the mother. Thus, harmonizing influences from the environment can also have additional significance. These results are hardly understandable and were not expected at all, if only the micro-fluctuations of gravity are allowed as an explanation. Is the evolution of the brain stimulated by these fluctuations? These results suggest that it is. Nevertheless, there is still the probability for an artifact.

Order Probability	1	3	6	9	12	Grupp 28 high IQ
Correlation	9,14	1,51	**0,36**	1,96	5,82	
Energy	51,64	29,67	28,25	17,9	21,59	
Dynamic	14,64	44,27	93,21	98,9	85,69	negativ
Dynamic absolute	77,46	85,60	78,23	72,96	52,94	

Table 16. The influence of the order of the correlation function on the comparison with the control groups for the group of individuals with a higher IQ. A weak dynamic is noticeable, which is slightly negative. This is, of course, the case when a maximum value for harmony is reached, it will go back in the direction of disharmony in the future.

Order Probability	1	3	6	9	12	Grupp 30 low IQ
Correlation	84,23	98,95	95,64	98,57	**99,11**	
Energy	74,33	29,67	10,82	16,75	18,25	
Dynamic	67,60	44,27	11,72	20,30	5,98	positiv
Dynamic absolute	92,41	85,60	39,38	12,93	15,65	

Table 17. The influence of the order of the correlation function on the comparison with the control groups for the group of people with lower IQ. A strong dynamic, which is positive, shows that there is a minimum (dysharmony). In the future, it will return to the direction of harmony.

These investigations have shown that also for the very complex process of the development of the intelligence of a human being the planetary oscillations of the gravitational field are of importance with high probability. In the first instance, an optimization of the calculation was dispensed with. Thus, it is not taken into account that the individual correlations certainly do not enter into the correlation function H with the same weighting. All planets were always included in the calculations with equal weighting. This optimization is reserved for further, more in-depth investigations. The relevance of individual correlations and frequencies was also not investigated. This is also left to further investigations, which then directly calculate probabilities for the correlation function. Such statements are then, for example : "A person with a higher IQ score will have a harmonic correlation quality above the statistical mean with probability p."

Detailed examination of individual subgroups of the 160 children, sorted by individual factors of the IQ test, also show circumstantial evidence of further correlations. To this end, consider the following example.

3.2 Investigation of a factor in an IQ test

One factor (No. 12) of the intelligence test used measures rapid guessing of garbled words. It has a high correlation (0.88) with the overall IQ test score. Observations of children for whom this factor was lowest revealed that these children were usually somewhat shy, insecure, and unwilling to take risks. Therefore, it could be conjectured that this very "risk factor" might have a correlation with a function describing stable and unstable states of structure formation. It is not clear at first whether the correlation exists for harmonic or disharmonic states.

To investigate this question, 25 children were selected from the 160 tested for whom the factor (No. 12) had the relatively lowest scores.

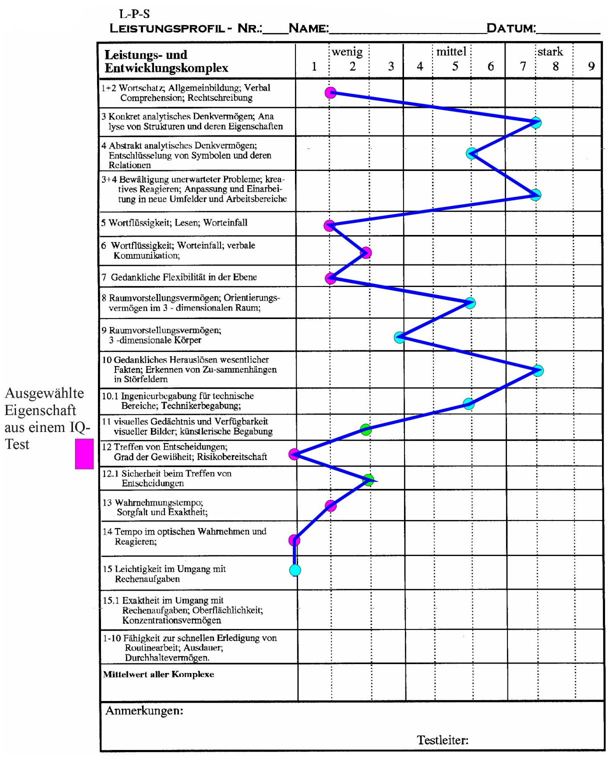


Figure 25: Example of an IQ test

The results for the different orders of the correlation function are shown in Table 18.

Korrelation/ Ordnung	H[%]	I [%]	D [%]	DA [%]
1	1,39	26,13	38,59	54,03
2	**0,2**	15,6	83,38	32,97
3	6,44	19,57	74,97	18,89
6	5,4	12,63	86,12	28,14
9	5,75	6,2	93,78	25,89
12	10,06	13,78	97,41	10,99

Table 18. Results of the investigation of the influence of planetary fluctuations on the Horn-measured factor "guessing garbled words" for 25 (out of 160) children who had relatively low performances for this factor. Shown are the values of the sums of the frequencies H[%], D[%], I[%] and DA[%], compared with randomly selected control groups of this period. IQ covers a range from 77 to 127 with a mean of IQ = 107.

From Table 18, the first important conclusions can be drawn regarding the interpretation of the correlation function [10] with regard to the structuring of personality factors. If one assumes that the children are less willing to take risks than the statistical mean, then the positive correlation with the "harmonious" values of the correlation function [10] suggests that these children have a predisposition for harmony and they avoid processes that can lead to disharmony, which can always be the case with higher risk.
These are only initial hypotheses, more research needs to follow. It is interesting that the significant results are obtained for the small orders of the correlation function. This suggests a larger time period around birth that could be of influence in this particular case.

Which oscillators contribute significantly to this harmony?
It can be seen from Table 18 that the correlation function H has a maximum for the 2nd order. This shows that certain frequencies have a dominant significance. If, on the other hand, the first derivative D is considered, the correlation is greatest for the 5th order.

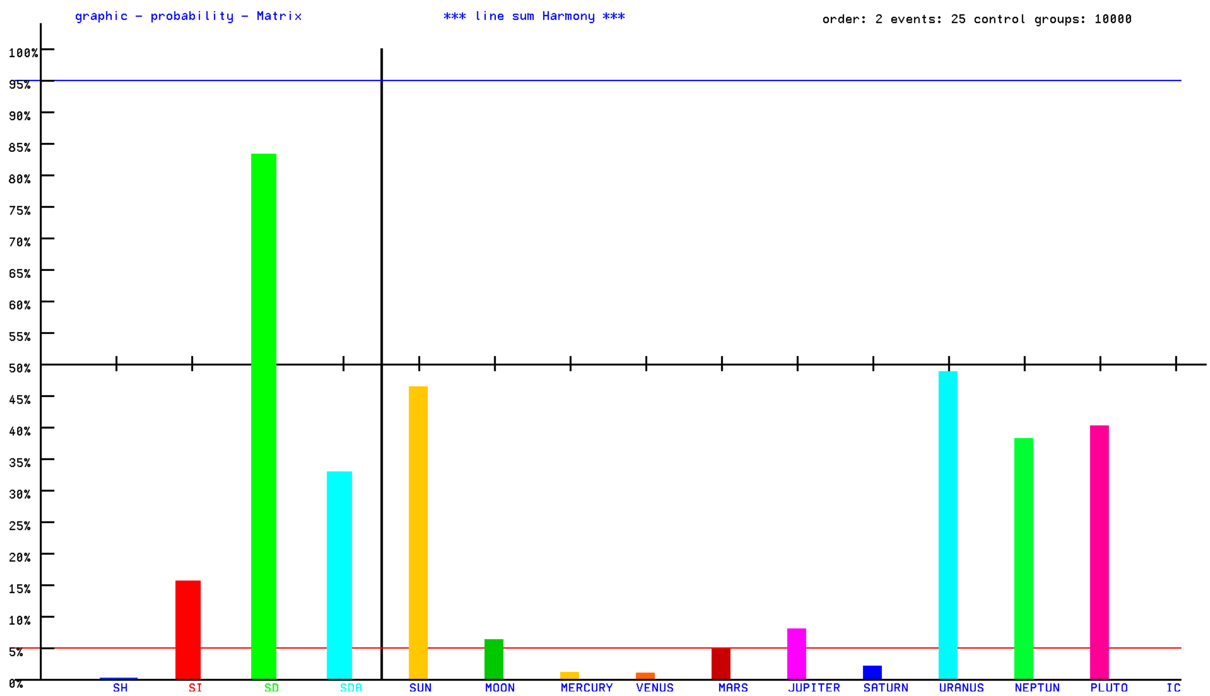


Fig 26. differentiated influence of the oscillators (planets)

This means that also the change of the correlation function in a small period around the birth is not to be neglected.
Since in Table 17 all 10 celestial bodies with relevant gravitational influence have been considered,

the question naturally arises whether all these celestial bodies are also of influence in this case. The correlation matrix shows, and this is quite to be expected, that not all 10 celestial bodies have the same significance. Especially of influence are the moon, Venus, Mars, Jupiter and Saturn.
If only these planets are allowed to correlate, then the following result is obtained in Table 19.

Korrelation/ Ordnung	H[%]	I [%]	D [%]	DA [%]
2	**<0,005**	12,72	75,45	28,05

Table 19. results of the investigation on the influence of planetary fluctuations on the factor "guessing garbled words" measured according to Horn [8] for 25 (out of 160) children who had relatively low performances for this factor. Selected were: Moon, Venus, Mars, Jupiter, and Saturn.

Computer printout for table 19:

```
Statistics 4: Probability of events: correlation matrix H
 Order of the correlation: 2 ; time shift d: 0 h: 0;
 GROUP-MEMBERS: 25 ; NUMBER OF THE GROUPS: 10000
 Julian-date-start: 2443874.458333 Julian-date-end: 2447527.458345
 Accidental selection;  TEST: Number of accidental selection >= correlation
  CORRELATION-MATRIX H AS INPUT
           1        2        3        4        5        6        7        8        9       10

  1        *        *        *        *        *        *        *        *        *        *
  2        *        *     0.63     0.88     1.02     0.05    -0.02        *        *        *
  3        *     0.63        *     0.07     0.27     0.06     0.52        *        *        *
  4        *     0.88     0.07        *     0.63     1.27     0.97        *        *        *
  5        *     1.02     0.27     0.63        *     0.25     0.12        *        *        *
  6        *     0.05     0.06     1.27     0.25        *     0.25        *        *        *
  7        *    -0.02     0.52     0.97     0.12     0.25        *        *        *        *
  8        *        *        *        *        *        *        *        *        *        *
  9        *        *        *        *        *        *        *        *        *        *
 10        *        *        *        *        *        *        *        *        *        *

  Matrix H of the probability of error:
           1        2        3        4        5        6        7        8        9       10

  1        *        *        *        *        *        *        *        *        *        *   PR   0.00
  2        *        *     9.79     3.89     1.66    46.20    51.99        *        *        *   PR   1.14
  3        *     9.79        *    75.19    31.52    53.16    15.95        *        *        *   PR  12.08
  4        *     3.89    75.19        *    18.85     0.74     1.31        *        *        *   PR   0.01
  5        *     1.66    31.52    18.85        *    39.16    33.43        *        *        *   PR   2.91
  6        *    46.20    53.16     0.74    39.16        *    28.26        *        *        *   PR   6.26
  7        *    51.99    15.95     1.31    33.43    28.26        *        *        *        *   PR   2.81
  8        *        *        *        *        *        *        *        *        *        *   PR   0.00
  9        *        *        *        *        *        *        *        *        *        *   PR   0.00
 10        *        *        *        *        *        *        *        *        *        *   PR   0.00
  bigger are:     0.00 %
 1=SUN;  2=MOON;  3=MERKUR;  4=VENUS;  5=MARS;  6=JUPITER;  7=SATURN;  8=URANUS;  9=NEPTUN; 10=PLUTO; 11=IC;
 BEGIN: year: 1979 month: 1 day: 1 hour: 0  END: year: 1989 month: 1 day: 1 hour: 0
```

According to Table 19, the probability of error for the statement is:
"Children with relatively low performance of the IQ factor "guessing garbled words (risk factor)" have particularly harmonious correlations of Moon, Venus, Mars, Jupiter and Saturn at birth" < **0.005% !**

Of course, further optimizations of the correlation of the 10 celestial bodies can be carried out. But that would go beyond the scope of this publication. It should be shown here only that optimizations, which do not change the correlation function, already bring clearly better correlations, which can be used then also practically.

The above example shows how and in which direction further investigations are to be carried out. The correlations contain a multitude of the most different frequencies, which can all be examined for their special effect and meaning. The rough selection of frequencies can be done by the correlating celestial bodies and by the order of the correlation function. At the same time as the multitude of correlation frequencies, the great complexity of planetary fluctuations becomes visible.

A further factor for the optimization of the correlation function is the weighting of the individual celestial bodies, which has only been shown here by way of suggestion through the selection of the planets.

3.3 Persons with a high level of giftedness

A list of 62 children tested for giftedness forms the birth data for the study. The children were tested at the UNI Munich or the Children's Center Munich. The results are listed in Table 20 for different orders of the correlation function.

Order/ Probability	1	1 mit IC	3	6	9	12
Correlation H	1,80	13,65	12,73	17,31	18,61	5,40
Energy I	3,8	2,27	2,38	4,45	4,84	10,03
Dynamic D	92,15	97,91	83,64	83,99	86,87	89,09
Dynamic absolute DA	81,50	73,80	1,04	**0,89**	3,04	3,98

Table 20. The correlation function for the group of 62 highly gifted individuals

If one assumes that highly gifted individuals have an IQ >130, then this group can be classified in the same way as the previously studied group. Does the trend remain?

Also this trend for the harmonic H remains, in addition the calculations show a significantly higher energy. The calculations were made without consideration of the IC (earth center).

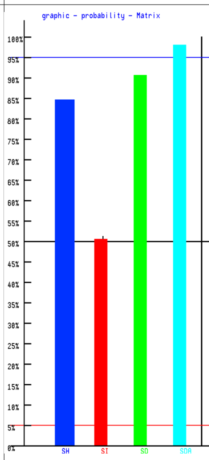
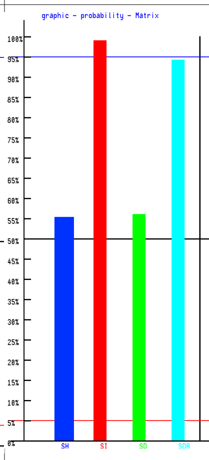
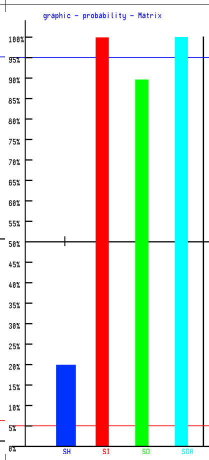
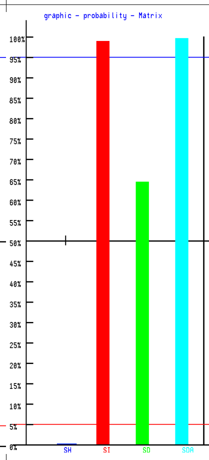
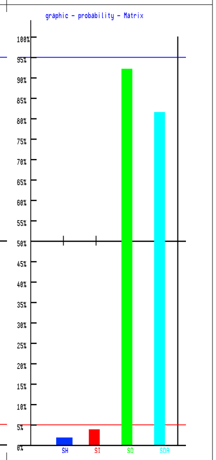
Grupp/ Probability	1 (46 peoble)	2 (46 peoble)	3 (47 peoble)	4 (47 peoble)	5 (62 peoble) gifted
Correlation	84,67	55,31	19,45	**0,23**	1,80
Energy	50,54	**99,03**	**99,75**	**98,92**	3,80
Dynamic	90,60	56,06	89,05	64,48	92,15
Dynamic absolute	**98,02**	94,29	**99,95**	**99,63**	81,50
medium IQ	96	100	109	122	>130
					

Table 21. trend of the correlation function for increasing IQ. The probability of error for the harmony and energy (p = 0.**038**) of the gifted is only **0.008231**.

If we add the IC as the oscillator with the highest frequency and shift the time before and after the birth, we get table 22.

Order 1 mit IC Probability	-12h	-9h	-6h	-4h	-3h	-2h	-1h	0	+1h	+2h	+3h	+4 h	+6h	+9h	+12 h
Correlation H	31,74	11,72	12,08	1,07	3,6	3,27	5,24	13,65	3,83	4,25	9,11	2,33	9,13	2,93	20,00
Energy I	15,65	13,26	11,88	6,2	4,61	9,81	6,74	2,27	2,85	9,07	3,01	1,49	2,45	4,03	11,34
Dynamic D	95,48	86,04	85,68	96,75	93,42	88,3	96,09	97,91	77,61	92,98	82,45	71,38	73,32	82,81	55,54
Dynamic absolute DA	84,82	91,84	87,88	92,09	86,05	87,98	85,93	73,80	73,81	74,69	70,96	64,41	56,11	73,15	77,85
IC H	98,79	82,01	85,17	8,24	43,26	44,35	65,29	93,73	51,79	61,69	86,81	38,98	88,53	57,55	98,60

Table 22. correlation for with time shift the group of highly gifted. The significance for harmony is maintained only for the period from 4 hours before birth to 9 hours after birth. The contribution of IC to the significance of harmony is only for 4 hours before birth. It cannot be assumed that the frequencies of the IC make a significant contribution overall.

The special nature of the gifted group can be seen if the IC is omitted. The time around birth is relatively stable for a larger period of time.

Order 1 Probability	-192h	-144h	-96h	-24h	-9h	-4h	-1h	0	+1h	+4h	+18h	+24h	+96h	+192h	+336h	+432h
Correlation H	29,32	6,63	3,46	3,92	3,46	2,54	2,30	1,80	1,91	1,79	1,99	2,96	2,01	1,18	3,85	21,16
Energy I	63,68	73,54	41,00	23,76	6,72	3,86	3,44	3,80	4,17	4,62	16,05	22,11	16,20	23,83	64,00	57,61
Dynamic D	84,27	94,38	91,70	93,77	95,98	94,21	93,04	92,15	90,92	85,85	53,45	45,19	43,34	14,98	18,54	10,67
Dynamic absolute DA	56,85	66,32	55,79	72,08	83,66	85,95	82,44	81,50	80,96	83,84	59,48	54,18	56,92	51,28	67,22	80,95

Table 23. unlike Table 22, a range of 4 days before and 14 days after birth, a total of 18 days, the correlation function is significantly harmonic.

Energy is significantly high 4 hours before to 4 hours after the time of birth.

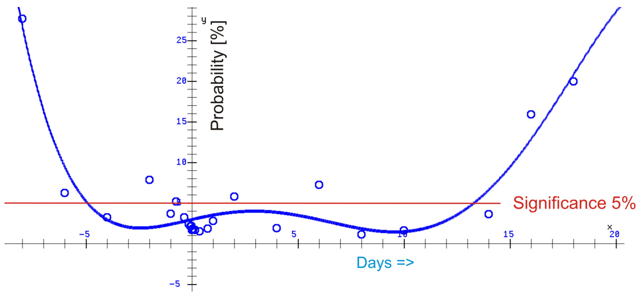


Fig 27. significance range before and after birth for the gifted group.

This clearly shows that it cannot be a triggering. There is a larger window of stability. This means that in an individual case it can be important that it is still harmonious days after the birth. Since the harmonious quality of time does not only affect the baby, but also all the people who are present at the birth, it seems more likely that the starting conditions for a good development of the child's brain are laid here. This is very astonishing, but it coincides with the experiences from birth psychology.

The high energy indicates that relatively many oscillators (planets) are in a harmonic state.

It is important to note, however, that these are only statistical results that do not necessarily apply in individual cases. Correlations are not causalities!

What do specific individual cases look like?

From the list of 62 high achievers, the correlation function around birth (1966-8-12-1h:45m) looks very harmonious this month. This is very rare.

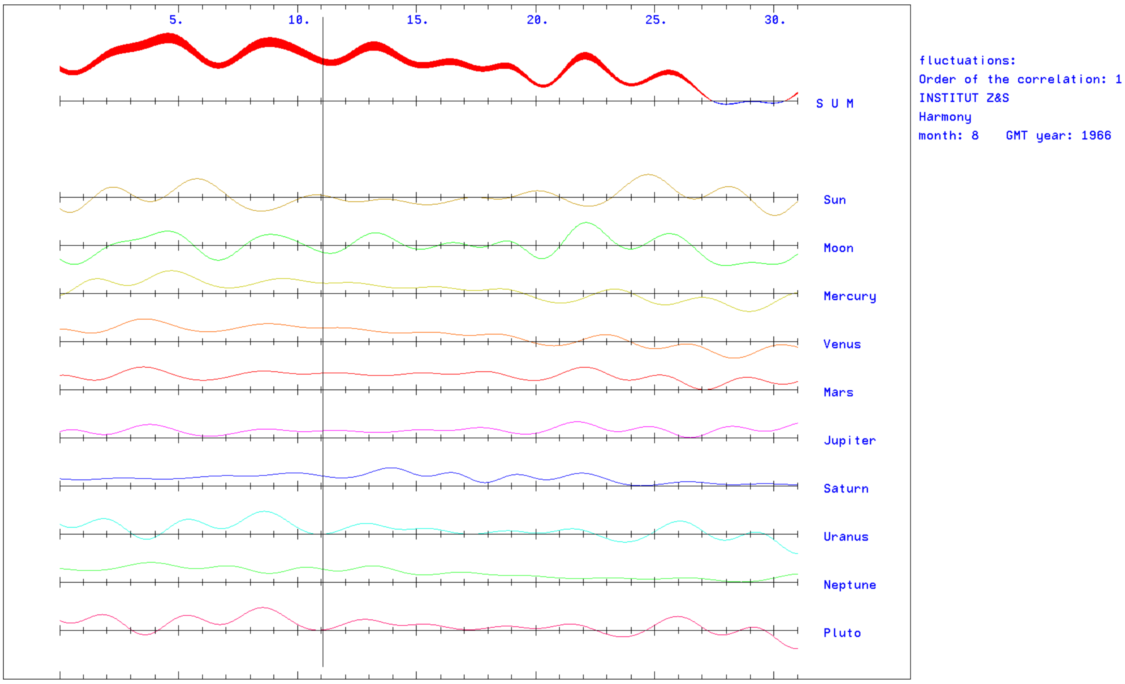


Fig 28. correlation function 1966-8. only the moon is slightly discordant at the time of birth (1966-8-12-1h-45m). The time of birth is marked by the vertical line

The harmonic correlation function in Figure 28 does not, of course, apply to all birth times of the highly gifted. In Figure 29 the birth times for the year 1966 are marked.

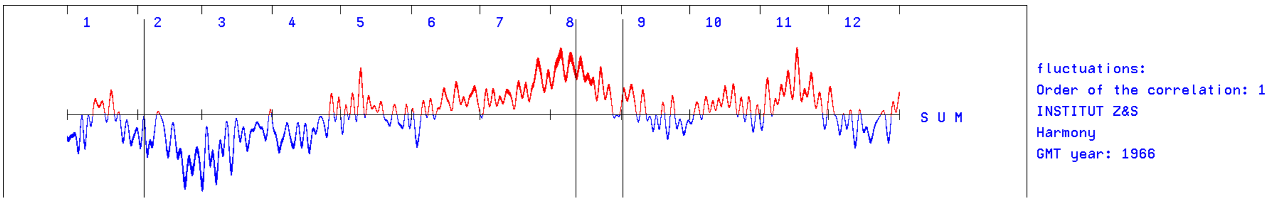


Fig. 29. correlation function for the year 1966. The birth times of the 3 highly gifted persons from the list are marked by vertical lines. In this year there are harmonic times (marked red) and disharmonic times (marked blue).

Of course, the birth is not freely selectable and bound to a natural time frame. The following pictures (30 and 31) show the environment of the 2 birth times more clearly. The third birth time can be seen in picture 28.

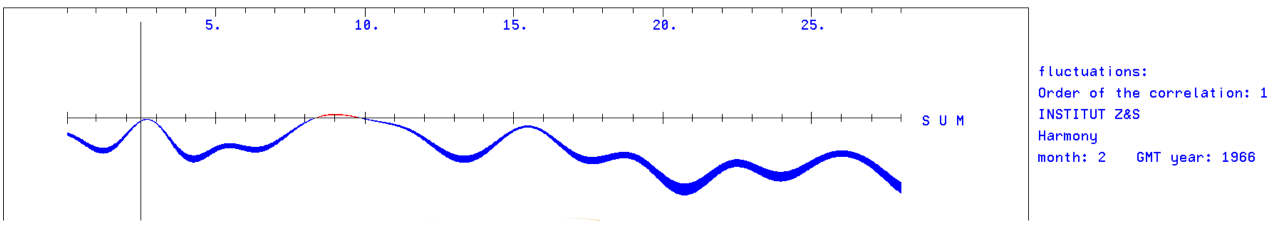


Fig 30. environment of the time of birth 1966-2-3-11h-57m. Zoom from image 29.

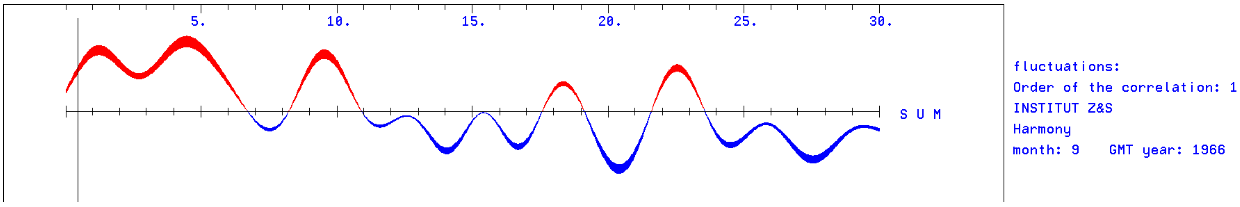


Fig 31. environment of the time of birth 1966-9-1-10h-58m. Zoom from image 29.

The matrix of probabilities shows which oscillators (planets) are important for the group of 62 highly gifted people:

Statistics 4: Probability of events: correlation matrix H
Order of the correlation: 1 ; time shift d: 0 h: 0;
GROUP-MEMBERS: 62 ; NUMBER OF THE GROUPS: 10000
Julian-date-start: 2434012.458333 Julian-date-end: 2451910.458345
Accidental selection; TEST: Number of accidental selection >= correlation
CORRELATION-MATRIX H AS INPUT

	1	2	3	4	5	6	7	8	9	10
1	*	-0.63	-0.27	0.14	0.22	0.03	-0.09	0.20	0.24	-0.26
2	-0.63	*	-0.28	0.21	0.90	-0.08	0.05	-0.36	0.63	0.03
3	-0.27	-0.28	*	0.15	-0.77	1.18	0.42	0.11	0.14	-0.68
4	0.14	0.21	0.15	*	0.28	-0.47	0.59	0.07	-0.26	0.63
5	0.22	0.90	-0.77	0.28	*	1.10	0.32	0.46	0.35	0.34
6	0.03	-0.08	1.18	-0.47	1.10	*	0.77	0.41	0.36	-0.06
7	-0.09	0.05	0.42	0.59	0.32	0.77	*	-0.70	0.50	0.39
8	0.20	-0.36	0.11	0.07	0.46	0.41	-0.70	*	-0.44	0.39
9	0.24	0.63	0.14	-0.26	0.35	0.36	0.50	-0.44	*	2.34
10	-0.26	0.03	-0.68	0.63	0.34	-0.06	0.39	0.39	2.34	*

Matrix H of the probability of error:

	1	2	3	4	5	6	7	8	9	10		
1	*	92.73	93.16	14.73	40.68	51.35	59.99	33.48	29.10	73.51	PR	70.38
2	92.73	*	74.28	32.67	2.02	56.16	44.80	79.59	7.81	48.09	PR	36.47
3	93.16	74.28	*	98.17	99.45	**0.27**	17.14	40.30	36.82	94.54	PR	67.88
4	14.73	32.67	98.17	*	40.81	87.86	7.18	44.09	70.80	8.21	PR	27.08
5	40.68	2.02	99.45	40.81	*	**0.20**	10.35	16.72	16.84	24.88	PR	**0.46**
6	51.35	56.16	0.27	87.86	0.20	*	4.04	20.33	25.75	52.70	PR	**0.53**
7	59.99	44.80	17.14	7.18	10.35	4.04	*	91.36	9.89	28.40	PR	2.45
8	33.48	79.59	40.30	44.09	16.72	20.33	91.36	*	51.74	82.02	PR	48.84
9	29.10	7.81	36.82	70.80	16.84	25.75	9.89	51.74	*	90.59	PR	6.17
10	73.51	48.09	94.54	8.21	24.88	52.70	28.40	82.02	90.59	*	PR	51.76

bigger are: 1.80 %
1=SUN; 2=MOON; 3=MERKUR; 4=VENUS; 5=MARS; 6=JUPITER; 7=SATURN; 8=URANUS; 9=NEPTUN; 10=PLUTO; 11=IC;
BEGIN: year: 1952 month: 1 day: 1 hour: 0 END: year: 2001 month: 1 day: 1 hour: 0

Statistics 4: Probability of events: energy I
Order of the correlation: 1 ; GROUP-MEMBERS: 62 ; NUMBER OF THE GROUPS: 10000
Accidental selection; TEST: Number of accidental selection >= correlation
MATRIX I energy AS INPUT (absolut)

	1	2	3	4	5	6	7	8	9	10
1	*	2.96	0.82	0.57	1.98	2.36	2.28	2.97	2.69	2.15
2	2.96	*	2.87	2.78	2.58	2.77	2.95	2.94	2.53	2.65
3	0.82	2.87	*	0.89	2.19	2.34	2.48	2.99	2.68	2.53
4	0.57	2.78	0.89	*	1.85	2.31	2.69	2.44	2.98	2.66
5	1.98	2.58	2.19	1.85	*	2.46	3.02	2.65	2.73	2.08
6	2.36	2.77	2.34	2.31	2.46	*	2.55	2.16	2.91	2.16
7	2.28	2.95	2.48	2.69	3.02	2.55	*	2.58	2.03	2.77
8	2.97	2.94	2.99	2.44	2.65	2.16	2.58	*	1.96	1.26
9	2.69	2.53	2.68	2.98	2.73	2.91	2.03	1.96	*	2.34
10	2.15	2.65	2.53	2.66	2.08	2.16	2.77	1.26	2.34	*

Matrix I of the probability of error:

	1	2	3	4	5	6	7	8	9	10		
1	*	8.88	45.27	28.56	41.35	51.25	73.97	6.72	31.30	89.39	PR	27.88
2	8.88	*	14.01	21.34	43.45	24.17	9.47	9.77	49.74	35.97	PR	2.85
3	45.27	14.01	*	72.85	10.06	54.84	49.53	3.96	21.65	42.40	PR	6.99
4	28.56	21.34	72.85	*	82.61	63.01	28.96	62.56	7.33	30.39	PR	27.55
5	41.35	43.45	10.06	82.61	*	61.06	5.26	36.36	30.41	85.18	PR	30.14
6	51.25	24.17	54.84	63.01	61.06	*	43.26	66.54	7.73	72.69	PR	45.50
7	73.97	9.47	49.53	28.96	5.26	43.26	*	44.02	78.74	26.49	PR	19.98
8	6.72	9.77	3.96	62.56	36.36	66.54	44.02	*	**0.32**	**0.76**	PR	1.34
9	31.30	49.74	21.65	7.33	30.41	7.73	78.74	0.32	*	90.59	PR	4.76
10	89.39	35.97	42.40	30.39	85.18	72.69	26.49	0.76	90.59	*	PR	58.62

bigger are: 3.80 %
1=SUN; 2=MOON; 3=MERKUR; 4=VENUS; 5=MARS; 6=JUPITER; 7=SATURN; 8=URANUS; 9=NEPTUN; 10=PLUTO; 11=IC;
BEGIN: year: 1952 month: 1 day: 1 hour: 0 END: year: 2001 month: 1 day: 1 hour: 0

A comparison of the matrix for harmony (group of 62 gifted) with the matrix for group 4 harmony in Table 9 shows that it is not always the same oscillators that produce harmony. If it were, then only at certain times could children be born with giftedness (with a higher probability).

Matrix of correlation function for group (high IQ) from Table 15 for comparison:

```
Statistics 4: Probability of events: correlation matrix H
 Order of the correlation: 1 ; time shift d: 0 h: 0;
 GROUP-MEMBERS: 28 ; NUMBER OF THE GROUPS: 10000
 Julian-date-start: 2419037.458333 Julian-date-end: 2447527.458345
 Accidental selection;  TEST: Number of accidental selection >= correlation
  CORRELATION-MATRIX H AS INPUT
          1        2        3        4        5        6        7        8        9       10

  1       *       0.41    -0.27     0.17     0.97    -0.35     0.94     0.18     0.42    -0.98
  2      0.41      *       0.27    -0.39     0.77    -0.67     0.83    -0.94    -0.79    -0.78
  3     -0.27     0.27      *       0.57     0.87    -0.47     0.91     0.95     0.44     0.25
  4      0.17    -0.39     0.57      *      -0.21    -0.04    -0.26    -0.15     0.74    -1.48
  5      0.97     0.77     0.87    -0.21      *       0.21    -0.03     0.09     0.10    -0.43
  6     -0.35    -0.67    -0.47    -0.04     0.21      *       0.56     0.76     1.53     0.65
  7      0.94     0.83     0.91    -0.26    -0.03     0.56      *       0.31     0.15     0.75
  8      0.18    -0.94     0.95    -0.15     0.09     0.76     0.31      *       0.54     0.07
  9      0.42    -0.79     0.44     0.74     0.10     1.53     0.15     0.54      *       1.90
 10     -0.98    -0.78     0.25    -1.48    -0.43     0.65     0.75     0.07     1.90      *

  Matrix H of the probability of error:
          1        2        3        4        5        6        7        8        9       10

  1       *      26.71    83.98    19.20     5.62    73.50     7.57    40.02    25.69    93.92 PR  20.72
  2     26.71      *      33.98    72.26    12.18    85.46    10.50    92.22    88.30    88.84 PR  74.98
  3     83.98    33.98      *      28.20     6.60    80.25     8.85     7.26    25.58    34.26 PR   3.29
  4     19.20    72.26    28.20      *      77.64    56.01    64.10    61.10    13.82    99.00 PR  87.19
  5      5.62    12.18     6.60    77.64      *      33.75    47.48    47.59    48.67    80.72 PR  15.38
  6     73.50    85.46    80.25    56.01    33.75      *      20.02    12.96     1.08    15.06 PR  15.41
  7      7.57    10.50     8.85    64.10    47.48    20.02      *      34.02    46.08    11.03 PR   1.50
  8     40.02    92.22     7.26    61.10    47.59    12.96    34.02      *      38.13    71.18 PR  30.92
  9     25.69    88.30    25.58    13.82    48.67     1.08    46.08    38.13      *      20.69 PR   7.92
 10     93.92    88.84    34.26    99.00    80.72    15.06    11.03    71.18    20.69      *    PR  88.74
  bigger are:    9.14 %
 1=SUN;  2=MOON;  3=MERKUR;  4=VENUS;  5=MARS;  6=JUPITER;  7=SATURN;  8=URANUS;  9=NEPTUN; 10=PLUTO; 11=IC;
 BEGIN: year: 1911 month: 1 day: 1 hour: 0  END: year: 1989 month: 1 day: 1 hour: 0
```

For this group, the 6th order correlation for H indicates higher significances at birth.

```
 Statistics 4: Probability of events: correlation matrix H
 Order of the correlation: 6 ; time shift d: 0 h: 0;
 GROUP-MEMBERS: 28 ; NUMBER OF THE GROUPS: 10000
 Julian-date-start: 2419037.458333 Julian-date-end: 2447527.458345
 Accidental selection;  TEST: Number of accidental selection >= correlation
  CORRELATION-MATRIX H AS INPUT
          1        2        3        4        5        6        7        8        9       10

  1       *       0.13    -0.14    -0.01     0.18    -0.34     0.08    -0.04     0.22    -0.07
  2      0.13      *       0.09     0.44     0.09    -0.10     0.56     0.19     0.29    -0.50
  3     -0.14     0.09      *       0.03     0.26     0.12     0.06     0.12     0.34     0.47
  4     -0.01     0.44     0.03      *      -0.05     0.21     0.09    -0.23    -0.05     0.46
  5      0.18     0.09     0.26    -0.05      *      -0.06    -0.20     0.08    -0.19     0.10
  6     -0.34    -0.10     0.12     0.21    -0.06      *       0.62     0.05     0.54     0.17
  7      0.08     0.56     0.06     0.09    -0.20     0.62      *      -0.03     0.08     0.25
  8     -0.04     0.19     0.12    -0.23     0.08     0.05    -0.03      *       0.26    -0.08
  9      0.22     0.29     0.34    -0.05    -0.19     0.54     0.08     0.26      *       0.82
 10     -0.07    -0.50     0.47     0.46     0.10     0.17     0.25    -0.08     0.82      *

  Matrix H of the probability of error:
          1        2        3        4        5        6        7        8        9       10

  1       *      28.80    90.12    61.35    21.41    91.41    36.46    57.89    19.15    63.07 PR  48.43
  2     28.80      *      35.40     5.13    35.17    65.75     2.00    22.79    12.75    96.56 PR   6.83
  3     90.12    35.40      *      65.23    11.54    32.58    41.40    32.49     9.74     3.98 PR   3.14
  4     61.35     5.13    65.23      *      68.06    20.43    35.87    82.28    60.04     4.12 PR  13.98
  5     21.41    35.17    11.54    68.06      *      60.03    79.92    37.71    80.19    33.07 PR  43.98
  6     91.41    65.75    32.58    20.43    60.03      *       1.16    39.18     3.98    27.71 PR   7.59
  7     36.46     2.00    41.40    35.87    79.92     1.16      *      52.52    41.63    16.42 PR   3.48
  8     57.89    22.79    32.49    82.28    37.71    39.18    52.52      *      20.37    76.11 PR  40.75
  9     19.15    12.75     9.74    60.04    80.19     3.98    41.63    20.37      *       4.07 PR   1.64
 10     63.07    96.56     3.98     4.12    33.07    27.71    16.42    76.11     4.07      *    PR   8.35
  bigger are:    0.36 %
 1=SUN;  2=MOON;  3=MERKUR;  4=VENUS;  5=MARS;  6=JUPITER;  7=SATURN;  8=URANUS;  9=NEPTUN; 10=PLUTO; 11=IC;
 BEGIN: year: 1911 month: 1 day: 1 hour: 0  END: year: 1989 month: 1 day: 1 hour: 0
```

Pluto is always considered here, although its gravitational effect is, physically speaking, negligible. Obviously, however, an oscillator with this frequency is not negligible.
The only question is, can the small planet Pluto be considered as a pointer of this oscillator? Further investigations must follow here.

4. correlation with mental instabilities

Resonances of cosmic fluctuations are understood to be the interactions with existing patterns. These patterns have arisen in an earlier structure-forming process of the planetary fluctuations and have then been "frozen". This is the hypothesis. An indication that such patterns exist is shown by the following two investigations.
In this case the correlation function (10) is related to a time t_0. This point in time represents, so to speak, a "birth state" to which the correlations refer. In addition to the cross-correlations of the planets Hi, j, the self-correlations Hi,i are now added.

Is the stability or instability of mental processes influenced by planetary fluctuations?
The dynamic system of the brain, in order to be as adaptive as possible, must operate near a chaotic state. One such point of instability could be the alternation between concentration and inattention. There is a dissertation by Sara Klein Ridgley published on the Internet at: http://safire.net/sara/ that looks at work accidents and their timing relative to the birthday of the injured person. It evaluated 1005 accidents that resulted in hospitalization. The results of this study are shown in Fig 32 and Table 12. The original data on birthdays and accidents could not be obtained, so that the calculations with the correlation function (10) must be based on the figures given here. The disadvantage is that the accidents were each summed out to 1/12 of the year. This grid does not allow higher frequencies to be investigated. The influence of a possibly disharmonious moon in autocorrelation is therefore not detectable.

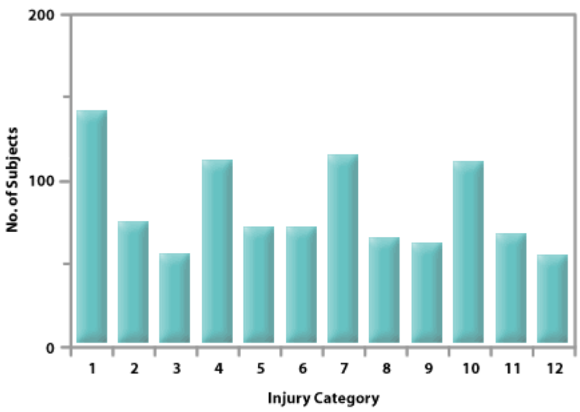


Fig 32. accident frequency relative to the birthday according to a study by Sara Klein Ridgley.
The number 1 indicates the period (1/12 of the year) around the birthday. The number 7 denotes the period (1/12 of the year) half a year away from the birthday. The deviations from the expected values are highly significant (according to Sara Klein Ridgley).

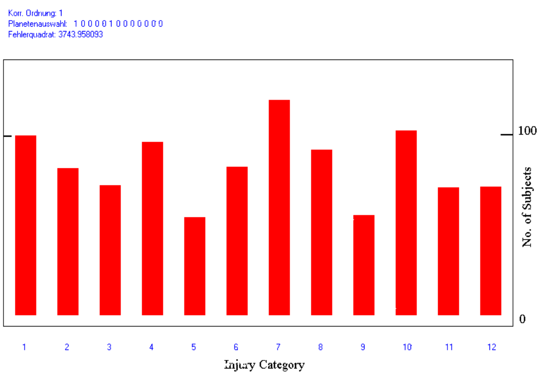


Fig 33. accident frequency relative to the birthday. This picture was calculated with the correlation function (10) for qualitative comparison with Fig 32. These are the autocorrelations of the Sun and Jupiter. The number 1 denotes the period (1/12 of the year) around the birthday. The number 7 represents the period (1/12 of the year) , which is half a year away from the birthday. The calculated values are given in table 24.

The influence of the Sun, Moon, Mercury, Venus, Mars, Saturn, Uranus, Neptune and Pluto was examined. For the pattern published by Sara Klein Ridgley, only the Sun (dominant), Jupiter and Saturn (marginal) have an influence.

It is interesting to compare the values for the period of the birthday (number 1). In the Sara Klein Ridgley sample, the accident frequency during this period is relatively high, while the values with

the correlation function do not show such high values. One reason, which has already been discussed by Sara Klein Ridgley, is the assumption that the frequency of accidents around the time of birth could be so high because birthday parties, combined with higher alcohol consumption and "birthday depression" could play a determining role:
"...They all answered without hesitation, that being injured around one's birthday could be expected for reasons such as being drunk, being tired from too many parties, general excitation around the birthday, and lowered spirits due to the feeling of getting older, etc. ...". (Sara Klein Ridgley)

Injury Category	Number of Subjects	Expected Value	$H_{i,i}$ (only Sun)	$H_{i,i}$ (Sun, Jupiter)	$H_{i,i}$ (Sun, Saturn)
1	139	83.75	99,5	100,6	99,4
2	72	83.75	80,3	82,4	82,5
3	55	83.75	72,8	72,4	74,9
4	113	83.75	100,8	97,0	99,6
5	72	83.75	54,6	54,6	57,0
6	72	83.75	82,2	82,8	82,8
7	117	83.75	120,4	120,7	118,9
8	66	83.75	89,4	92,4	90,9
9	63	83.75	50,5	55,8	54,4
10	114	83.75	102,8	103,3	100,4
11	67	83.75	72,7	71,4	70,2
12	55	83.75	79,0	71,7	74,0
Total	1005	1005	1005	1005	1005
		Mean relative error:	+- 5,24	+- 5,10	+- 5,17

Table 24. accident frequency relative to birthday according to a study by Sara Klein Ridgley. The number 1 indicates the period (1/12 of the year) around the birthday. The number 7 represents the period (1/12 of the year) half a year from the birthday.
birthday. The deviations from the expected values are highly significant (according to Sara Klein Ridgley).

In columns 4, 5 and 6 are the values calculated with the 1st order correlation function. Dominant for the rhythm of the relative accident frequency is the
self-correlation of the sun. Of the other celestial bodies, only Jupiter and Saturn have an effect on this rhythm. The influence of the moon cannot be
be proved, because its "frequencies" are too high for the interval division.

If one takes into account these socially conditioned influencing factors of the "birthday circumstances", the correlation brings even better values. Thus, the Chi-square value for column 5 (autocorrelation of Sun and Jupiter) is still 43.66.

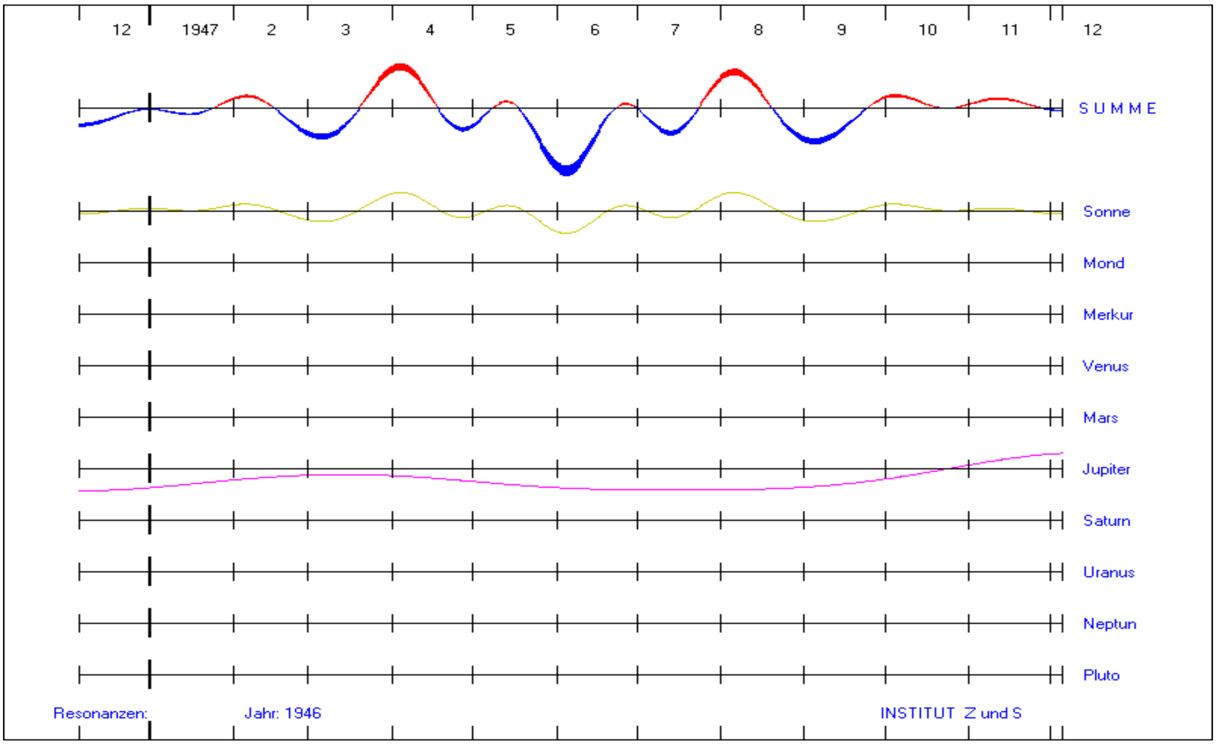


Fig 34. calculated autocorrelation function
1st order of sun and Jupiter relative to the birthday (here 6.12.1946).
For comparison with fig 32 and 33).

Since the accident statistics of the 1005 industrial accidents are not expected values of a theoretical distribution, the correlation quality between the recorded distribution and the distribution calculated according to the correlation function is better suited for an assessment. To be able to calculate this quantity, the expected value of the uniform distribution (83.75) is subtracted from each of the recorded and calculated accidents.
The correlation quality is then calculated in this case from the sum of the products of the recorded with the calculated deviations from the expected value of the uniform distribution, normalized with the sum of the squares of the deviations from 83.75 of the recorded values. The value thus calculated for the autocorrelations of Jupiter and the Sun is: correlation quality = 0.533 (correlation between recorded and calculated accident distribution. This value is positive if there is a correlation and negative if there is an opposite trend).

The result clearly shows that, in addition to other factors influencing the frequency of accidents, an influence of planetary fluctuations appears to be possible.

5 Temporal rhythms in society

We live in a time when crises are booming.
All these crises also have a name, but the reassuring thing is: they are over!
But what will the future bring? We humans are endowed with the gift of thinking about the future.
And so we naturally ask ourselves: Is that all there is? Or is there worse to come?

We are already talking about a scientific apocalyptic. When will the climate kill us? When will the distribution battles over rapidly diminishing raw materials plunge us into a global war of annihilation? Is it perhaps a super volcano or a large comet that will finish us off?
Or is it "no possible external influences, such as comet impacts or a pandemic" that lead to a crisis of humanity. Are they perhaps even only well-intentioned developments that can no longer be stopped in their complex interaction?
If we as mankind are not yet at the end, we have at least already scientifically researched it. In "The World Without Us" by Alan Weisman it is scientifically meticulously listed which traces will still be visible and for how long after humans have disappeared from the earth.
Is there now already a crisis model, which, like the climate model, calculates for us the next catastrophes on the way to the apocalypse with a certain probability?
We know that weather forecasts calculated by supercomputers are getting better and better. And when these computers predict bad weather, you can count on it coming - unfortunately. There is less and less room for hope that the computer is wrong.

There are economic models and also attempts to relate economic events to cycles. The Kondratjev cycle is one such model, which, following the seasons, speaks of an economic winter, for example, which is then followed by a spring.
The problem is always the great complexity, which must take into account so many influencing factors that it is certainly very difficult to make reliable statements about the future of the economy. Especially since today the central banks are also trying to slow down these cycles and make them less severe by means of control measures. But will they succeed?

One can also assume as a scientific hypothesis that the 4 billion year stability of the planetary cycles of the gravitational field has an influence on global events. In the biographical rhythms, such as the midlife crisis, they can also be traced.

It takes little time to find out that the rhythms of the planets Jupiter to Pluto, Neptune excluded, indicate a very great disharmony for the years 2009/2010/2011. The curves calculated with the program for the time quality of the planetary rhythms are shown in Fig 35.

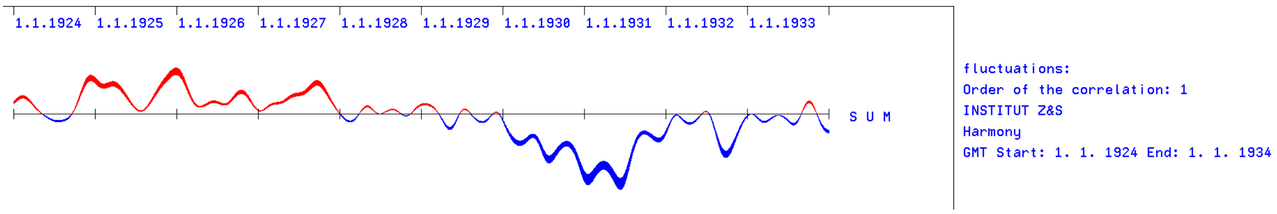


Fig 35. time quality H 1924 to 1933 of the planets Jupiter, Saturn, Uranus and Pluto.
If the top curve is below the center line (blue area), it indicates disharmonies. Above the middle line (red area), harmonies determine the planetary rhythms.

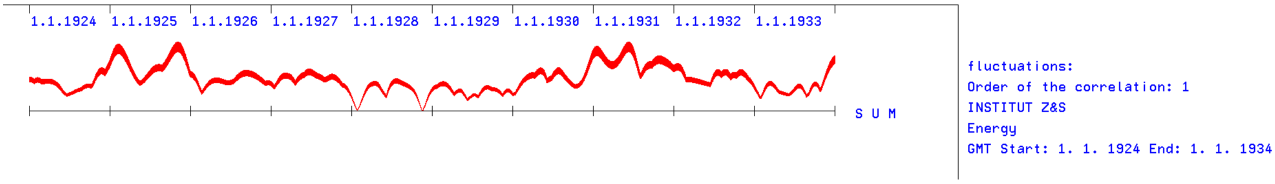


Fig 36. quality of time I 1924 to 1933 of the planets Jupiter, Saturn, Uranus and Pluto.

It can be clearly seen in Fig 35 that the stock market crash was only the trigger for the global crisis that followed. The year 1929 gave the crisis its name.
The energy in the period 1924 to 1933 shows high values for the year 1931. This means that many of the planets involved contribute to disharmony just as many planets contribute to harmony in 1925.

Do we find here a repetition of this crisis at a later time?

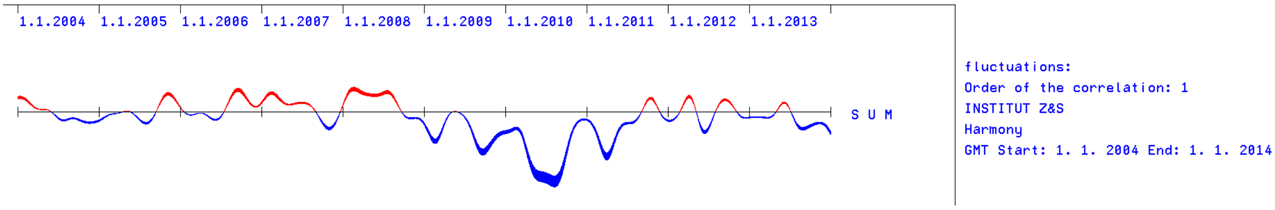


Fig 37. time quality H 2004 to 2014 of the planets Jupiter, Saturn, Uranus and Pluto.

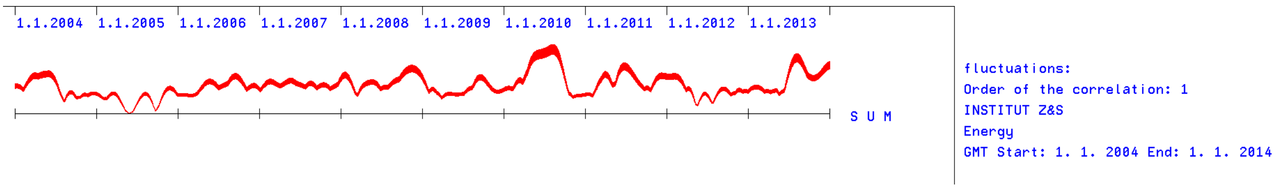


Fig 38. quality of time I 2004 to 2014 of the planets Jupiter, Saturn, Uranus and Pluto.

Characteristic of the 1929 and 2008 crises is the relatively slow descent into disharmony.
The extent to which triggering by higher frequencies is also significant here must be left to further investigations.
How do these crises behave over a longer period of time? For this purpose, 100 years are calculated. Fig. 39. shows the results:

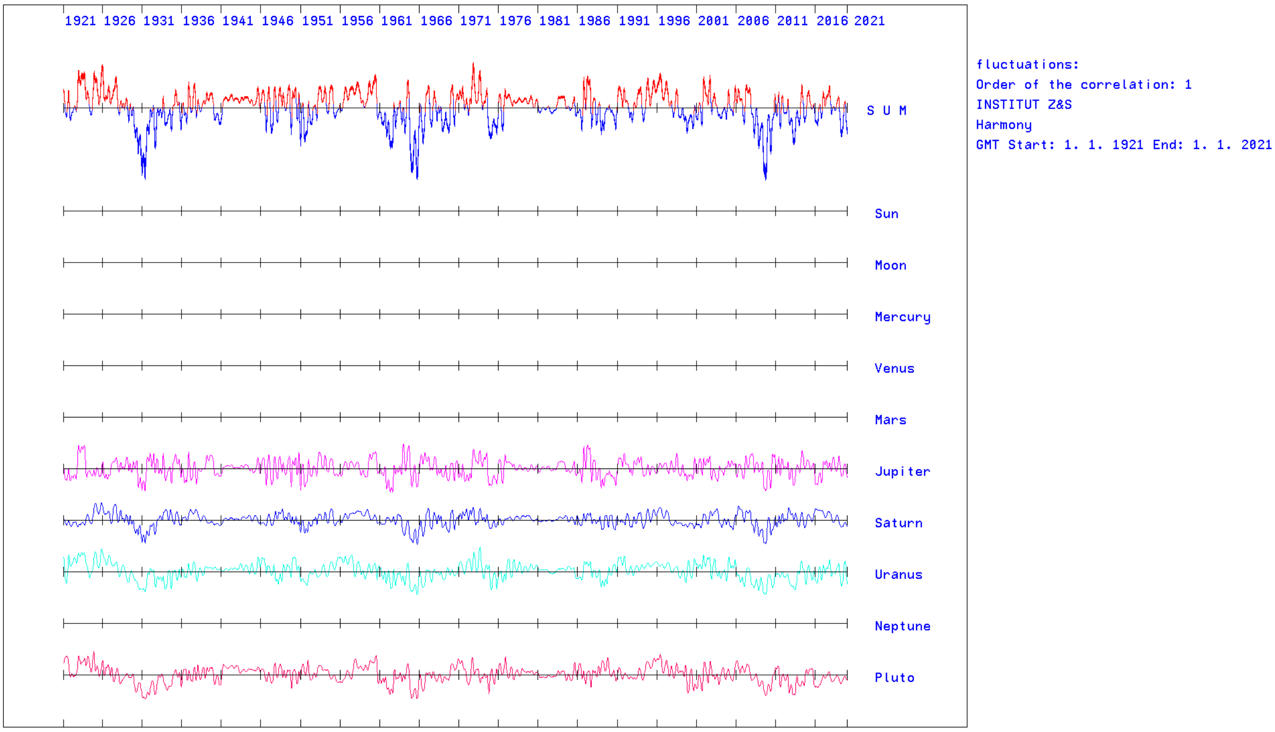


Fig 39. the three major disharmonies of the major planets (except Neptune) in the planetary gravitational field over the last 100 years.
The greatest crisis of civilization occurred between 1961 and 1968, at the height of the Cold War between the world's leading military powers at the time.
The two financial and economic crises of 1929 and 2008 are also clearly visible.

Do we see a similar disharmony in the planetary rhythms in the future?

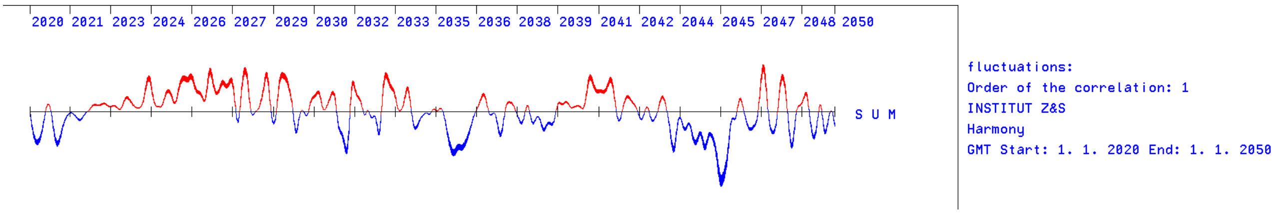


Fig 40. time quality H 2020 to 2050 of the planets Jupiter, Saturn, Uranus and Pluto.

In fact, a strong disharmony can be seen for the years 2043 to 2045. In fact, it is the strongest disharmony of the entire century. If the oscillator Neptune, which has played only a marginal role in the financial crises, is added, the character of the crisis changes.

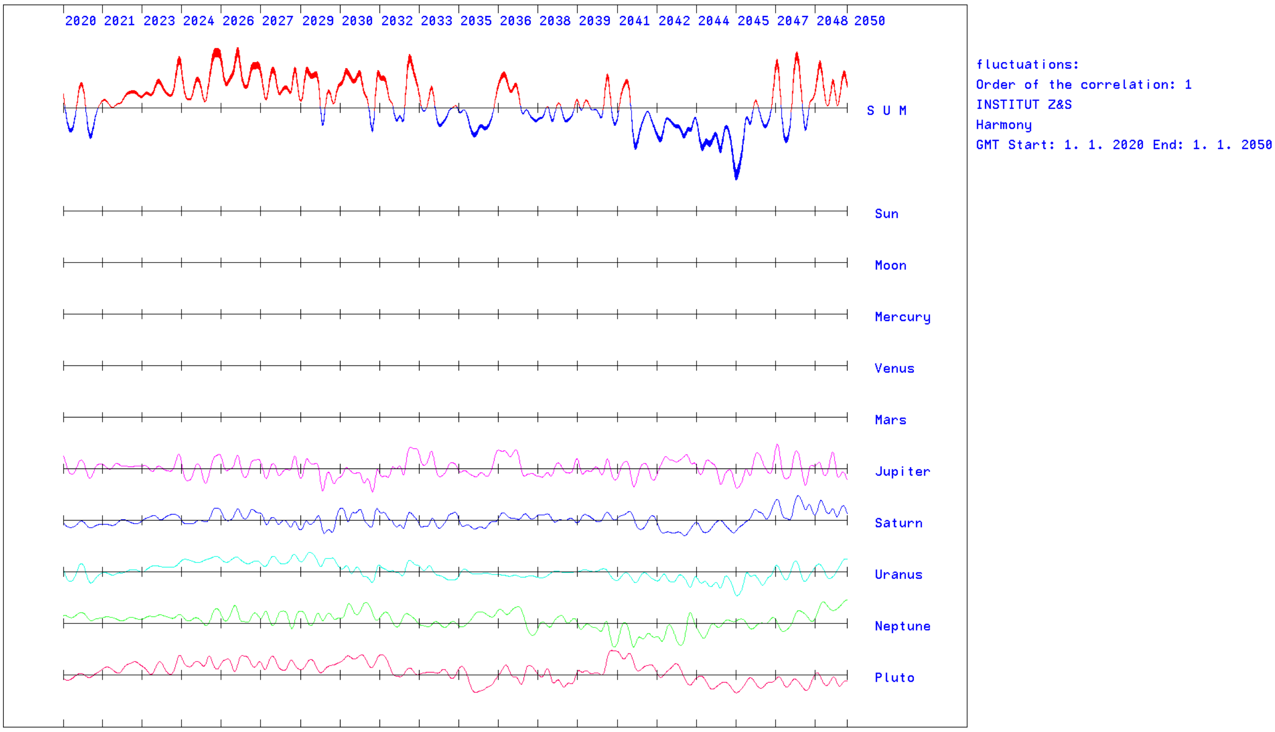


Fig 41. time quality H 2020 to 2050 of the planets Jupiter, Saturn, Uranus Neptune and Pluto.

The year 2045 is the year of the apocalypse for the Fermi Paradox and also the year of the Technological Singularity according to Raymond Kurzweil.
The next 30 years will go down in history as a watershed period.
Ian Morris, in his book, "Who Rules the World? Why Civilizations Rule or Are Ruled" he mentions five Apocalyptic Horsemen by name that can serve as signs of a world turning. He arrives at these 5 cardinal signs from an analysis of the past ten thousand years of human evolution.

Are these Morris Horsemen really capable of ushering in an Age of Darkness in their entirety, or are fewer but more terrifying Horsemen enough?

The Apocalyptic Horsemen according to Morris are:

1. famines
2. epidemics
3. uncontrolled migration
4. political instability
5. climate change

From the experience of previous investigations, not all of which are listed here, there is indeed an increased probability of an apocalypse due to planetary dysharmony. However, an apocalypse need not mean the end of mankind.

6 . Correlations in individual human development

In biology, it is almost impossible to derive realistic models from a few basic differential equations. An unmanageable number of parameters leads to models that are no longer practical. Infinitesimal observations or even measurements lose their meaning in biography. Therefore, a low-dimensional minimal model is developed that can reproduce the phenomena to be observed, oscillations in life stages. Simple elements of the model, through their combinations and variable orders, create the possibility to capture the manifoldness of observable phenomena.
The background of the model is first of all the purely pragmatic assumption that processes of change in personality development are at least partly endogenously pre-programmed. However, the primary intention is not to depict a theoretically justifiable approach to personality. This could, however, result from the practical investigations.

The object of investigation in this section are developmental stages of human biography and their modelling as a psychodynamic process with non-linearly coupled oscillators (the planets). Such developmental stages are phases of increased growth in childhood and adolescence, periods of psychological instability, but also stability.

The results of the investigations suggest that the whole variety of the human-psychic can be traced back to the effectiveness of a few factors (here oscillators). However, these factors are not to be understood statically in such a way that only their individual degrees of expression determine the human being in psychological terms. Rather, they have a dynamic, impulse-giving effect on the autogenesis of a person. The knowledge of these dynamically acting factors in the past and future of the individual can then support the striving for self-optimization and self-management by becoming aware of them.

6 .1 Development from birth to 12 years of age

In these investigations, the interdisciplinary range is very much in demand. The origins of these examinations lie in a textbook for painters entitled:" Der nackte Mensch - Künstleranatomie". There I found the sentence:" Between the 3rd and 5th year of life the infant takes on a charm that never returns. . . " This indicates a stable state of development at this age.

Fig 42: The charm of the four-year-old child is never equalled later. (Pictures by Anselm Feuerbach and Liesel Lauterborn)

This is then followed by a change in shape, which is accompanied by instabilities, which are so in the 6th and 7th year of life. This rhythm of stability and instability in development is also visible in the body forms during childhood. Thus, artists of earlier times preferred the phases of relative stability, harmony and balance for the depiction of childlike and adolescent angels.

The research favors a developmental model that involves a psychodynamic process between crisis and crisis resolution. Some preliminary remarks on the following pictures: The mean orbital periods of the planets were used to calculate the curves.

These are therefore at best statistical averages. In concrete, individual cases, the curves can deviate by up to two years.

Fig 43. The physical harmony of the 11-year-old child, the climax of childhood *(picture: "Cupid as victor" by Michelangelo da Caravaggio)*

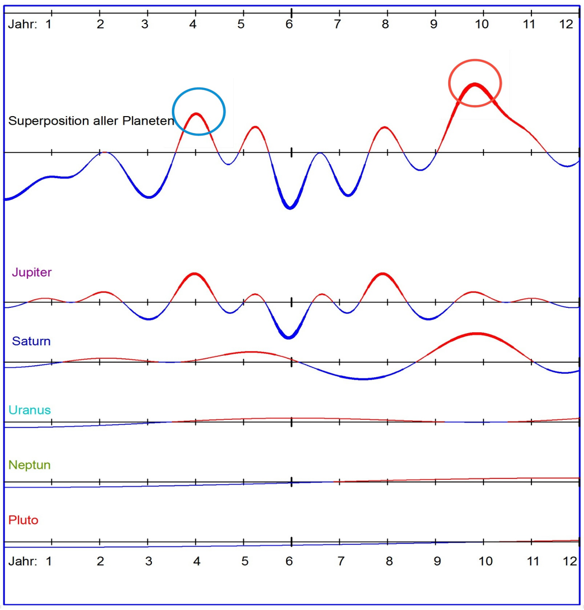
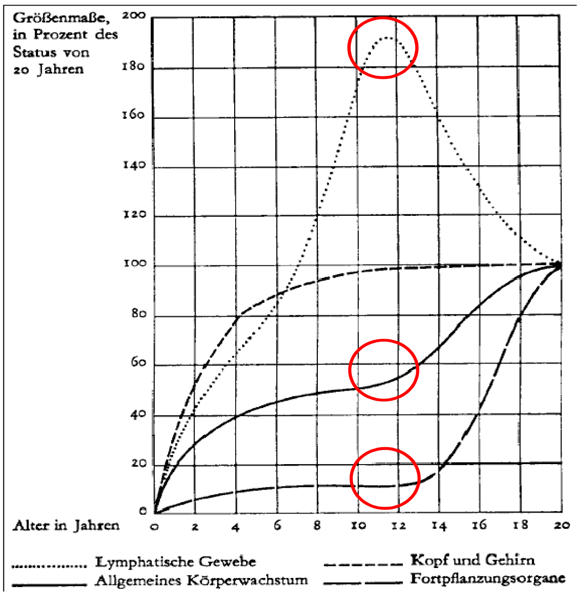


Fig. 44. shows the superposition of the (slow, biographic) planets Jupiter up to and including Pluto. Dominant during this period are only Jupiter and Saturn. Three major instabilities or crises of development can be discovered. This is birth, which is undoubtedly a crisis for the individual. The second crisis ushers in the "defiance phase" around the third year of life.



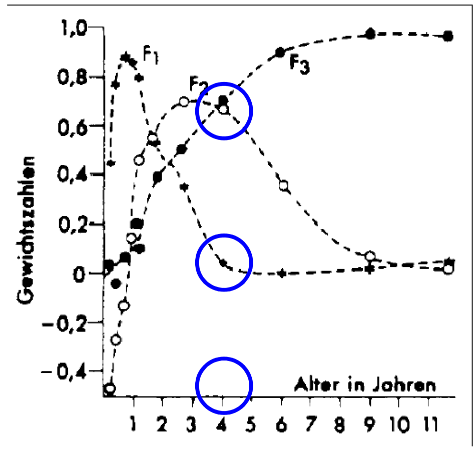


Fig 45. autocorrelations of major planets with different types of developmental curves. The developmental curves are from M. Tücke, "Developmental Psychology of Childhood and Adolescence. . . "

The first stage is the "loveliness" of the child around the age of 4. This is just the time when the annual increase in length growth slowed down. It will not increase again until puberty. Also, sensorimotor wakefulness has come to rest. The second phase is the "peak of childhood" around the 10th and 11th year. The body proportions are relatively harmonious. The lymphatic tissue has reached its maximum. It is the calm before the storm of the following puberty.
A third phase of instability begins around the age of 6. The external appearance of the children also changes very much. The period around the 6th and 7th year of life means a big break for all children all over the world. It is usually associated with starting school and the change of teeth. In addition to the phases of instability and disharmony, there are also two phases of particular stability and harmony.

Of course there are differences between boys and girls but also individual developmental differences. These curves were obtained from the autocorrelations. The addition of the cross correlations leads to a first individualization. A second individualization is achieved by triggering the higher frequencies of Mars and Venus. It is possible that these frequencies also affect the different onset of puberty. There are, of course, many other circumstances that affect the onset of puberty. But at certain intervals the planetary fluctuations trigger it. Whether puberty then begins or at a later (triggered) time also depends on environment, diet, and genetic predispositions. However, these studies are still in their infancy.

6.2 Development from 13 to 24 years of age

The peak of the pubertal period is around the age of 15. The childlike facial forms are in the process of dissolution. The grace of adolescence, a stable phase, does not emerge until about the 16th/17th year of life. While in childhood the stable and unstable phases can still be well associated with physical growth processes, in adolescence the influence increasingly shifts to psychological processes.

Fig 46. the grace of the 16-year-old youth the climax of youth. (Picture by Hans Thoma)

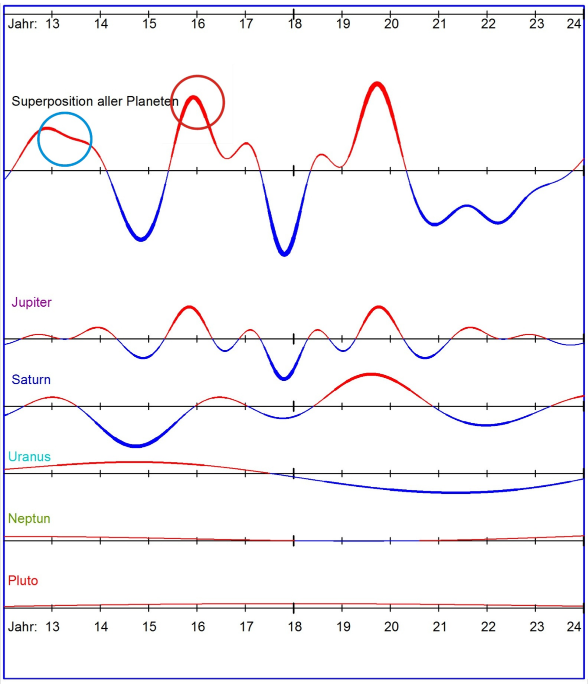


Fig 47. autocorrelation of the major planets during pupation

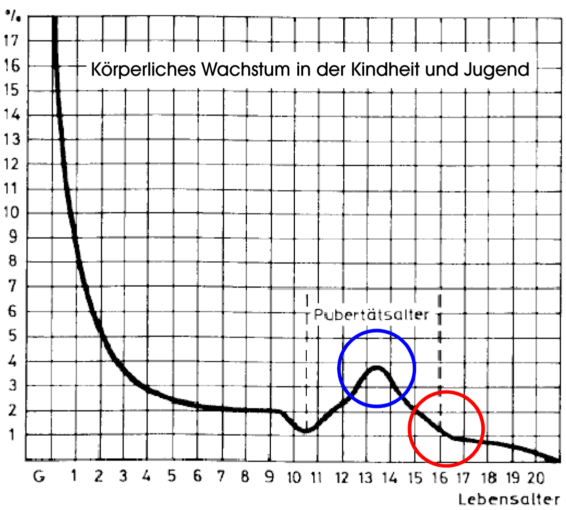


Fig 48. the curve is from M. Tücke, "Developmental Psychology of Childhood and Adolescence. . . "

6.3 Particularities in the biography from the age of 25 onwards

In adult biography, one may raise the following question: Can the controversial but very popular midlife crisis be identified in planetary fluctuations? It does seem to be the longest and greatest unstable phase in the life course. While in childhood the planets Jupiter and Saturn were able to exert an influence, now the planets Uranus and Neptune have been added to the mix. The superposition of all these planets shapes the character of this unstable phase. (Figure 16)

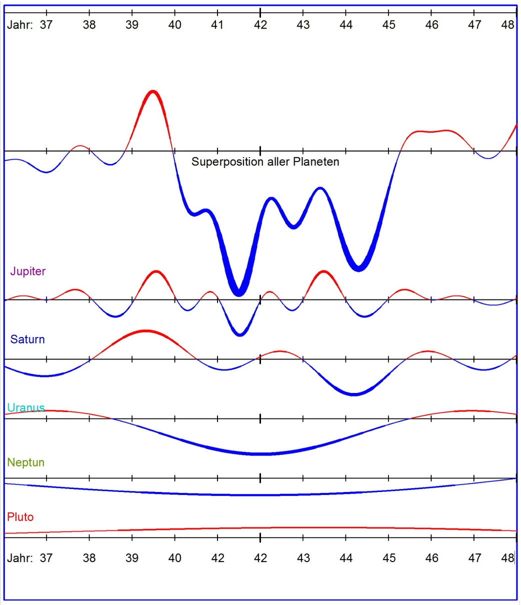


Fig. 49: The midlife crisis and its reflection in the autocorrelations of the major planets. In addition to Jupiter and Saturn, the oscillators Uranus and Neptune are now important.

What follows the midlife crisis, some of you surely already know: It is the equally popular "Best Years". These are also depicted in the planetary fluctuations as a long-lasting stable and harmonious time. Individual exceptions are of course always possible!

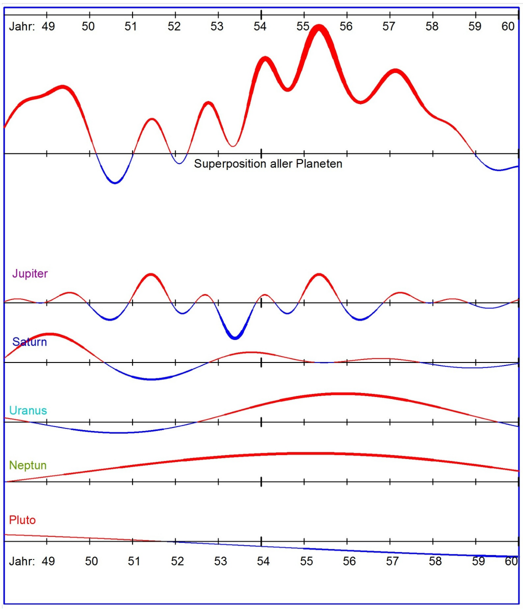


Fig. 50: The "best years" in a person's biography. Exceptions are always possible!

7 Concluding remarks

Finally, a few remarks on further research. Already the research on earthquakes has shown that not all correlations have the same weight. For example, Pluto had no effect on triggering the earthquakes. But also the other examples suggest to introduce a factor which allows an adjustment to the studied problem. This factor has the function of a frequency filter. Possibly it will have a dependence on the gravitational force, the frequency and the resonance frequencies. Such an optimization is necessary if this correlation theory is to be used to make predictions with a higher probability.

The aim of this research was to provide evidence that planetary fluctuations exert an influence that cannot always be neglected. If one defines chance in evolution as a lack of complete information, then with the inclusion of the fluctuations of the planetary gravitational field this lack can be somewhat reduced.

The simulation hypothesis of philosopher and astrophysicist Nick Bostrom has a non-zero probability. It is also possible that the investigations into the microgravity of the planetary system have less to do with gravity than with a simulation hypothesis. In my view, the probability of this is not zero either.

Fig 51. god_the_geometer. From Wikipedia

8. bibliography and references

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Research examples and research trend. In: Mainzer, K. (1999)

Complex systems and nonlinear dynamics in nature and society.

Springer, Heidelberg New York Barcelona Budapest Hong Kong

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[2] Keilis-Borok, V.,Soloviev, A.: Nonlinear Dynamics of the Lithosphere and Earthquake Prediction, Springer Verlag, Berlin, 2003.

[3] Emter, D.: Tidal triggering of earthquakes and volcanic events,

In Tidal Phenomena, Lecture Notes in Earth Sci., 66, Wilhelm, H., Züm, W., & Wenzel,

H.-G., eds, Springer Verlag, Berlin, 293- 310 (1997).

[4] Nitsche, M. E., 2001: THE NON-LINEAR INTERACTION OF THE PLANETARY GRAVITATIONAL FIELD ON EARTHQUAKES; Lecture on the International Association for Mathematical Geology; IAMG 2003 Portsmouth, UK ; September 7-12, 2003.

[5] "Earthquakes of magnitude 6.5 or greater or those that caused fatalities, injuries or substantial damage."

Compiled by Waverly J. Person

SGS National Earthquake Information Center

http://www.usgs.gov/

http://neic.usgs.gov/neis/eqlists/significant.html

9. selected data

9.1 The 41 strongest earthquakes 1900 to 2000

NAME,C,200		ORT,C,200	LAENGE,	BREITE,	ZEIT	DATUM,C,20	ZEIT,C,20	SOMMERZEIT,C,
China	Tangshan	Peking	116.25	39.55	8	28.7.1976	03:42:00	0
Japan	Yokohama	Yokohama	141.15	41.4	10	1.9.1923	11:58:00	0
China	Gansu	Peking	116.25	39.55	8	16.12.1920	20:06:53	0
Peru	Norden	Lima	-77.3	-12.3	-5	31.5.1970	11:23:00	0
Iran	Nordwesten	Teheran	51.26	35.4	3	21.6.1990	00:30:00	0
Tuerkei	Osten	Ankara	32.52	39.56	2	27.12.1939	01:57:00	0
Chile	Chillan	Santiago	-70.4	-33.27	-5	24.1.1939	23:32:00	0
Iran	Nordosten	Teheran	56:55	33:35	3	16.9.1978	19:38:00	0
Armenien	Nordwesten	Jerewan	44.30	40.11	4	7.12.1988	11:41:00	0
Guatemala	Guatemala	Guatemala City	90.77	14.6	-6	4.2.1976	03:02:00	0
Indien	SW	Bombay	72.5	18.58	5	30.9.1993	03:56:00	0
Chile	Valparaiso	Santiago	-70.4	-33.27	-5	16.8.1906	19:55:00	0
Mexico	Mexico	Mexiko City	-99.9	19.24	-6	19.9.1985	07:18:00	0
Japan	Kobe	Tokyo	139.46	35.42	9	17.1.1995	05:46:00	0
Afghanistan	NO	Kabul	70.0	35.0	4	4.2.1998	10:33:00	0
Tuerkei	XY	Ankara	32.52	39.56	2	17.8.1999	03:02:00	0
L1-1	Nordjapan	Nordjapan	148.50	44.30	9	6.11.1958	22:58:00	0
L1-2	Kurilen	Kurilen	161.0	53.0	10	3.2.1923	16:01:00	0
L1-3	Mitteljapan	Mitteljapan	144.50	39.20	9	2.3.1933	17:30:00	0
L1-5	Mongolei	Mongolei	98.0	49.0	6	23.7.1905	2:46:00	0
L1-4	Mongolei	Mongolei	99.0	49.0	6	9.7.1905	9:40:00	0
L1-6	Molukken	Molukken	130.50	-5.20	9	1.2.1938	19:04:00	0
L1-7	Chile	Chile	-70.0	-28.50	-4	11.11.1920	4:32:00	0
L1-8	Kurilen	Kurilen	149.50	44.80	10	13.10.1963	5:17:00	0
L1-9	Nordindien	Nordindien	96.50	28.60	6	15.8.1950	14:09:00	0
L1-10	Aleuten	Aleuten	178.60	51.30	13	4.2.1965	5:01:00	0
L1-11	Kolumbien	Kolumbien	-81.50	1.0	-5	31.1.1906	15:36:00	0
L1-12	Nordkurilen	Nordkurilen	161.0	52.30	12	4.11.1952	16:58:00	0
L1-13	Aleuten	Aleuten	-175.80	51.30	-11	9.3.1957	14:22:00	0
L1-14	Alaska	Alaska	-147.60	61.10	-10	28.3.1964	3:36:00	0
L1-15	Chile	Chile	-74.50	-39.50	-4	22.5.1960	19:11:00	0
L2-1	China	China	77.0	40.0	8	22.8.1902	3:00:00	0
L2-2	Japan	Japan	143.0	42.50	9	4.3.1952	6:03:00	0
L2-3	Ecuador	Ecuador	-76.80	-8.0	-5	16.11.1907	10:10:00	0
L2-4	Marianen	Arianen	143.0	22.0	10	24.11.1914	11:53:00	0
L2-5	Samoa	Samoa	-173.0	-15.50	-10	26.6.1917	5:49:00	0
L2-6	Nicobaren	Nicobaren	92.50	12.50	5	26.6.1941	11:52:00	0
L2-7	S	S	131.0	28.0	10	15.6.1911	12:00:00	0
L2-8	S	S	-158.0	55.50	-10	10.11.1938	20:18:00	0
L2-9	Westchina	westchina	77.50	43.50	8	3.1.1911	23:25:00	0
L2-10	Nordneuseeland	Nordneuseeland	-176.40	-28.10	-12	20.10.1986	6:46:00	0

9.2 List of highly gifted people

	A	B	C	D	E	F	G
1	NAME,C,200	LAENGE,C,12	BREITE,C,12	ZEITZONE,C,8	DATUM,C,20	ZEIT,C,20	SOMMERZEIT
2	HB	10.00	50.00	1	04.11.1952	01:30:00	0
3	HB	10.00	50.00	1	07.10.1953	07:50:00	0
4	HB	10.00	50.00	1	24.07.1953	08:49:00	0
5	HB	10.00	50.00	1	27.01.1954	19:35:00	0
6	HB	10.00	50.00	1	05.09.1954	21:00:00	0
7	HB	10.00	50.00	1	09.09.1954	08:00:00	0
8	HB	10.00	50.00	1	07.11.1955	01:30:00	0
9	HB	11.35	48.08	1	03.03.1957	15:20:00	0
10	HB	10.00	50.00	1	26.09.1957	23:22:00	0
11	HB	10.00	50.00	1	15.07.1958	10:35:00	0
12	HB	11.35	48.08	1	17.03.1959	16:26:00	0
13	HB	10.00	50.00	1	27.03.1959	09:45:00	0
14	HB	10.00	50.00	1	20.02.1963	11:47:00	0
15	HB	10.00	50.00	1	10.07.1965	21:45:00	0
16	HB	10.00	50.00	1	28.11.1963	02:33:00	0
17	HB	10.00	50.00	1	22.06.1963	07:10:00	0
18	HB	10.00	50.00	1	25.09.1963	10:25:00	0
19	HB	10.00	50.00	1	21.12.1961	15:21:00	0
20	HB	10.00	50.00	1	04.08.1968	14:38:00	0
21	HB	13.30	52.30	1	03.02.1966	11:57:00	0
22	HB	10.00	50.00	1	12.08.1966	01:45:00	0
23	HB	10.00	50.00	1	01.06.1969	09:03:00	0
24	HB	10.00	50.00	1	01.09.1966	10:58:00	0
25	HB	10.00	50.00	1	06.04.1967	02:47:00	0
26	HB	10.00	50.00	1	30.01.1962	21:00:00	0
27	HB	10.00	50.00	1	24.07.1969	16:00:00	0
28	HB	11.35	48.08	1	13.02.1968	21:36:00	0
29	HB	11.35	48.08	1	21.05.1962	10:10:00	0
30	HB	10.00	50.00	1	04.01.1964	15:00:00	0
31	HB	10.00	50.00	1	02.04.1964	08:05:00	0
32	HB	10.00	50.00	1	01.03.1965	12:50:00	0
33	HB	10.00	50.00	1	12.12.1964	21:00:00	0
34	HB	10.00	50.00	1	16.08.1967	16:50:00	0
35	HB	11.35	48.08	1	21.09.1985	09:22:00	1
36	HB	10.00	50.00	1	19.09.1993	08:15:00	1
37	HB	10.00	50.00	1	01.09.1991	20:00:00	1
38	HB	10.00	50.00	1	05.12.1996	00:39:00	0
39	HB	10.00	50.00	1	01.07.1983	06:00:00	1
40	HB	11.35	48.08	1	20.01.1997	10:08:00	0
41	HB	11.35	48.08	1	08.11.1995	07:20:00	0
42	HB	10.00	50.00	1	22.01.1988	10:07:00	0
43	HB	11.35	48.08	1	27.07.1995	01:23:00	1
44	HB	11.35	48.08	1	30.04.1993	09:44:00	1
45	HB	11.35	48.08	1	06.10.1981	01:31:00	0
46	HB	11.35	48.08	1	13.01.1999	12:58:00	0
47	HB	11.35	48.08	1	26.04.1997	01:29:00	1
48	HB	10.00	50.00	1	15.09.1992	02:47:00	1
49	HB	10.00	50.00	1	31.01.1987	01:00:00	0
50	HB	10.00	50.00	1	22.04.1984	13:00:00	1
51	HB	10.00	50.00	1	25.10.1980	14:44:00	0
52	HB	11.35	48.08	1	27.05.1996	06:21:00	1
53	HB	11.35	48.08	1	13.08.1992	14:35:00	1
54	HB	11.35	48.08	1	05.09.1994	16:45:00	1
55	HB	10.00	50.00	1	11.09.1991	17:30:00	0
56	HB	10.00	50.00	1	21.06.1986	23:30:00	0
57	HB	10.00	50.00	1	23.09.1995	10:32:00	1
58	HB	11.35	48.08	1	20.02.1997	07:28:00	0
59	HB	10.00	50.00	1	10.10.1988	05:14:00	0
60	HB	11.35	48.08	1	13.05.2000	01:27:00	1
61	HB	11.35	48.08	1	01.12.2000	13:05:00	0
62	HB	10.00	50.00	1	23.03.1978	04:55:00	0
63	HB	10.00	50.00	1	24.09.1948	05:50:00	1

10 Manual ASTRO-basis

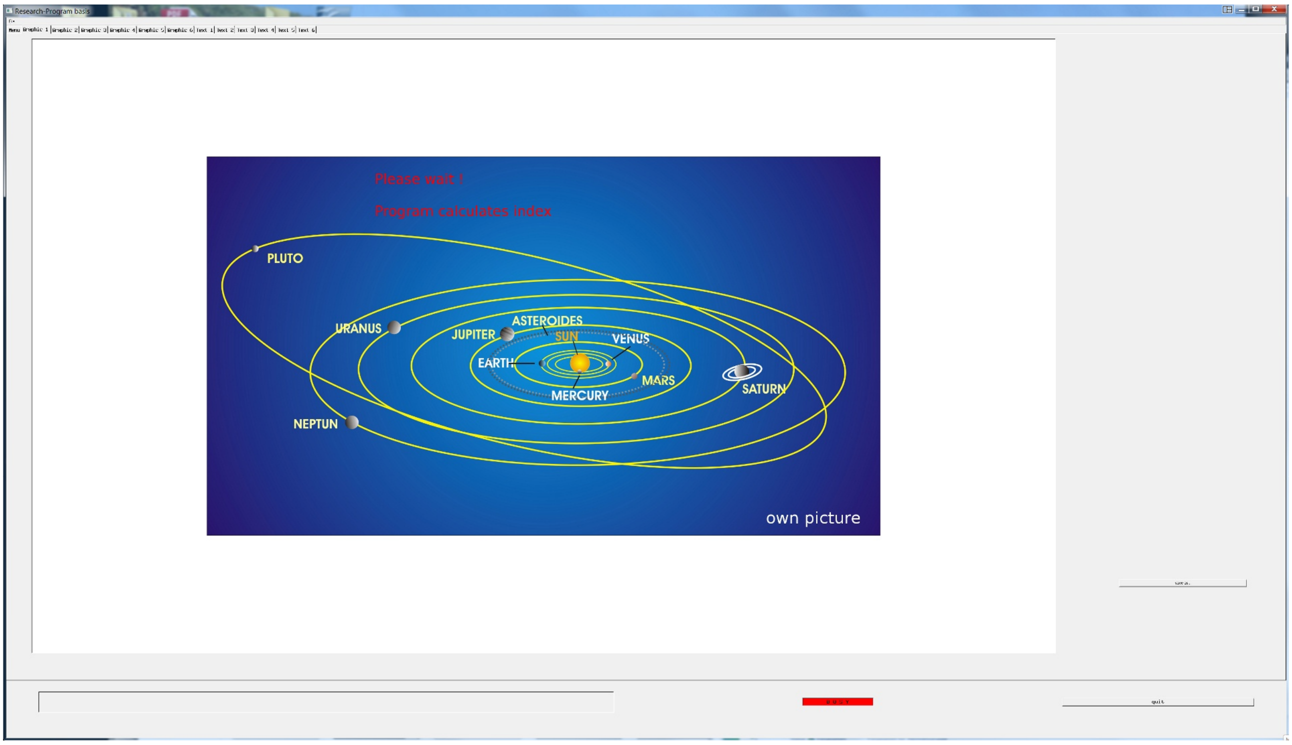
The program calculates the gravitational interactions of the Sun, Moon and the planets up to Pluto. Asteroids are not calculated. The calculated correlation function can be interpreted as a vector field with higher harmonics.

10.1 Starting the program

The program "astro-basis.exe " is started by double-clicking in the ASTRO directory.

Important: The files already existing in the directory must not be changed.

The start screen appears

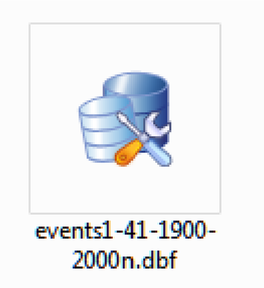


Before the input can be started, the program calculates the lists for the orders 1 to 12 of the correlation function.

This calculation is displayed in the upper left corner and in the lower right corner.
The duration of these calculations depends on the performance of the computer.
Once these calculations have been completed, the actual investigations can begin.
The following example is calculated for this purpose.

10.2 Calculation for the 41 earthquakes

10.2.1 Statistics 1 - Continuum



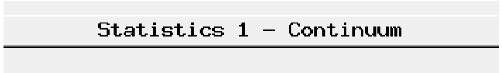
The file of the earthquakes is saved in the database format dbf. It can also be edited with the OpenOffice.org Writer. Other formats are not processed.
It is useful to label the database with the number of events and the time period. Calculations on this in "Microgravity; Chapter 2.1 An initial study of 41 of the strongest earthquakes".

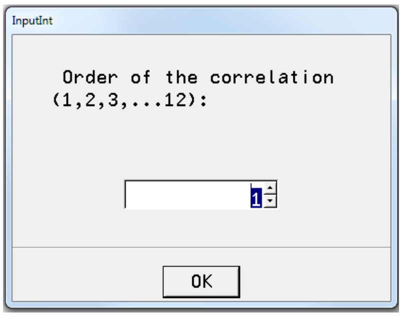
	A	B	C	D	E	F	G	H	I	J	K	L
1	NAME,C,200	VORNAME,C,20	ORT,C,200	LAENG	BREIT	ZEI	DATUM,C,2	ZEIT,C,20	S	KATEGORIE	TYP,C,30	NOTIZEN,C,0
2	China	Tangshan	Peking	116.25	39.55	8	28.7.1976	03:42:00	0			
3	Japan	Yokohama	Yokohama	141.15	41.4	10	1.9.1923	11:58:00	0			
4	China	Gansu	Peking	116.25	39.55	8	16.12.1920	20:06:53	0			
5	Peru	Norden	Lima	-77.3	-12.3	-5	31.5.1970	11:23:00	0			
6	Iran	Nordwesten	Teheran	51.26	35.4	3	21.6.1990	00:30:00	0			
7	Tuerkei	Osten	Ankara	32.52	39.56	2	27.12.1939	01:57:00	0			
8	Chile	Chillan	Santiago	-70.4	-33.27	-5	24.1.1939	23:32:00	0			
9	Iran	Nordosten	Teheran	56:55	33:35	3	16.9.1978	19:38:00	0			
10	Armenien	Nordwesten	Jerewan	44.30	40.11	4	7.12.1988	11:41:00	0			
11	Guatemala	Guatemala	Guatemala City	90.77	14.6	-6	4.2.1976	03:02:00	0			
12	Indien	SW	Bombay	72.5	18.58	5	30.9.1993	03:56:00	0			
13	Chile	Valparaiso	Santiago	-70.4	-33.27	-5	16.8.1906	19:55:00	0			
14	Mexico	Mexico	Mexiko City	-99.9	19.24	-6	19.9.1985	07:18:00	0			
15	Japan	Kobe	Tokyo	139.46	35.42	9	17.1.1995	05:46:00	0			
16	Afghanistan	NO	Kabul	70.0	35.0	4	4.2.1998	10:33:00	0			
17	Tuerkei	XY	Ankara	32.52	39.56	2	17.8.1999	03:02:00	0			
18	L1-1	Nordjapan	Nordjapan	148.50	44.30	9	6.11.1958	22:58:00	0			
19	L1-2	Kurilen	Kurilen	161.0	53.0	10	3.2.1923	16:01:00	0			
20	L1-3	Mitteljapan	Mitteljapan	144.50	39.20	9	2.3.1933	17:30:00	0			
21	L1-5	Mongolei	Mongolei	98.0	49.0	6	23.7.1905	2:46:00	0			
22	L1-4	Mongolei	Mongolei	99.0	49.0	6	9.7.1905	9:40:00	0			
23	L1-6	Molukken	Molukken	130.50	-5.20	9	1.2.1938	19:04:00	0			
24	L1-7	Chile	Chile	-70.0	-28.50	-4	11.11.1920	4:32:00	0			
25	L1-8	Kurilen	Kurilen	149.50	44.80	10	13.10.1963	5:17:00	0			
26	L1-9	Nordindien	Nordindien	96.50	28.60	6	15.8.1950	14:09:00	0			
27	L1-10	Aleuten	Aleuten	178.60	51.30	13	4.2.1965	5:01:00	0			
28	L1-11	Kolumbien	Kolumbien	-81.50	1.0	-5	31.1.1906	15:36:00	0			
29	L1-12	Nordkurilen	Nordkurilen	161.0	52.30	12	4.11.1952	16:58:00	0			
30	L1-13	Aleuten	Aleuten	-175.80	51.30	-11	9.3.1957	14:22:00	0			
31	L1-14	Alaska	Alaska	-147.60	61.10	-10	28.3.1964	3:36:00	0			
32	L1-15	Chile	Chile	-74.50	-39.50	-4	22.5.1960	19:11:00	0			
33	L2-1	China	China	77.0	40.0	8	22.8.1902	3:00:00	0			
34	L2-2	Japan	Japan	143.0	42.50	9	4.3.1952	6:03:00	0			
35	L2-3	Ecuador	Ecuador	-76.80	-8.0	-5	16.11.1907	10:10:00	0			
36	L2-4	Marianen	Arianen	143.0	22.0	10	24.11.1914	11:53:00	0			
37	L2-5	Samoa	Samoa	-173.0	-15.50	-10	26.6.1917	5:49:00	0			
38	L2-6	Nicobaren	Nicobaren	92.50	12.50	5	26.6.1941	11:52:00	0			
39	L2-7	S	S	131.0	28.0	10	15.6.1911	12:00:00	0			
40	L2-8	S	S	-158.0	55.50	-10	10.11.1938	20:18:00	0			
41	L2-9	Westchina	westchina	77.50	43.50	8	3.1.1911	23:25:00	0			
42	L2-10	Nordneuseeland	Nordneuseeland	-176.40	-28.10	-12	20.10.1986	6:46:00	0			

To create your own databases, it is important that at least column A (name), D (longitude), E (latitude), F (time zone) G (date) and H(time of the event) are entered.

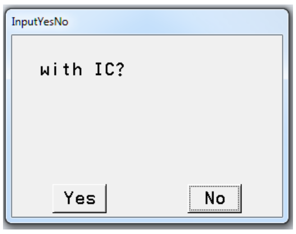
	A	B	C	D	E	F	G	H	I
1	NAME,C,200	VORNAME,C,20	ORT,C,200	LAENG	BREIT	ZEI	DATUM,C,2	ZEIT,C,20	S KA
2	China	Tangshan	Peking	116.25	39.55	8	28.7.1976	03:42:00	0

For statistical investigations, the calculations always start with the Statistics 1 - Continuum program.

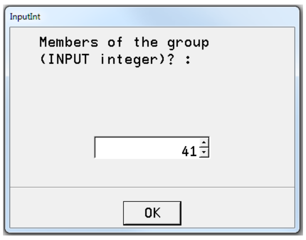




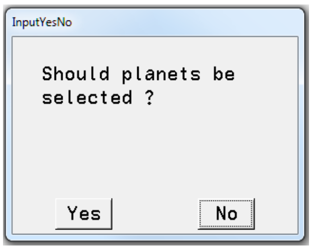
First the order is requested. For general time qualities the lower orders are used, for triggering events the higher orders.



Query for the IC (direction to the center of the earth). The IC is only calculated if the earth is to be examined. It brings the highest frequencies in the correlation function and is not suitable for trends.

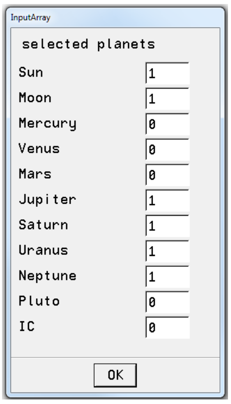


Next, the number of events is requested.



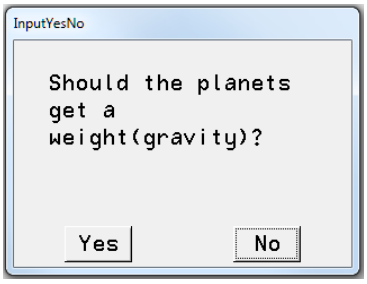
Should only certain planets be selected?

If this question is answered with Yes:

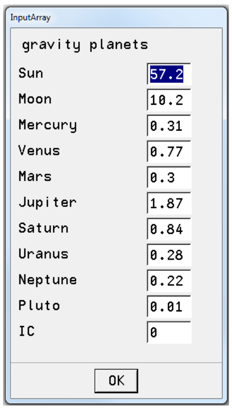


Planets can be selected here with 1 or deselected with 0.
However, there can also be a weighting in the Number format 12.05 must be entered.

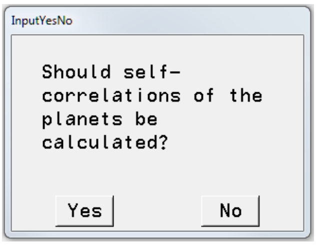
If this question is answered with No:



If this question is answered with Yes, appears:



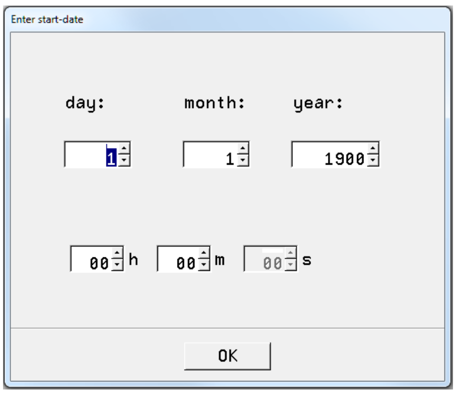
These are approximately the square roots of the gravitational effect. However, this weighting has proved to be of little use, as other interactions are relevant here. These numbers can be changed.



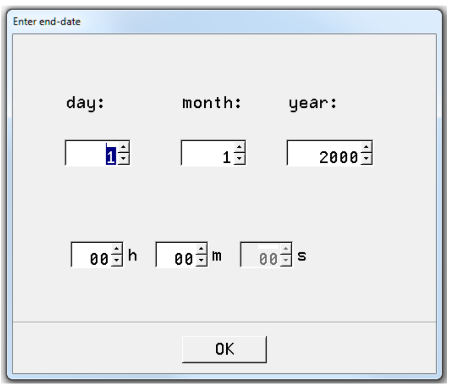
This query is usually answered with No for statistical studies.

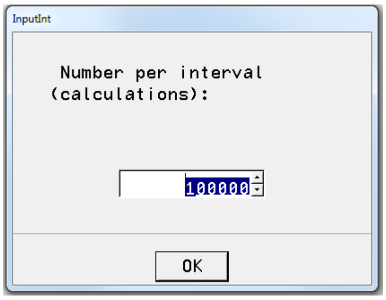
The following entries define the time period in which the mean value for the correlation function is to be calculated.

Start of calculations:

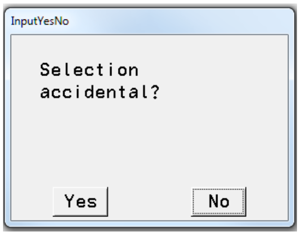


End of calculations:



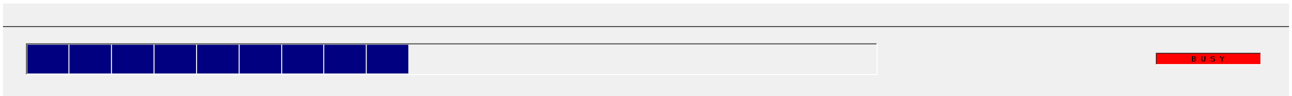


This input determines the number of calculations in the previously selected time interval. The size 100 000 is preselected and is calculated by most computers in a reasonable time.

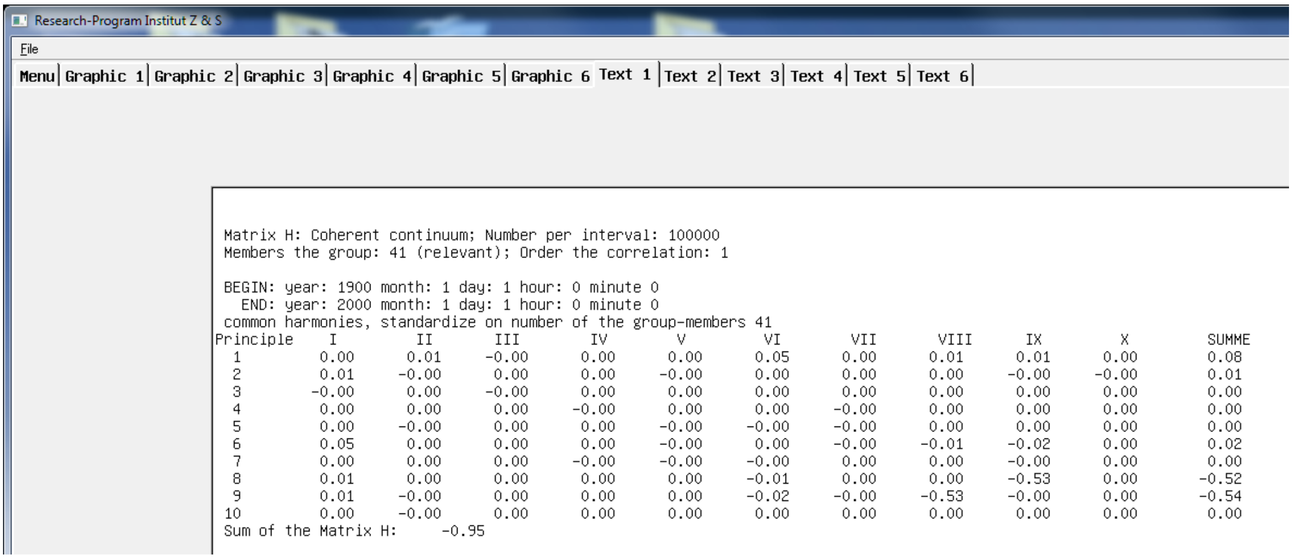


One last question is asked before the calculation begins. Should events in the period be calculated randomly or continuously (with equal intervals)? This question can be answered with No. The differences are small.

The blue bar shows the progress of the calculation:



The results can be found in the text field Text 1:

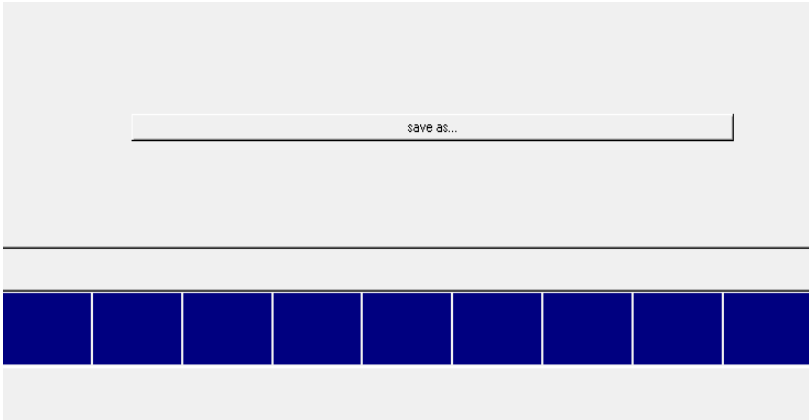


Matrix H: Coherent continuum; Number per interval: 100000
Members the group: 41 (relevant); Order the correlation: 1

BEGIN: year: 1900 month: 1 day: 1 hour: 0 minute 0
END: year: 2000 month: 1 day: 1 hour: 0 minute 0
common harmonies, standardize on number of the group-members 41

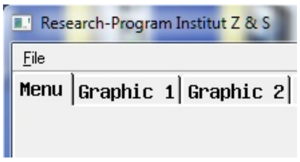
Principle	I	II	III	IV	V	VI	VII	VIII	IX	X	SUMME
1	0.00	0.01	-0.00	0.00	0.00	0.05	0.00	0.01	0.01	0.00	0.08
2	0.01	-0.00	0.00	0.00	-0.00	0.00	0.00	0.00	-0.00	-0.00	0.01
3	-0.00	0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	-0.00	0.00	0.00	-0.00	0.00	0.00	0.00	0.00
5	0.00	-0.00	0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	0.00
6	0.05	0.00	0.00	0.00	-0.00	0.00	-0.00	-0.01	-0.02	0.00	0.02
7	0.00	0.00	0.00	-0.00	-0.00	-0.00	0.00	0.00	-0.00	0.00	0.00
8	0.01	0.00	0.00	0.00	0.00	-0.01	0.00	0.00	-0.53	0.00	-0.52
9	0.01	-0.00	0.00	0.00	0.00	-0.02	-0.00	-0.53	-0.00	0.00	-0.54
10	0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Sum of the Matrix H: -0.95

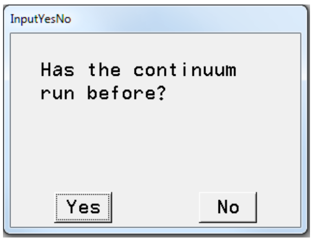


The results of the calculation can now be saved as a text file with "save as..."

10.2.2 Event Analysis

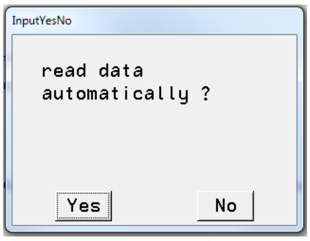


After the program Statistic 1- Continuum is finished, the program "Event Analysis" is called via the button Menu.

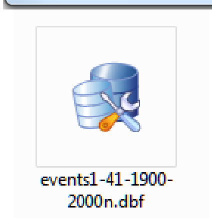


If the continuum has already been calculated, the queries are simplified and the already stored values are taken over. If the question is answered with No, the entries must be made again.

Please run the Statistics 1 - Continuum program beforehand so that the event analysis can be evaluated.

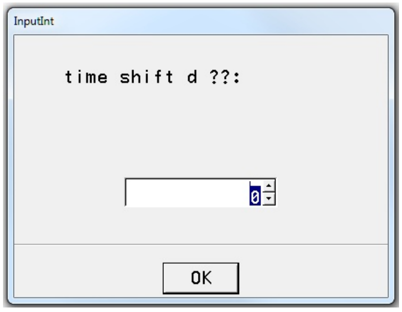


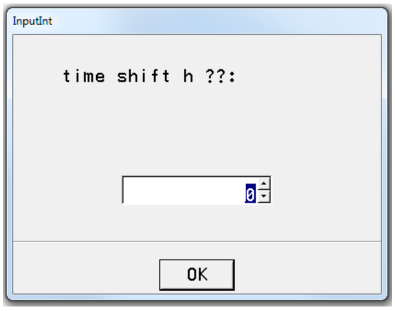
The events are read in automatically if this query is answered with Yes. If the answer is No, the events must be selected by double-clicking.



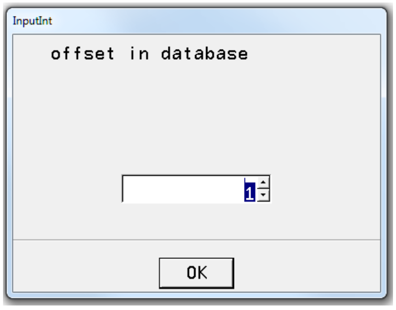
Double click or click once and then click open at the bottom to open the file.

Before the calculations start, it is possible to postpone the calculation of the correlation function before or after the actual event. With these following boxes the events can be shifted by days and hours.

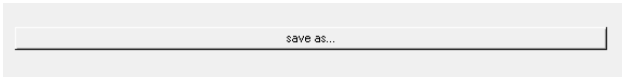


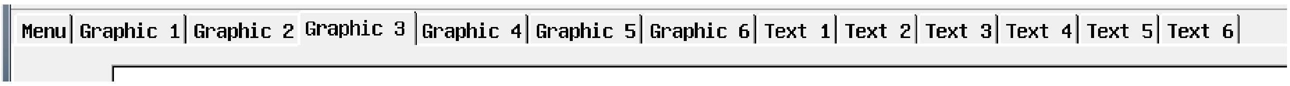


The following query determines the beginning of the data in the events file.



If the file contains only the events to be examined, the offset will usually be 1. However, several groups can also be combined in one file. Then the offset is the line where the group starts.
The results are in Graphic 3 and Text 2 and can be saved with save as...

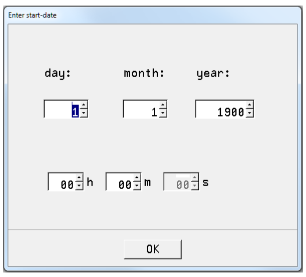




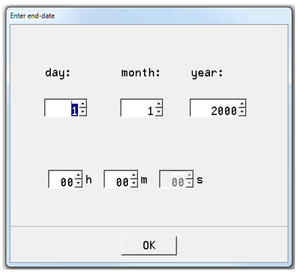
10.2.3 Statistics 2 - Density Function

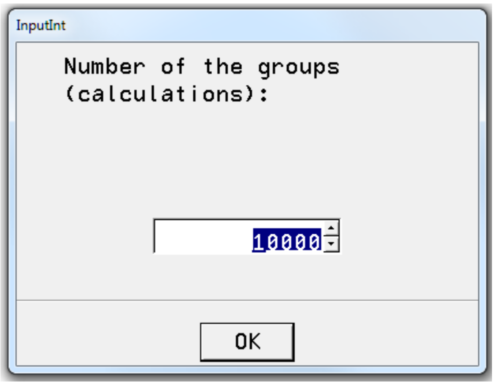
This module calculates the density function and thus gives a first pictorial representation of the special properties of the events under investigation. If the correlation function lies at the edge of the (almost Gaussian) distribution, then the group of events is not random in this time period.

This module does not need to be calculated if only the probabilities are to be calculated. This module is not a prerequisite to start the ***Statistics 3 - probability*** module.

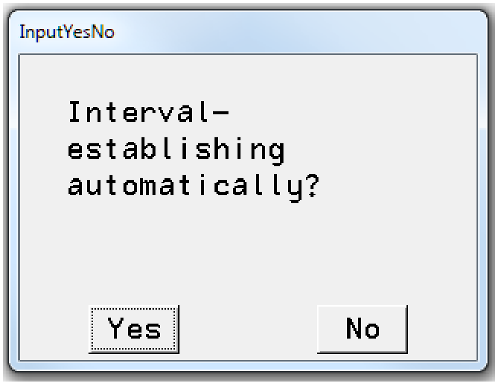


At the beginning the time range of the events is queried again. If no changes to the time period are necessary (normal case), the displayed data need only be accepted with OK.

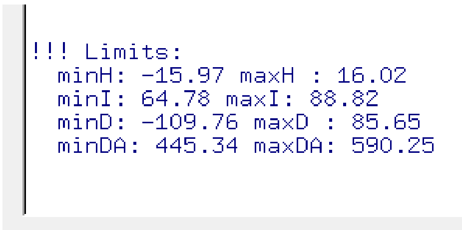




Next, the control groups to be calculated are queried. The number of control groups should not be less than 1000 (*per mille range*), otherwise the probabilities become uncertain.

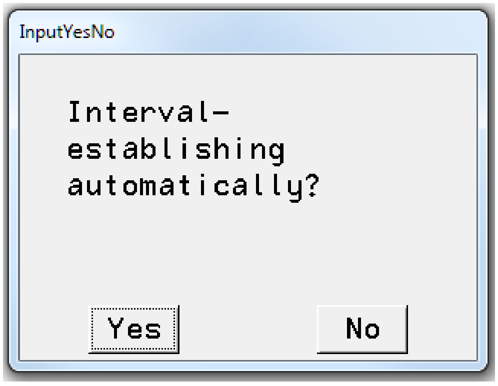


Should the intervals for the tests be set automatically? This question must normally first be answered with Yes. If the results in the graphs do not meet expectations because the density curve is too narrow or too wide, the program must be started again.
The program has remembered the maximum and minimum values during the calculation. These values can now be entered manually to better fit the curves into the given graphic.

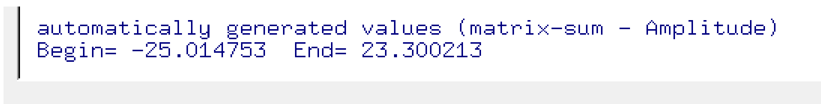


These values can be found in the Manuel. For this case it is recommended to enter the following values:

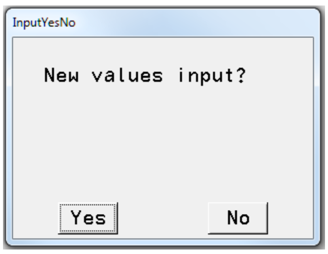
H:	-16	16.1
I	64.5	89
D	-109	86
DA	445	591



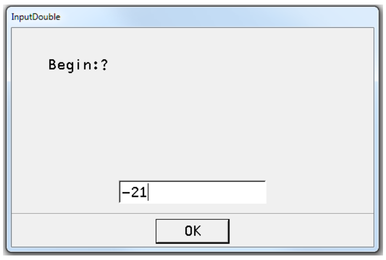
The module is now restarted. The query for the interval setting is now answered with No. The automatically generated values appear in the Manuel (lower left corner):



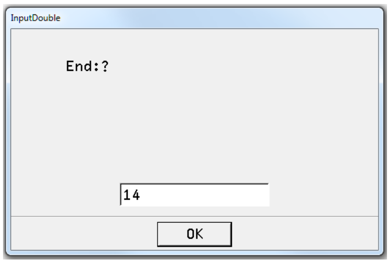
The following window asks whether these values should be entered again.



If the values are to be entered again, this question is answered with Yes and the input window for the start of the interval appears.



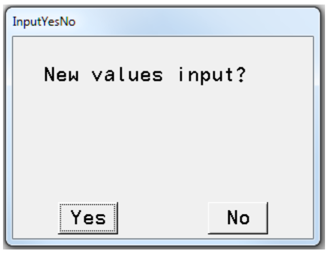
The new value can now be entered here.
For the above example -16



After OK the window for the end of the interval is opened.

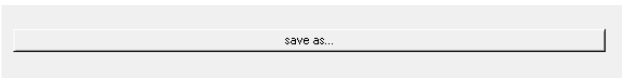
According to the above example, 16.1 is entered here

This concludes the input for correlation function H (matrix harmony) and prompts for correlation function I (matrix I).



This is repeated until the values for the matrix DA (dynamics absolute) are entered.

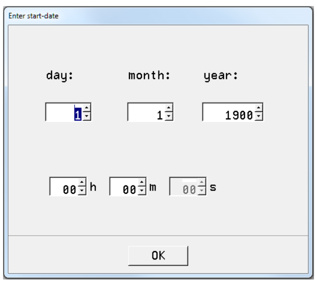
After the somewhat longer calculation, the results are in the graphic fields Graphic 1 to Graphic 4. These graphics can each be selected individually with the button:



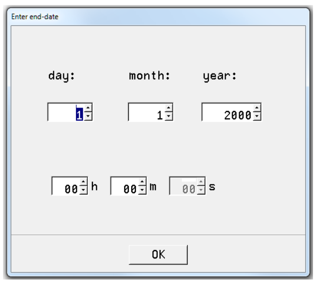
are stored.

10.2.4 Matrix Probability

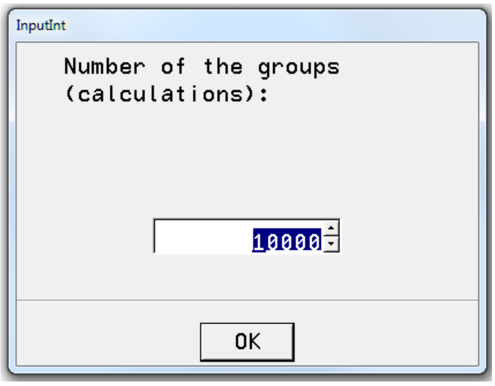
This module compares the group of events with randomly selected groups of the same strength in the selected time period (Monte Carlo simulation).



At the beginning the time period is queried again. *If the Continuum module has run, this only needs to be confirmed with OK.*
The **Event Analysis** module must have been calculated before (at some point!).

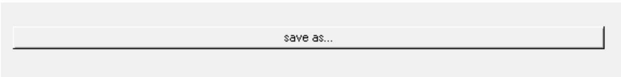


The final query is:



The program was now calculating and with a high number of events per group it can take a little longer.

The results can be found in Text 3 and Graphic 1 to Graphic 4. They can be displayed again with the button

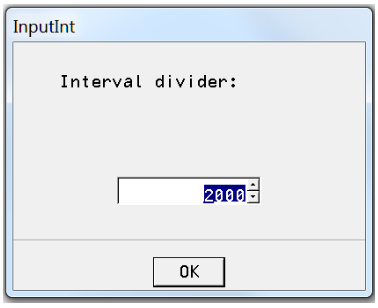


stored individually.

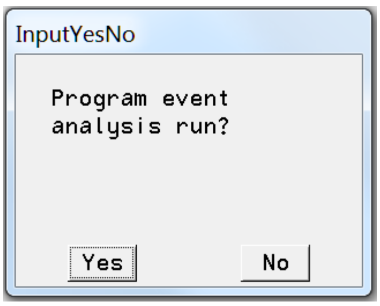
10.21.5 Planetary Fluctuations - time quality

This module calculates the correlation function for a selected time period.

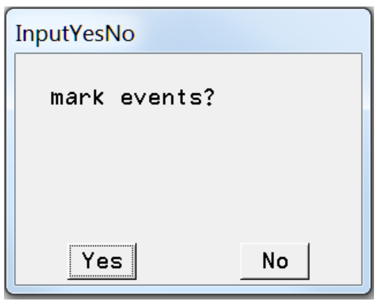
The first query defines the interval to be calculated. Attention: The resolution of the graphic is limited (1920 x 1080). Therefore it must be noted that the high frequencies (IC Moon, Mercury, Venus) can only be calculated meaningfully for small time periods such as day and month. In the example **one year is** chosen.

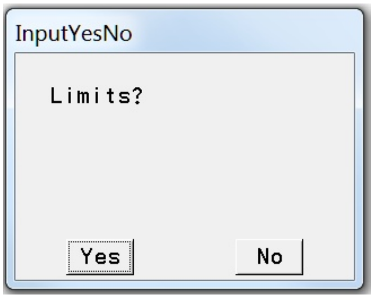


The graph has a horizontal extension of 1920 bits. It is normally not necessary to increase the interval divider. However, it should not be smaller than 1920 either.

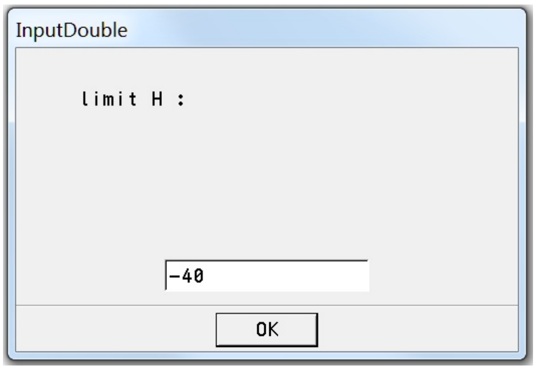


If the program "event analysis" has run before, the events can be displayed as vertical lines in the graphic. To do this, the following entry must be answered with Yes.

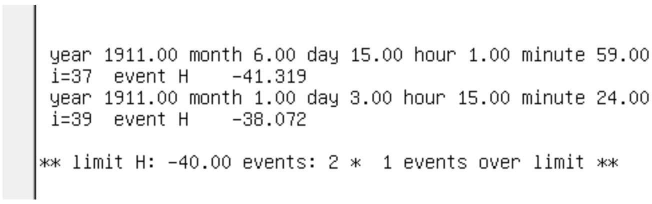




This module can calculate for the events in this period how many events overwrite a limit value. Here it can be useful to select the "Interval divider" larger (up to 100 000).



The limit values for H, then for I, D and DA are queried.
In this example:
limit H = -40
limit I = 80
limit D = -220
limit DA = 750



The curves are in Graphic 1 to 4, the limits in Text 1 to Text 4.
The numbers of the events in the list and the value of the matrix are given.

Good luck with the application of the program!
If you have any problems or suggestions for improvement, please contact:
michael.nitsche@lettris.de
or go to the homepage: www.planetare-korrelation.eu

The book and the program are free.
If you think it's worth it, I would appreciate a donation!
https://www.paypal.com/donate?hosted_button_id=MF7RSPA943W2J