THEOMATICS

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File: theomatics01

11. Statistical Evidence of Theomatics demonstrated at Luke 15:10-32

- Theology is based upon faith and is as such beyond a scientific investigation. The interpretation of theological phenomenons, therefore, is normally performed with hermeneutic methods instead of scientific methods.
- Yet the number allocation to those words / phrases of the Bible text with a defined theological meaning makes it possible to examine theomatics with scientific, especially statistical, methods. It has to be noted, however, that the numbers are only reflections of theological aspects and that the theological aspect has to play the major role in all examinations.
- This could lead to conflicts with formal demands on a statistical test. Any such conflict has to be solved in such a way, that all elements of the statistical test and comparison tests are subject to the same formal selection criteria and test methods.
- Because of the theological aspects theomatics is dealing with, it will be difficult to realize a statistical test which will not provide a potential critic with a target. Therefore, the final acceptance of a statistical test in the area of theology as being scientific rests with the personal views of the observer.
- A more serious problem is the Bible text itself. The text of the Old Testament was accepted as being God's word right from the beginning and was copied and traded very carefully. Initially, nobody was really aware of the divine nature of the New Testament. The first known copies of the New Testament contain quite a lot of failures. By taking into account as many sources as possible, the New Testament seems to come slowly closer to the "original" text.
- Therefore, the statistical proof of theomatics in the Bible text of the Old and New Testament has to be structured in a more complex way:
  1. The probability of theomatics must significantly deviate from randomness.
  2. The various theomatic features must be valid throughout the total Bible text.
  3. The theological aspects related to the theomatic numbers must not be in contradiction to the related open Bible text passages or the open numbers contained therein.
  4. All theomatic features must show a certain "quality" with respect to their "theological meaning".
- The statistical evidence of theomatics is demonstrated at a coherent text passage of the New Testament, the "story of the prodigal son" in Luke 15:10-32, in the following 4 steps:

11.1 A short trip into statistics theory (1)

- Definitions:
  - GG population
  - SP sample
  - N, n size of the GG, SP (= quantity of elements in the GG, SP)
  - X, x random variables of the GG, SP
  - p_0, p expected (hypothecial) or basic probability, probability
- In general, statistics deals with the quantity of features of certain elements of a defined quantity (= GG) and with the distribution of these features. The foundamental principles of statistics come from the theory of sets.
- In most cases the population is such that it cannot be analyzed with reasonable effort. The analysis must then be restricted to a partial quantity of the population in a form of a sample.
- There are certain requirements for the elements of a sample, in order to draw the right conclusions for the GG from the sample results:
  - The sample elements must be selectable with the same probability for each element in a random selection process (equal probability model, simple sample).
  - The random variables must be randomly independent from each other.
  - The defined features must be exclusive (not accumulative).
- Due to the random nature of selection the features of the sample elements do not have absolute values. They are random variables with assigned probabilities.
- Therefore, a result derived from a sample is no absolute result, there is always an error probability tied to it. A central task of statistics is to make the error predictable. A basic element for this calculation is the probability distribution of the sample elements compared to the frequency distribution in the population.
- Distributions (here: of discrete random variables) are in general be characterized by the following parameters:
  - mean value (Expectation): $\mu = E(X)$
  - deviation from mean value (variance = standard deviation^2): $\sigma^2 = Var(X) = E((X - \mu)^2)$
  - Sample (in case of same distribution for all x): $E(x) = \mu$ $var(x) = Var(X)/n$
- There are 2 sample models for frequency distributions:
  - Sample “**without** putting back” the elements into the population, i.e. the population changes with every selection of an element out of the population. No double counts are allowed. The basic probabilty for an element to be selected for the sample is given by the selection possibilities and is p = 1/binomial coefficient (N over n) = 1/(N!/(n!*(N-n)!)). The probability distribution follows a hypergeometric distribution (e.g. Lotto 6 out of 49).
  - Sample “**with** putting back” the elements into the population, i.e. the population remains unchanged with every selection of an element out of the population. Double counts are allowed. The basic probability for an element to be selected for the sample is given by the selection possibilities and is p = 1/N. The probability distribution follows a binomial distribution.

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11.1 A short trip into statistics theory (2)

- Relating to a sample, the important parameters for the calculation of probabilities are the sample size "n" and the quantity of the observed features of the random variable "x".
- Both the hypergeometric and the binomial distribution are difficult to handle because of the high number values which can result from the factorials "N!" or "n!". Therefore, in practice, these distributions will often be approximated as follows:
  - The hypergeometric by the binomial distribution (for $n/N \leq 0{,}05$; as a rule of thumb)
  - The binomial by the normal distribution; for large values of "n" and small values of "p" the exactness of the results is normally not satisfying. For the following combination of parameters, the observed absolute errors will be less than 0.01:
    - $n \geq 30$, $0.38 \leq p \leq 0.62$
    - $n \geq 100$, $0.28 \leq p \leq 0.72$
    - $n \geq 200$, $0.22 \leq p \leq 0.78$
    - $n \geq 300$, $0.15 \leq p \leq 0.85$
  - The binomial by the Poisson distribution for small values of "n" and especially for small values of "p":
    - $p \leq 0.031$ with the expectation value $E(X) = \mu = n*p$
    - $p \geq 0.969$ with the expectation value $E(X) = \mu = n*(1-p)$
  - The Poisson distribution by the normal distribution for large values of "μ". The maximum error of approximation is smaller than 0.01, in case $\mu \geq 100$.
- If there is a variance existing in the population, then the sample mean values follow approximately a normal distribution for large values of "n" (central limit theorem of probability calculation). The normal distribution can be brought into a standardized form with $E(X^*) = 0$ and $Var(X^*) = 1$ for a random variable X^* as follows: $X^* = (X - \mu)/\sigma$.
- The probability for the occurance of certain features can be calculated from one of the above mentioned probability distributions.
- The probability distribution of a random variable in a sample normally differs from the probability distribution of the population, because of the nature of randomness. From the amount of the deviation it can be checked with a certain error probability whether the deviation between sample and population is significant or not. This requires a suitable check measure.
- The testing of a statistical hypothesis is based upon this consideration. In such a test it is checked, whether a predefined numerical value of a parameter (= hypothesis) is confirmed with high probability by the sample result or not.
- The testing of a statistical hypothesis is generally performed with "rejection levels or areas". Therefore, it makes sense to claim in a test hypothesis H_0 the opposite of what should be proven (hypothesis H_1), and then to reject the test hypothesis H_0 with a certain error probability.

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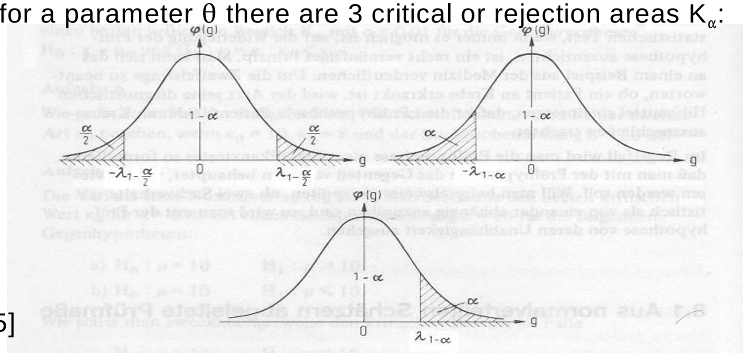
11.1 A short trip into statistics theory (3)

- A statistical test which is based on the rejection of a test hypothesis is called a **significance level test**. For the performance of a significance level test it is essential to identify a critical significance level "α" which is suitable for the test hypothesis and a given check measure.
- A suitable check measure "z" for a normal distributed random variable is e.g. the deviation from the mean value as follows: $z = (\mu_{SP} - \mu_{GG})/\sigma_{SP}$
  The standard deviation σ_{SP} or the variance of the sample can be determined form the variance of the population as (see above): $\sigma_{SP}^2 = \sigma_{GG}^2/n$.
  If the numerical value of the check measure "z" is beyond the rejection level, which is defined by the significance level "α", then the test hypothesis can be rejected with the error probability "α" (see the following).
  Note: In case the variance of the population is not known, it can be estimated out of the sample. This leads to a check measure "t", which is defined similar as "z", and which follows a t or student distribution with "ν" degrees of freedom. The degrees of freedom result from the sample size "n" reduced by the quantity of estimated parameters. For large values of "n" the t distribution can be approximated by the normal distribution ($\nu > 120$).
- There are two error possibilities in the testing of a test hypothesis H_0:
  1. The test hypothesis H_0 is correct:
     A. H_0 is accepted
     B. H_0 is rejected ⇒ alpha error / error probability **"α"** (rejection level, significance level)
  2. The test hypothesis H_0 is not correct:
     A. H_0 is accepted ⇒ beta error / error probability **"β"**
     B. H_0 is rejected
- The error probabilities α and β are dependent on each other. A small value for α means a large value for β and vice versa. In a significance level test α is less critical than β. In practice α is normally given as e.g. $\alpha = 0.05$ or $\alpha = 0.01$ and 1-β is determined as a measure for the test quality with a value as high as possible for 1-β. The aim is to minimize the error for the acceptance of the test hypothesis in case the test hypothesis is not correct.
- Dependent on the test hypothesis H_0 for a parameter θ there are 3 critical or rejection areas K_α:
  - 1. $H_0: \theta = \theta_0$ $K_\alpha: |g| > \lambda_{1-\alpha/2}$
  - 2. $H_0: \theta > \theta_0$ $K_\alpha: g < \lambda_\alpha = -\lambda_{1-\alpha}$
  - 3. $H_0: \theta < \theta_0$ $K_\alpha: g > \lambda_{1-\alpha}$

  1. double sided test
  2. single sided test, lefthand
  3. single sided test, righthand



Reference: [5]

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11.1 A short trip into statistics theory (4)

P Sample (related to the testing of theomatics):
The parameter p of a binomial distribution shall be $p = p_0$ with p_0 [0,1]. The observed value in a sample is "p_{SP}". The hypothesis $H_0 : p = p_0$ shall be tested. The check measure **$z = (p_{SP} - p_0)/\text{square root}((p_0 - (1 - p_0))*\text{square root}(n)$** follows a standardized normal distribution for sufficiently large values of "n".
The quality of the approximation can be checked by the approximate definition of the acceptance levels as follows: $p_0 - \lambda_{1-\alpha/2}*\text{square root}(p_0*(1-p_0)/n) \leq p_{SP} \leq p_0 + \lambda_{1-\alpha/2}*\text{square root}(p_0*(1-p_0)/n)$. The exact limits can be taken out of a diagram for the confidence limits of the binomial distribution.
In case a test hypothesis is to be rejected, the best test quality for a given significance level "α" will be achieved for those observed values of p_{SP}, which show the largest distance from the acceptance area.

P Some typical probabilities for falling below the critical areas of a standardized normal distribution are as follows:

α:	0.050	0.025	0.010	0.005	0.001
$1-\alpha$:	0.950	0.975	0.990	0.995	0.999
$\lambda_{1-\alpha}$:	1.6449	1.9600	2.3263	2.5758	3.0902

P A statistical test dealing with a hypothesis concerning the shape of a distribution is called a **matching test**. A common matching test is the **χ^2-Test**. By applying the χ^2-Test it can be tested, whether the sample results belong to a population which shows a distribution in accordance with the test hypothesis.

P In case of one feature only, the check measure is: $\chi^2 = \Sigma((x_i-n*p_i)^2/n*p_i)$. With $\chi^2 = 0$ both distributions are identical. For testing a frequency distribution it is assumed, that there are "i" frequency categories defined which are mutually exclusive. I.e. it is assumed that each element belongs to one of these frequency categories only with respect to the observed feature. Theomatics deals with i = 5 hit / feature categories (0 / -1 / 1 / -2 / 2).

P For a sufficiently acceptable approximation to the χ^2 distribution the observed quantity in each feature category must be $x_i \geq 10$ (rule of thumb). If this is not the case, the feature categories must be summarized in a suitable way.

P The acceptance level for the check measure χ^2 is determined by $P(\chi^2 \leq \chi^2_{1-\alpha;\upsilon} \mid H_0) \doteq 1 - \alpha$, i.e. the test hypothesis has to be rejected with an error probability "α" if $\chi^2 > \chi^2_{1-\alpha;\nu}$. The parameter "υ" stands for the degrees of freedom of the check measure (υ = quantity of feature categories "i" - 1 - quantity of estimated parameters). Critical values / limits for the check measure $\chi^2_{1-\alpha;\upsilon}$ are contained in tables for the χ^2 distribution or can be calculated approximately for large degrees of freedom ($\upsilon > 100$). Some typical values are:
υ **= 1**: $\alpha = 0.05$: $\chi^2_{0.95;1} = 3.84$, $\alpha = 0.01$: $\chi^2_{0.99;1} = 6.63$ / υ **= 2**: $\alpha = 0.05$: $\chi^2_{0.95;2} = 5.99$, $\alpha = 0.01$: $\chi^2_{0.99;2} = 9.21$

P Finally, there are the following statistical tests for testing the observed phenomenons of **Theomatics**:
- Significance level test to check, whether the observed quantity of theomatic multiples differs significantly from a quantity which could be expected from randomness. I.e. double sided test in order to reject the test hypothesis H_0, that the hits observed in the sample do not differ from the expected quantities from randomness, i.e.
  H_0: $\theta = \theta_0$ and K_α: $|z| > \lambda_{1-\alpha/2}$
- Matching test (χ^2 test) to check, whether the observed clustering hit distribution differs significantly from a frequency distribution, that could be expected from randomness (see above).

In both cases the random variable is the frequency of the theomatc features.

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11.2 The statistical test method of Theomatics (1)

- The statistical test method of Theomatics is based on two elements:

  1. Determination of the (relative) **quantities of multiples (= hits)** of a theomatic factor resulting from the standard number allocation to the letters of the Hebrew and Greek alphabets in a text sample of the Bible, in relation to the possible word / phrase combinations in this text sample, and probability calculation of the observed quantity compared to the expected random one.

  2. Comparison of the **distribution of** the observed relative **quantities of multiples (= hits)** of a theomatic factor in the hit categories “direct hits” (+/- 0) and “acceptable tolerance hits” (+/- 1 and +/-2) with such hit distribution, that could be expected from randomness of the number allocation (20%, 40%, 40%).

- As defined in section 11.1 the statistical test will here be performed as a significance level test, aiming for rejection of the test hypothesis. Therefore, the **test hypothesis (H_o)** must claim the opposite of what should be proven, i.e. it has to be tested with a defined error probability, whether the observed hits and the hit distribution are in line with the ones that could be expected from random (hypothetic) values or not.

- Essential for correctly performing the test is the clear definition of the text sample, its elements, the feature to be tested, and what is counted to be a hit or not.

- The following rules apply for word / phrase combinations:
  - Articles (αι / η / ο / οι / τα / ταισ / τασ / της / την / τους / το / τοις / τον / τω / των) and conjunctions (δε / γαρ / και / μεν / οτι / ουν) are “variables”.
  - Word / phrase combinations can also be build by deleting “variables”, especially by deleting conjunctions at the beginning of a sentence, because they have no influence on the theological meaning.
  - Chapter and verse separations have to be respected.

- The text passage for the test is taken from the Majority Text of the NT and exists of 409 words from the **Gospel of Luke**, **chapter 15**, **verses 10 - 32**.

- The key word of this text is the word “αδελφος” (brother) from verse 27. Its theomatical value is 810 or 90 x 9. The “**90**" is taken as the theomatic factor for the test and the identification of multiples. There are the following theological references to the theomatic factor of “90":

  מים (water) = 90
  αστερες (stars) = 811 bzw. 90 x 9 + 1
  τοις αγγελοις (the angels) = 902, bzw. 90 x 10 + 2
  אמים (man) = 91 bzw. 90 + 1
  λεγιων (legion) = 811 bzw. 90 x 9 + 1
  ουρανοις (heaven) = 901 bzw. 90 x 10 + 1

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11.2 The statistical test method of Theomatics (2)

- In line with the rules defined above, word / phrase combinations can be build out of the 409 words of the chosen text passage. These word / phrase combinations are forming the sample for testing. The following criteria apply:
  - Hits are those theomatic values, which show a multiple of 90 with a maximum deviation of +/-2 and where the related word / phrase combination show a direct relationship to one of the two sons being a brother.
  - Each of the word / phrase combinations must only be taken once, double counts are not allowed.

    Remark: According to test theory double counts are allowed. In the following tests the results for double counts are provided additionally in round brackets.
  - Each word / phrase combination must only exist of words in juxtaposition (side-by-side) in the original text.
  - Each word / phrase combination must not have more than 3 words in length, variables do not count as words.
  - Text variants to the Majority Text are not allowed.

- The application of these rules leads to the following test sample:

Phrases 1 word each	=	48 elements	=	48 words
Phrases 2 words each	=	178 elements	=	356 words
Phrases 3 words each	=	241 elements	=	723 words
Total	=	**467 elements**	=	1,127 words

Remark: Del Washburn permits word / phrase combinations up to **4** words each. For ease of presentation and for better comparison with the results of the supplementary experiment in section 11.4, the following test will be limited to **3** words maximum!

- The hits out of the sample of 467 elements are presented in the table on the following page.
  In summary the following result is observed (without double counts):

Direct hits:	**15**	**=**	**38.5%**	
Hits +/- 1:	**16**	**=**	**41.0%**	
Hits +/- 2:	**8**	**=**	**20.5%**	
Total:	**39**		**100.0%**	with an average word length **WLA** of 39/81 = **2.077**.

- Whether the observed hits are random or not, has to be determined in comparison with that probability that can be expected for the quantity of random hits divisable by 90 out of a sample size of 467:

		Probability	
For natural numbers divisable by	"1":	100%	
	"2":	50%	etc.
	"90":	1.111%.	

Within a sample existing of 467 **random** natural numbers there can be expected 5.2 hits **on average**.

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11.2 The statistical test method of Theomatics (3)

Luke 15:10-32 — Statistical Analysis — date: 24.06.04 — file: luke15_pre_el

No.	Verse	Greek	English Translation		Words	Value	Multiple 90	Clustering 0	Clustering .+/-1	Clustering .+/-2
	Key word:	**αδελφος**	"the brother"			810	9,000			
1	15:10	αμαρτωλω	sinner		1	2.072	23,022			X
2	15:11	υιους	sons		1	1.080	12,000	X		
3	15:12	και ειπεν ο νεωτερος αυτων	and said the younger of them		3	3.332	37,022			X
4	15:12	και ειπεν νεωτερος	and said the younger		2	1.711	19,011		X	
5	15:12	ο νεωτερος αυτων	the younger of them		2	3.151	35,011		X	
6	15:12	νεωτερος	the younger		1	1.530	17,000	X		
7	15:12	και διειλεν αυτοις βιον	and He divided to them His living		3	1.258	13,978			X
8	15:13	νεωτερος υιος απεδημησεν	the younger son departed		3	2.611	29,011		X	
9	15:13	υιος απεδημησεν	the son departed		2	1.081	12,011		X	
10	15:14	αυτου	he		1	1.171	13,011		X	
11	15:15	εκολληθη	he joined himself		1	180	2,000	X		
12	15:17	πατρος μου	the Father of me		2	1.261	14,011		X	
13	15:17	εγω	I		1	808	8,978			X
14	15:19	ειμι αξιος κληθηναι	am I worthy to be called		3	542	6,022			X
15	15:19	υιος σου	Thy son		2	1.350	15,000	X		
16	15:20	ηλθε προς πατερα	he came to the Father		3	989	10,989		X	
17	15:20	και κατεφιλησεν αυτον	and fervently kissed him		2	1.981	22,011		X	
18	15:21	αυτω ο υιος	to Him the son		2	2.251	25,011		X	
19	15:21	και ουκετι ειμι	and no longer am I		2	901	10,011		X	
20	15:24	οτι ουτος υιος μου	for this My son		3	2.610	29,000	X		
21	15:24	ο υιος μου	My son		2	1.260	14,000	X		
22	15:24	ην απολωλως	he was lost		2	2.069	22,989		X	
23	15:25	ην ο υιος αυτου	was the son of Him		3	1.979	21,989		X	
24	15:25	ην ο υιος	was the son		2	808	8,978			X
25	15:25	ο πρεσβυτερος	the older		1	1.532	17,022			X
26	15:25	ηγγισε τη οικια ηκουσε	he drew nigh to the house, he heard		3	1.351	15,011		X	
27	15:27	οτι ο αδελφος	for the brother		1	1.260	14,000	X		
28	15:27	**αδελφος**	the brother		1	810	9,000	X		
29	15:27	πατηρ σου τον μοσχον	Father of thee calf		3	2.609	28,989		X	
30	15:27	υγιαινοντα αυτον απελαβεν	received him back in health		3	1.890	21,000	X		
31	15:28	ωργισθη δε και	but he was angry and		1	1.170	13,000	X		
32	15:28	ο ουν πατηρ αυτου	but the Father of him		2	2.250	25,000	X		
33	15:29	δουλευω	I served		1	1.709	18,989		X	
34	15:29	εντολην σου παρηλθον	a command of Thee I transgressed		3	1.531	17,011		X	
35	15:30	σου ουτος	of Thee this		2	1.710	19,000	X		
36	15:31	εμα σα εστιν	Mine are thine		3	812	9,022			X
37	15:32	οτι ο αδελφος σου ουτος	for this thy brother		3	2.970	33,000	X		
38	15:32	αδελφος σου ουτος	this thy brother		3	2.520	28,000	X		
39	15:32	σου ουτος *)	this thy		2	1.710	19,000	X		
39	Total				81			15	16	8
		*) no double count for Del Washburn		WLA	2,077	observed	100%	38,5%	41,0%	20,5%
						expected	100%	20%	40%	40%

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11.2 The statistical test method of Theomatics (4)

- Due to the clustering hit tolerance, there are 5 hit categories instead of 1 in Theomatics. Therefore, the probability to find a clustering hit is 1,11% x 5 = 5,56% or 25,9 random hits out of a sample size of 467 on average.
- The comparison between the observed hits and those hits that could randomly be expeceted out of the sample is:

	observed		expected	
Direct hits	15	38.5%	5.2	20%
Hits +/- 1	16	41.0%	10.35	40%
Hits +/- 2	8	20.5%	10.35	40%
Total	39	100%	25.9	100%

- Due to the nature of randomness, the number of both the observed hits and the clustering of the hits out of that sample could indeed happen with a certain probability. Therefore, before drawing any conclusions from the sample results it has to be determined whether the observed deviations from expectation are **statistically significant** or not.
- The verification of the statistical significance will be performed based on the information provided in section 11.1 in the following steps:
  - 1. Calculation of the probabilities for the observed quantity of hits
  - 2. Verification of the statistical significance (in addition to “Theomatics”)
  - 3. χ^2-test to check the hit distribution within the clustering (in addition to “Theomatics”)

- **1. Pobability for the observed quantity of hits:**

		(with double counts)
sample size:	n = 467	
expected hypothetical probability:	p_0 = 1/90 = 0.0111	(5/90 = 0.0556)
quantity of expected hypothetical hits:	$n*p_0$ = 5.1888	(25.9444)
observed quantity of hits [direct / clustering]	x = 15 / 39	(17 / 45)

Pobabilities:	**direct hits**	(with double counts)	**clustering hits**	(with double counts)
Binomial distribution	**0.00030087**	(0.00002713)	**0.00813148**	(0.00028317)
or **1:**	**3,324**	(36,858)	**123**	(3,531)
Poisson distribution (approx.)	0.00033201	(0.00003133)	0.00993956	(0.00043054)

as an approximation for comparison reason only.

Remark: A probability of on 1: 3,324 means, that the observed quantity of hits can on average happen randomly in 1 of 3,324 samples. If tests are performed on a sufficient number of samples, there could happen at least one random number allocation, that could provide a comparable (or even higher) quantity of hits. This would not mean, that the statistical evidence of Theomatics is invalid. The statistical proof of Theomatics would only be in question, if that very random number allocation would deliver similar results for all the other theomatic factors as well!

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11.2 The statistical test method of Theomatics (5)

P **2. Check of statistical significance with significance level "α" = 0.05 for best test quality:**

		(with double counts)
sample size:	n = 467	
expected hypothetical probability:	p_0 = 1/90 = 0.0111	(5/90 = 0.0556)
observed quantity of hits [direct / clustering]:	x = 15 / 39	(17 / 45)
observed hit probability:	p_{SP} = x/n = 0.0321 / 0.0835	(0.0364 / 0.0964)

Aim: rejection of H_0 : p = p_0 for **I z I >** $\lambda_{1-\alpha/2}$	**direct hits**	(with double counts)	**clustering hits**	(with double counts)
standardized normal distribution:	$\lambda_{1-\alpha/2}$ = 1.9600		$\lambda_{1-\alpha/2}$ = 1.9600	
check measure "**z**" (see 11.1)	**4.3312**	(2.6375)	**5.2141**	(3.8496)
condition **I z I >** $\lambda_{1-\alpha/2}$ met:	**yes**	(yes)	**yes**	(yes)
test quality (approximation):				
<u>acceptance level</u> lower limit	0.0016		0.0348	
upper limit	0.0206		0.0763	
observed probability p_{SP}:	**0.0321**	(0.0364)	**0.0835**	(0.0964)
p_{SP} out of acceptance level:	**yes**	(yes)	**yes**	(yes)

P **3. χ^2-test to check clustering hit distribution:**

	without double counts	(with double counts)
hit categories:	0 / -1 / 1 / -2 / 2	(0 / -1 / 1 / -2 / 2)
quantity of hits for each hit category:	x_i = 15 / 5 / 11 / 3 / 5	(17 / 5 / 14 / 3 / 6)
expected hypothecial probability per hit category:	p_{i0} = 1/5 = 0.02	(0.02)
combined hit categories to achieve $x_i \geq 10$:	0 / other	(0 / other)
quantity of hits for combined hit categories :	x_i = 15 / 24	(17 / 28)
degrees of freedom (combined hit categories):	υ = 2 - 1 - 0 = 1	(1)

Aim: rejection of H_0 : $x_i = \Sigma x_i * p_{i0}$ for $\chi^2 > \chi^2_{1-\alpha;\upsilon}$
$\chi^2_{1-\alpha;\upsilon}$ for υ = 1, α = 0.05 / α = 0.01: $\chi^2_{0.95;1} = 3.84$ / $\chi^2_{0.99;1} = 6.63$ ($\chi^2_{0.95;1} = 3.84$ / $\chi^2_{0.99;1} = 6.63$)

calculation of $\chi^2 = \Sigma((x_i-\Sigma x_i*p_{i0})^2/\Sigma x_i*p_{i0})$	x_i	Σx_i*p_{i0}	$x_i - \Sigma x_i*p_{i0}$	χ^2	(x_i	Σx_i*p_{i0}	$x_i - \Sigma x_i*p_{i0}$	χ^2)
hit category "0"	15	7.8	7.2	6.646	(17	9	7.2	7.111)
hit category "other" [-1 / 1 / -2 / 2]	<u>24</u>	<u>31.2</u>	<u>- 7.2</u>	<u>1.662</u>	(<u>28</u>	<u>36</u>	<u>- 7.2</u>	<u>1.778</u>)
sum	39	39.0	0.0	**8.308**	(45	45	0.0	8.889)
condition met $\chi^2 > \chi^2_{0.95;1}$:				**yes**				(yes)
condition met $\chi^2 > \chi^2_{0.99;1}$:				**yes**				(yes)

Probability for $\chi^2 \geq \chi^2_{1-\alpha;\upsilon}$ under validity of H_0: **0.00394775 [1:253]** (0.00286911 [1:349])

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11.2 The statistical test method of Theomatics (6)

- **Theomatics is using the χ^2-test as a significance level test for the quantity of hits out of the total sample size. This is possible but will lead to less exact values than by applying hit categories. For comparison purposes the following values will show up for the rejection of the test hypothesis H_0 : x = n*5/90 for a significance level of $\alpha = 0.05$, $\nu = 1$,**
  n = 467, x = 39 (45 with double counts), and a check measure $\chi^2_{0.95;1} = 3.84$:

  χ^2 = 6.570 > 3.84 = $\chi^2_{0.95;1}$ i.e. H_0 can be rejected, the observed quantity of hits is by 95% not random;
  (13.996) probability for $\chi^2 \geq$ 6.570 (13.996): 0.010371 (0.000183) or 1: 96 (1: 5,458).

- **The quantity of hits and the clustering of hits are two independent events. A first non-randomness can be realized for the hit quantity without any deviation of the expected hit clustering from randomness. A second non-randomness can be realized for the hit clustering without any deviation of the expected hit quantity from randomness.**
- **With Theomatics both events can happen simultaneously. The probability for both events to happen simultaneously can be calculated as the product of the single probabilties for each event (see above):**

	clustering hits	(with double counts**)**
probability for 39 (45) hits out of n = 467 (binomial distribution):	0.00813148	(0.00028317)
probability for 15/24 (17/28) clustering (χ^2 distribution):	0.00394775	(0.00286911)
probability for hit quantity and hit clustering to happen simultaneously:	**0.00003210**	(0.00000081)
or 1:	**31.151**	1.230.851

- SUMMARY of the statistical test results
  - **Significance level test: The test hypothesis, that the observed hit quantities result from a random number allocation, can be rejected with an error probability of α = 5% and a high test quality.**
    I.e. the quantity of the observed theomatic hits is with a confidence level of at least 95% not random!
  - **χ^2 matching test:** The test hypothesis, that the observed hit distribution (clustering) is merely random, can be rejected with an error probability of α = 1%. I.e. the observed theomatic hit distribution (clustering) is with a confidence level of 99% not random!
  - **Probability:** It is very improbable, that the observed quantity of hits and the observed clustering of hits occur simultaneously. The deviation from randomness is 1 : 31.151 (1: 1.230.851 with allowable double counts).

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11.2 The statistical test method of Theomatics (7)

SUPPLEMENTARY INFORMATION: **Summary of the results for phrases 2 words in length or less and for phrases 1 word in length** (without double counts)

	phrases 2 words in length or less	phrases 1 word in length
sample size:	226	48
hit categories:	0 / -1 / 1 / -2 / 2	0 / -1 / 1 / -2 / 2
quantity of hits for each hit category:	11 / 2 / 8 / 2 / 2 Σ **= 25**	6 / 1 / 1 / 1 / 2 Σ **= 11**

1. Probabilities for the observed quantity of hits (binomial distribution):

	$n = 226$, $p_0 = 1/90$, $n*p_0 = 5/90$, $x = 11 / 25$	$n = 48$, $p_0 = 1/90$, $n*p_0 = 5/90$, $x = 6 / 11$
	[direct / cluster]	**[direct / cluster]**
	0.00005524 / 0.00088073	0.00001547 / 0.00005158
or:	[1 : 18,102 / 1,135]	[1 : 64,620 / 19,389]

2. Check of statistical significance with significance level "α" = 0.05 for best test quality:

	[direct / cluster]	**[direct / cluster]**
aim: rejection of $H_0 : p = p_0$	$\lambda_{1-\alpha/2} = 1.9600$	$\lambda_{1-\alpha/2} = 1.9600$
check measure "**z**":	5.3870 / 3.6138	7.5275 / 5.2511
condition $\mathbf{\vert z \vert > \lambda_{1-\alpha/2}}$ met:	yes / yes	yes / yes
acceptance level lower limit	-0.0026 / 0.0257	- 0.0185 / -0.0092
(approx.) upper limit	0.0248 / 0.0854	0.0408 / 0.1204
observed probability p_{SP}:	0.0487 / 0.1106	0.1250 / 0.2292
p_{SP} out of acceptance level:	yes / yes	yes / yes

3. χ^2 - test to check clustering hit distribution:

quantity of hits for combined hit categories:	$x_i = 11 / 14$	$x_i = 11 / 0$
degrees of freedom (combined hit categories):	$\upsilon = 2 - 1 - 0 = 1$	$\upsilon = 1 - 1 - 0 = 0$
aim: rejection of $H_0 : x_i = \Sigma x_i * p_{i0}$	$\chi^2_{0.95;1} = 3.84$ / $\chi^2_{0.99;1} = 6.63$	
check measure χ^2:	9.000	**not applicable here because of**
condition met $\chi^2 > \chi^2_{0.95;1}$:	yes	**too small quantity of hits!**
condition met $\chi^2 > \chi^2_{0.99;1}$:	yes	
probability for $\chi^2 \geq \chi^2_{1-\alpha;\upsilon}$:	0.00269980 [1 : 370] (under validity of H_0)	

4. Overall probability for the cluster hit quantity and the clustering hit distribution to happen simultaneously:

0.000002378 [1 : 420,557]

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11.3 Critical remarks concerning the test method (1)

- In the USA the discovery of theomatics by Del Washburn is obviously causing more contradiction than agreement. The existence of theomatics is disputed especially by official church institutions. These refuse to even have a critical look at it, maybe because some of the theomatic findings, e.g. in the area of eschatalogy, are in contradiction to some of the more predominant teachings in the USA.

- One of the biggest critics of theomatics is Tim Hayes with his homepage: http:\\www.ableever.net/. Tim Hayes has performed very extensive investigations coming to the conclusion, that the theomatic features are purely random. In his tests he does not follow the test method used by theomatics. He introduces his own method of testing which differs significantly from the test method of theomatics.
- Tim Hayes describes his method as **"maximum order statistics" (MOS)**. An analysis of his method (as provided in his web page), which is conclusive in itself, leads to the conclusion, that he is applying the "law of large numbers". The reason for applying the "MOS" method is the assumption, that the theomatic factor cannot be taken out of the sample and, therefore, has to be identified by the testing of a sufficiently large number of samples. He calls this theomatic factor the **"most significant factor"**.
- The "**weak law of large numbers**" deals with the limit of probability to identify a defined parameter (e.g. the average value) in a sample, which differs from the respective parameter of the population by not more than a predefined value. The "**strong law of large numbers**" deals with the probability, that a series of random variables in a sample converges to a defined value of the population (e.g. the average value). Both cases are limit considerations, which are heading for probabilties of 1 by using large sample sizes.
- Theomatics deals with discrete features (**values divisable by a defined theomatic factor**), which are existent or not. The theomatic factor can be estimated out of the sample via its expected theological meaning. Since all of the Bible text cannot be examined with reasonable effort, text samples are analyzed with statistical methods. These methods allow the application of the observed sample results to the complete Bible. By doing so, certain levels of error probabilities are explicitely permitted. The relevant question is, whether the test results are sufficiently significant. This does not affect the validity of the "law of large numbers", i.e. the larger the sample size is, the closer the sample results will come to the real situation in the population (complete Bible text).
- The "most significant factor" as introduced by Tim Hayes is not necessarily identical with a specific theomatic factor observed in the sample. Theomatic experience shows, that in one Bible passage more than one theomatic feature can be observed, and they all could be different in terms of statistical significance. A difference in significance would lead to a hierarchy in significance. Any hierarchy in significance would result in a hierarchy of the theological aspects related to those theomatic features. **And a hierarchy of theological aspects is hard to imagine.**

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11.3 Critical remarks concerning the test method (2)

- The method of Tim Hayes cannot be explained here in detail. The method is described on the above mentioned homepage in the section "Apologetics / Theomatics / Methodology". My concluding remark is , that the statistical "MOS" method is **not applicable** to Theomatics. Therefore, the "MOS" conclusion, that the observed theomatic features are purely random, is to my understanding also invalid.

- Besides the discussion on the method of testing, there are some **smaller aspects of concern** in the test sample of Luke 15:10-32, which are also mentioned by Tim Hayes. But these are not so serious that the theomatic test results in general could be considered as invalid. Four of the more essential aspects are briefly adressed here:
- Critical aspect concerning the probability calculation:
  - Theomatics shows 7 additional hits from phrases 4 words in length, i.e. a total of 46 hits. The probability calculation is based on a sample size of 467, i.e. on word / phrase combinations from 3 words in length or less. In case the 7 additional hits are taken into account the larger sample size including all possible word / phrase combinations 4 words in length or less have to be used. Or, the hits have to be limited to the 39 hits from 3 words in length or less only (see also section 11.2). The latter should be preferred, because the restriction to short phrases is a reasonable guideline of Theomatics (see also section 3).
- Critical aspects concering the comparison with random number allocations:
  - After a test with a random number allocation has been performed, the hits must be checked , whether they show a theological meaning or not. This is necessary, because different hits out of the same sample could occur by applying different number allocations. This selection has to be performed manually (just like for the standard number allocation), and for the given example all hits will be accepted including the word "son" as being a brother. This manual selection can be regarded as a formal failure (see also Tim Hayes), but cannot be avoided due to the test methodology used by Theomatics.
  - The average word length (WLA) resulting from random number allocations can be higher than the one from the standard number allocation WLA. For comparison reasons ("what if"), Theomatics reduces so many random hits until the "random" WLA is equal to the "standard" WLA, starting with hits from phrases with the most words in length. This correction of the "random" quantity of hits should not be performed (see also Tim Hayes), because of its influence on the sample size (different sample sizes for "random" and "standard" due to the hit correction). It is recommended, to limit the word / phrase combinations to 3 words in length or less and to accept different WLAs for random number allocations.
  - A further problem for comparison is to maintain the same theomatic factor for standard and random number allocations, because the theomatic value of the key word will be different for different number allocations. This critical aspect could be taken into consideration by the testing of random number allocations with those theomatic factors that individually result from the random number value for the defined key word.

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11.4 A supplementary experiment (1)

- The aim of the supplementary experiment is to check, whether the observed features are caused by the basic theomatic factor, the word / phrase structure, or by the number allocation. The 4 critical aspects as mentioned in the last section 11.3 shall here be taken into account.

- The experiment is performed as a comparison of feature quantities for the basic theomatic factor out of the standard number allocation with feature quantities for those random theomatic factors out of the choosen random number allocations, that will show up for the key word **“αδελφος”** (brother). The hit table for the standard number allocation is the one presented in section 11.2.

- The 39 hits resulting from the sample of 467 word / phrase combinations of max. 3 words in length are taken unchanged as elements for the comparison test for the following reasons:
  - All phrases are theologically relevant and show the same theological meaning. Therefore, all hits can be accepted without prior selection.
  - In all phrases the same feature applies (multiples of “90"). The comparison will show, whether the difference from randomness results from the number allocation, the theomatic factor, or the word / phrase structure.
  - The average word length (WLA) is **not** considered as a feature for comparison.

- The random number allocation of Dr. Stanton contained in Theomatics II and two additional random number allocations are used. The latter were set up for this test, they will produce whole numbered theomatic factors for the key word “αδελφος” (brother; 2 out of 3 trials):

	α	β	γ	δ	ε	ϛ	ζ	η	θ	ι	κ	λ	μ	ν	ξ	ο	π	ϙ	ρ	σ - ς	τ	υ	φ	χ	ψ	ω
Std.	1	2	3	4	5	6	7	8	9	10	20	30	40	50	60	70	80	90	100	200	300	400	500	600	700	800
R#1	6	5	3	9	8	2	1	4	7	30	70	50	80	10	20	40	90	60	700	200	400	500	800	100	300	600
R#2	8	7	1	9	5	3	4	2	6	60	80	40	90	70	50	20	30	10	800	300	700	400	500	600	200	100
R#3	3	6	5	2	4	8	1	9	7	70	10	40	80	60	90	50	20	30	300	600	700	800	100	400	200	500

- The experiment for 39 elements is performed manually.

- The results of the experiment are presented in the following two tables:
  - Table for basic theomatic factor “90" and random number allocations
  - Table for random theomatic factors “53", “49", and “47" and random number allocations

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11.4 A supplementary experiment (2)

Luke 15:10-32		Statistical Analysis												date:	25.06.04	file:	luke15_exp_el	
No.	Verse	Greek	Words		R # 1					R # 2					R # 3			
				Value	Multiple	Clustering			Value	Multiple	Clustering			Value	Multiple	Clustering		
					90	0	.+/-1	.+/-2		90	0	.+/-1	.+/-2		90	0	.+/-1	.+/-2
Key word:		**αδελφος**		1.113	12,367				882	9,800				799	8,878			
1	15:10	αμαρτωλω	1	2.442	27,133				1.846	20,511				2.126	23,622			
2	15:11	υιους	1	1.270	14,111				1.180	13,111				2.320	25,778			
3	15:12	και ειπεν ο νεωτερος αυτων	3	3.774	41,933				3.616	40,178				4.572	50,800			
4	15:12	και ειπεν νεωτερος	2	2.128	23,644				3.522	39,133				1.966	21,844			
5	15:12	ο νεωτερος αυτων	2	2.313	25,700				3.298	36,644				2.000	22,222			
6	15:12	νεωτερος	1	2.469	27,322				4.331	48,122				2.218	24,644			
7	15:12	και διειλεν αυτοις βιον	3	1.512	16,800				2.042	22,689				2.742	30,467			
8	15:13	νεωτερος υιος απεδημησεν	3	3.155	35,056				3.301	36,678				4.529	50,322			
9	15:13	υιος απεδημησεν	2	1.189	13,211				1.301	14,456				2.311	25,678			
10	15:14	αυτου	1	1.446	16,067				1.528	16,978			X	2.353	26,144			
11	15:15	εκολληθη	1	233	2,589				195	2,167				169	1,878			
12	15:17	πατρος μου	2	2.056	22,844				2.368	26,311				2.603	28,922			
13	15:17	εγω	1	611	6,789				106	1,178				509	5,656			
14	15:19	ειμι αξιος κληθηναι	3	625	6,944				921	10,233				1.155	12,833			
15	15:19	υιος σου	2	1.510	16,778				1.500	16,667				2.970	33,000	X		
16	15:20	ηλθε προς πατερα	3	2.309	25,656				2.754	30,600				2.060	22,889			
17	15:20	και κατεφιλησεν αυτον	2	3.032	33,689				3.298	36,644				3.953	43,922			
18	15:21	αυτω ο υιος	2	2.316	25,733				2.008	22,311				3.573	39,700			
19	15:21	και ουκετι ειμι	2	1.302	14,467				1.628	18,089				1.941	21,567			
20	15:24	οτι ουτος υιος μου	3	3.040	33,778				3.510	39,000	X			5.470	60,778			
21	15:24	ο υιος μου	2	1.430	15,889				1.310	14,556				2.500	27,778			
22	15:24	ην απολωλως	2	1.650	18,333				710	7,889				1.822	20,244			
23	15:25	ην ο υιος αυτου	3	2.270	25,222				2.400	26,667				3.992	44,356			
24	15:25	ην ο υιος	2	824	9,156				872	9,689				1.639	18,211			
25	15:25	ο πρεσβυτερος	1	2.891	32,122				3.387	37,633				3.434	38,156			
26	15:25	ηγγισε τη οικια ηκουσε	3	1.650	18,333				2.106	23,400				3.078	34,200			
27	15:27	οτι ο αδελφος	1	1.623	18,033				1.682	18,689				1.669	18,544			
28	15:27	**αδελφος**	1	1.113	12,367				882	9,800				799	8,878			
29	15:27	πατηρ σου τον μοσχον	3	2.860	31,778				4.150	46,111				4.532	50,356			
30	15:27	υγιαινοντα αυτον απελαβεν	3	2.174	24,156				2.768	30,756				3.574	39,711			
31	15:28	ωργισθη δε και	1	1.667	18,522				1.431	15,900				1.580	17,556			
32	15:28	ο ουν πατηρ αυτου	2	3.236	35,956				3.578	39,756				4.346	48,278			
33	15:29	δουλευω	1	1.707	18,967				974	10,822				2.196	24,400			
34	15:29	εντολην σου παρηλθον	3	2.169	24,100				2.603	28,922				2.862	31,800			
35	15:30	σου ουτος	2	1.920	21,333				2.160	24,000	X			3.650	40,556			
36	15:31	εμα σα εστιν	3	948	10,533				1.546	17,178				2.124	23,600			
37	15:32	οτι ο αδελφος σου ουτος	3	3.543	39,367				3.842	42,689				5.319	59,100			
38	15:32	αδελφος σου ουτος	3	3.033	33,700				3.042	33,800				4.449	49,433			
39	15:32	σου ουτος *)	2	1.920	21,333				2.160	24,000	X			3.650	40,556			
39	Total		81		0	0	0	0		4	3	0	1		1	1	0	0
			2,077	observed	0%	0%	0%	0%		10%	8%	0%	3%		3%	3%	0%	0%
*) no double count for D. Washburn					FEH	FEH	FEH	FEH		100 %	75%	0%	25%		100 %	100%	0%	0%
				expected	100%	20%	40%	40%		100 %	20%	40%	40%		100 %	20 %	40%	40%

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11.4 A supplementary experiment (3)

Luke 15:10-32		Statistical Analysis												date:	25.06.04	file:	luke15_exp_el	
No.	Verse	Greek	Words	Value	R #1 Multiple 53	Clustering 0	.+/-1	.+/-2	Value	R #2 Multiple 49	Clustering 0	.+/-1	.+/-2	Value	R #3 Multiple 47	Clustering 0	.+/-1	.+/-2
Key word:		**αδελφος**		1.113	21,000				882	18,000				799	17,000			
1	15:10	αμαρτωλω	1	2.442	46,075				1.846	37,673				2.126	45,234			
2	15:11	υιους	1	1.270	23,962			X	1.180	24,082				2.320	49,362			
3	15:12	και ειπεν ο νεωτερος αυτων	3	3.774	71,208				3.616	73,796				4.572	97,277			
4	15:12	και ειπεν νεωτερος	2	2.128	40,151				3.522	71,878				1.966	41,830			
5	15:12	ο νεωτερος αυτων	2	2.313	43,642				3.298	67,306				2.000	42,553			
6	15:12	νεωτερος	1	2.459	46,396				4.331	88,388				2.218	47,191			
7	15:12	και διειλεν αυτοις βιον	3	1.512	28,528				2.042	41,673				2.742	58,340			
8	15:13	νεωτερος υιος απεδημησεν	3	3.155	59,528				3.301	67,367				4.529	96,362			
9	15:13	υιος απεδημησεν	2	1.189	22,434				1.301	26,551				2.311	49,170			
10	15:14	αυτου	1	1.446	27,283				1.528	31,184				2.353	50,064			
11	15:15	εκολληθη	1	233	4,396				195	3,980		X		169	3,596			
12	15:17	πατρος μου	2	2.056	38,792				2.368	48,327				2.603	55,383			
13	15:17	εγω	1	611	11,528				106	2,163				509	10,830			
14	15:19	ειμι αξιος κληθηναι	3	625	11,792				921	18,796				1.155	24,574			
15	15:19	υιος σου	2	1.510	28,491				1.500	30,612				2.970	63,191			
16	15:20	ηλθε προς πατερα	3	2.309	43,566				2.754	56,204				2.060	43,830			
17	15:20	και κατεφιλησεν αυτον	2	3.032	57,208				3.298	67,306				3.953	84,106			
18	15:21	αυτω ο υιος	2	2.316	43,698				2.008	40,980		X		3.573	76,021		X	
19	15:21	και ουκετι ειμι	2	1.302	24,566				1.628	33,224				1.941	41,298			
20	15:24	οτι ουτος υιος μου	3	3.040	57,358				3.510	71,633				5.470	116,383			
21	15:24	ο υιος μου	2	1.430	26,981		X		1.310	26,735				2.500	53,191			
22	15:24	ην απολωλως	2	1.650	31,132				710	14,490				1.822	38,766			
23	15:25	ην ο υιος αυτου	3	2.270	42,830				2.400	48,980		X		3.992	84,936			
24	15:25	ην ο υιος	2	824	15,547				872	17,796				1.639	34,872			
25	15:25	ο πρεσβυτερος	1	2.891	54,547				3.387	69,122				3.434	73,064			
26	15:25	ηγγισε τη οικια ηκουσε	3	1.650	31,132				2.106	42,980		X		3.078	65,489			
27	15:27	οτι ο αδελφος	1	1.623	30,623				1.682	34,327				1.669	35,511			
28	15:27	**αδελφος**	1	1.113	21,000	X			882	18,000	X			799	17,000	X		
29	15:27	πατηρ σου τον μοσχον	3	2.860	53,962			X	4.150	84,694				4.532	96,426			
30	15:27	υγιαινοντα αυτον απελαβεν	3	2.174	41,019		X		2.768	56,490				3.574	76,043			X
31	15:28	ωργισθη δε και	1	1.667	31,453				1.431	29,204				1.580	33,617			
32	15:28	ο ουν πατηρ αυτου	2	3.236	61,057				3.578	73,020		X		4.346	92,447			
33	15:29	δουλευω	1	1.707	32,208				974	19,878				2.196	46,723			
34	15:29	εντολην σου παρηλθον	3	2.169	40,925				2.603	53,122				2.862	60,894			
35	15:30	σου ουτος	2	1.920	36,226				2.160	44,082				3.660	77,660			
36	15:31	εμα σα εστιν	3	948	17,887				1.546	31,551				2.124	45,191			
37	15:32	οτι ο αδελφος σου ουτος	3	3.543	66,849				3.842	78,408				5.319	113,170			
38	15:32	αδελφος σου ουτος	3	3.033	57,226				3.042	62,082				4.449	94,660			
39	15:32	σου ουτος *)	2	1.920	36,226				2.160	44,082				3.660	77,660			
39	Total	0	81		5	1	2	2		6	1	5	0		3	1	1	1
			2,077	observed	13%	3%	5%	5%		15%	3%	13%	0%		8%	3%	3%	3%
*) no double count for D. Washburn					100%	20%	40%	40%		100%	17%	83%	0%		100%	33%	33%	33%
				expected	100%	20%	40%	40%		100%	20%	40%	40%		100%	20%	40%	40%

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THEOMATICS

11.4 A supplementary experiment (4)

- The table for the basic theomatic factor “90" and the 3 random number allocations shows the following hits compared to the hits for the standard number allocation:

	Std.	R # 1	R # 2	R # 3
Theomatic factor	“90"	**“90"**	**“90"**	**“90"**
Direct hits	15	0	3	1
+/- 1 hits	16	0	0	0
+/- 2 hits	8	0	1	0
Total	39	0	4	1

- The table with the random theomatic factors “53", “49", and “47" and the 3 random number allocations shows the following hits compared to the hits for the standard number allocation:

	Std.	R # 1	R # 2	R # 3
Theomatic factor	“90"	**“53"**	**“49"**	**“47"**
Direct hits	15	1	1	1
+/- 1 hits	16	2	5	1
+/- 2 hits	8	2	0	1
Total	39	5	6	1

- **Result of the supplementary experiment:**

  - The average quantity of hits resulting from random number allocations is in the level of the basic probability, i.e. the probability related to randomness. Obviously, neither the theomatic factor “90", nor the word / phrase structure do have an influence on the quantity of the observed hits which is beyond randomness.

  - It can be deducted from the results of the experiment, that the high quantity of hits for the standard number allocation is only due to the special feature of this number allocation.

- **SUMMARY TEST RESULTS** of section 11

  - **The observed quantity of theomatic hits is significantly not random.**
  - **The observed distribution of theomatic hits (clustering) is significantly not random.**
  - **The observed quantity of theomatic hits and the hit distribution obviously result from the standard number allocation.**

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