

DIETUS ELBL

ESSAY · TRANSLATION

The Number Squares

German original: *Die Zahlenquadrate*

by Dietus Elbl

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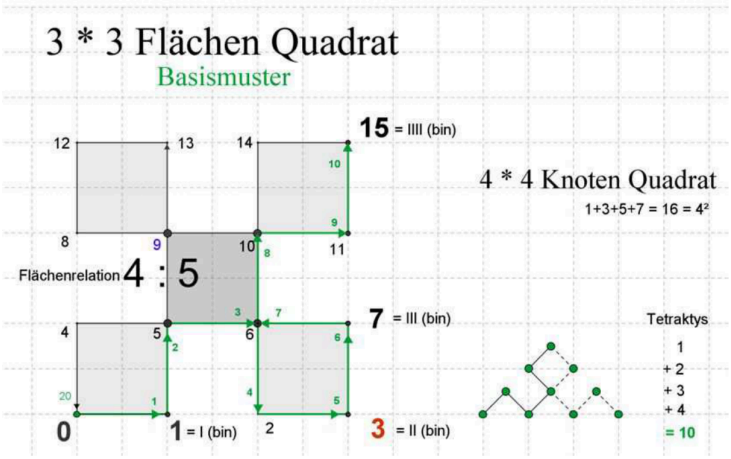
The basic form of all square forms is the 3*3 square, whose nine areas with the 16 nodes (node points) represent the geometric depiction of the net or of the structure of the number square.

The frame is spanned by the corner points 0 (zero point, start) and the three further numbers 3, 6 and 9, which bound the new areas. The sixteen nodes (numbers 0 to 15), as an ordinal definition of boundaries, structure the primarily undivided area unit "three-square" into individual segments, which in terms of area divide into 4:5 polar squares, whereby the dark and light parts naturally add up to the square of the number 3, *see Figure 1.*

Figure 1 Basic pattern of the number squares



The 16 nodes – *shown in green* – can be connected by a continuously drawn line path of 20 lines from the origin and back to it again. With the 10th segment one reaches the corner point 15, whereby at the same time exactly half of the square is constructed, which corresponds to the diagonal from the starting point zero (0) to the end point (largest number 15).

The basic pattern described here consists of a set of 10 lines, which touch exactly 1+2+3+4 points or nodes and thus establish a connection to the tetractys of the Greeks.

To construct the 3*3 area square one needs only the information of the first ten line segments; the second half is a vertical mirroring on the N-S axis, whereby the Mersenne numbers 1, 3,7 and 15 each occupy the boundary line of the square and enclose a right angle, which connects two different dimensions.

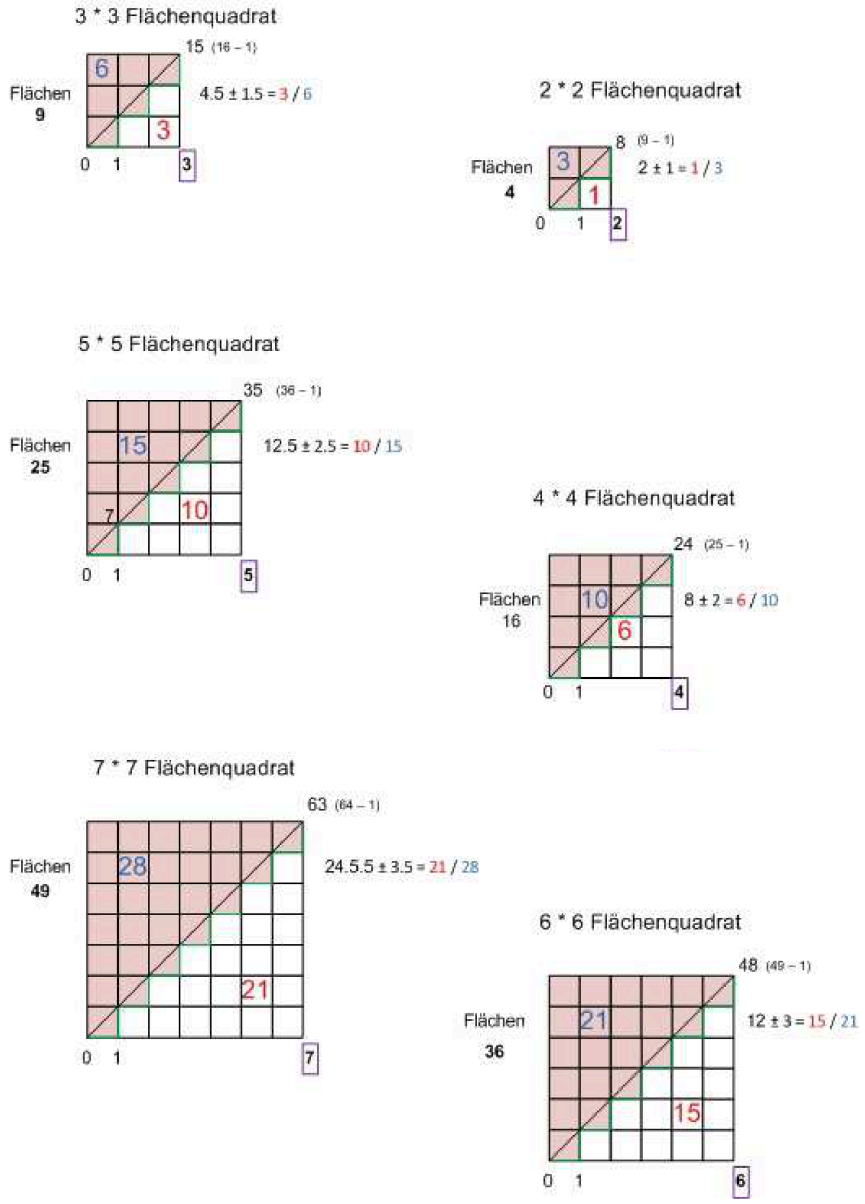
If one examines the line path of the 20 lines with regard to the nodes touched, the following picture emerges:

Line path: numbers {**0**, 1, 5, 6, 2, 3, 7, 6, 10, 11, 15, 14, 10, 9, 13, 12, 8, 9, 5, 4, **0**}

The number values connected in this way are separated from one another alternately by differences of ± 1 or ± 4. The nodes 5,6,9 and 10 are the only points that are touched four times, whereby twice a line ends in the node (e.g.: line from point 7 to point 6) and twice it leads away from the node (pt 6 – pt 2). From all other nodes two lines each lead to neighbouring points.

The basic "knitting pattern" (Strickmuster), or the kind of inner connection, leads to an internal division of the square in two and to a distribution of areas of 3:6, if one regards the line segments 1 to 10 as a dividing line along the diagonal, as illustrated in *Figure 2*.

Figure 2 The number squares and their distribution of areas



The area relations (a,b) of the squares can be calculated according to the rule F(z) = a*b, since a equals $Z^2/2 - Z/2$ and b equals $Z^2/2 + Z/2$.

e.g.: number (Z) = 7

$7^2 = 49$ and 7/2 = 3.5, → a = 24.5 - 3.5 and b = 24.5 + 3.5 = 21 or 28

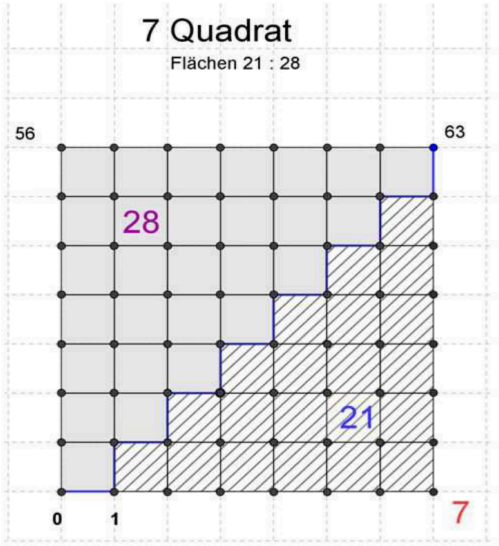
Every number is a product of development of the unity 1^2, which anchors every number as a "square number" in the material world. Arithmetically seen, these number squares each consist of identical linear number sequences with the same number of elements, which differ only in their beginning - *once*

with 0, once with 1 -. Both parts represent the right-angled sides of a square, as we define it as a geometric figure.

2^2 =	{0+1}	= 1	
	{1+2}	= 3	sum 4 or 2^2
3^2 =	{0+1+2}	= 3	
	{1+2+3}	= 6	sum 9 or 3^2
4^2 =	{0+1+2+3}	= 6	
	{1+2+3+4}	= 10	sum 16 or 4^2

All sum values of the bracketed expressions correspond to the triangular numbers, which indicate the progressing creation from the origin.

Figure 3 The 7*7 area square and its special features



The distribution of areas here leads to the relation 21:28 or 3:4, if, according to the diagonal mirror, one divides the square into two triangles, which can be put together to form the 7 area square.

The product of the two area relations **21 * 28** yields, with the number **0588**, a value that predetermines the period structure of the number 17:

$$17^{-1} = 0.0588235294117647\ 0588..\ \text{periodic}$$

The structure of the period consists of four blocks of 4, which as a 16-digit period can be folded together into two complementary parts of 8+8 digits each, which in the infinite form 0.99999999 reflect the unity 1^2.

17^{-1} = 0.05882352
94117647
0.99999999

If one considers the four constructive blocks of the period of the 17, they all arise through doubling from the development series of the area product 21*28, as is to be shown:

021	*	028	=	0588
042	*	056	=	2352
084	*	112	=	9408
168	*	224	=	37632

Since with four-digit coding, in the case of the number 37632 – as this is five-digit – the number sequence ...94117647 of the period arises through "overwriting", since the 3 of the 37632 coincides with the 8 of the 9408 and through the decimal carry of one (3+8=11) merges into the 11.

These 4 blocks of four each represent a quadrant of the circle or 90° degrees of the full circle, whereby in each case the fifth number opens the new circle. (see also the 19^2 = 361 or 360 + 1° angular degree)

Period structures of the area relations

21 * 28	=	0.0588 2352 9411 7647 =	1/17
42 * 56	=	0.2352 9411 7647 0588 =	4/17
84 * 112	=	0.9411 7647 0588 2352 =	16/17

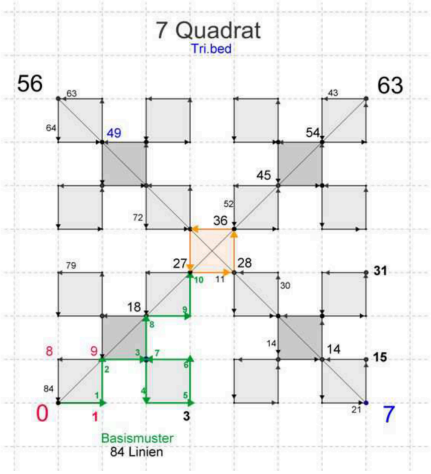
Interesting here are also the boundary values 21 and 112, which point to a perfect square that has the side length 112 and can be composed of 21 smaller squares of different sizes.

The area square of the 7 impresses through its clear, exceedingly simple structure, which is built up through continued right-angled connection (basic pattern) of 84 line segments. In this way all points or nodes of the square are uniquely determined, without the pattern of connection having to be changed or having to run beyond the edge of the square.
The initial square as the smallest unit (Figure 2, red) is formed by the numbers zero (0), 1, 8 and 9. This combination of numbers, interpreted as a period, leads to the Fibonacci series and to the golden section:

1/089 = 0.011235955056... whereby the sequence **0 1** 1 2 3 5 8 13 21 34 55 **89** ...

builds up the period, which receives its present form through overwriting.

Figure 4 The Tri.bed structure of the 7 area square



> Note:
> Let us also remember that the potential difference of the numbers 1 and 89 in the quarter circle (quadrant) is the greatest, which makes this combination the cradle of all further number materialisations.

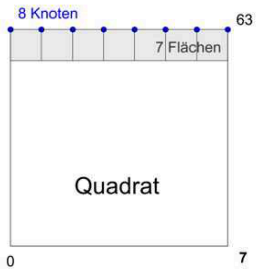
> Likewise of interest is the fact that all three-digit numbers, together with their mirror forms, come together to this number through one subtraction step and one addition step:

> e.g.: number 537

> its difference from the reverse 735 gives 198, 198 and 891 give **1089**

The square itself consists of two fundamentally different aspects, an ordinal part in the form of the point matrix, which, combined multiplicatively with the area part (cardinal), produces the square. *(Fig. 5)*

Figure 5 The ordinal and the cardinal connection of the square



The polar aspects "area" and "points" build up the square, as we name it, through their multiplicative connection. This geometric depiction is one form of depicting the background of an arithmetically defined number, whereby both parts on the one hand complement each other and on the other hand

present themselves as inverse mirrors of themselves.
Every number therefore consists of four seed aspects, which correspond to the 4 corners of the square belonging to the number in question. Every square corresponds to a "spiritual primal idea", which manifests itself in the circle in physical reality. The individual corners of the square each represent a 90° degree angle of the full circle, so that packets of four depict a closed circle (cycle).

Every number therefore exists in its root form as a "square number", which we depict as a square number only geometrically, but wrongly dispense with in the arithmetic representation, because the origin of all squares – the 1^2 - is at present written as 1, since 1^x purely arithmetically always leads to 1.

The interlinking of the geometric square form with the arithmetic form can be understood more easily via the binary level. For this we again orient ourselves by the 7 area square, which is built up from 8*8 points.

The number 7 is represented in binary in the form 111 and belongs to the Mersenne numbers, which play the main role with regard to the connection with the circle and the polar potentials of the whole numbers. (see also: Fenster zum Kosmos, über das Wesen der Zahlen, p. 186 ff, Dietus Elbl, key of life Verlag 2012)

The correct representation of the 7 is composed of two polar parts of 0 and 1, and represents the starting point of our considerations:

$$000111 \quad = \quad \text{bin } \mathbf{7}\ (2^0+2^1+2^2 = 1+2+4)$$

This entity "Seven" exists both as a geometric form ("square") and as a number (arithmetically). Their connection is of interest here.

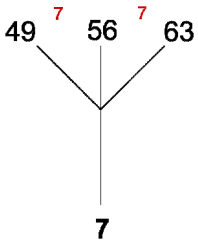
The "negative" of the Seven (its inverse form, copy) is equivalent to a multiplication, as can easily be established:

$$\text{Mirror image of the 7:} \quad 111000 \quad = \quad \text{bin } \mathbf{56}\ (2^3+2^4+2^5 = 8+16+32)$$

The difference between the initial number (7) and its mirror (56) leads to the square of the Seven, to 7^2 = 49.

The interchange of the quantities 0 and 1 corresponds here to the extension by the factor 8, which in the square of the 7 corresponds to the number of points or nodes from which the square is built up *(Fig:5)*: 7*8 = 56

The 56 (upper left corner in the square) becomes the key to the entire three-valued structure, which I name Tri.bed *(Fig.4)*.
The lower bound is the 49 and the upper one is found in the form of the 63 (upper right corner), both of which are separated from the 56 by the base number 7.



These three main aspects of a square are reflected in the 3 corners, whereby the zero position is represented by the value of the square (= 49).

Let us consider the correspondences once more:

The number 7, as number and "spirit seed", defines the entity itself. It is found at the right corner of the square. The number 56, in the form of the binary copy, represents the mirror partner of the 7, the "counterpart", which by definition, mirrored on the diagonal, is located at the upper left corner of the square. The synthesis number 63 – as the greatest aspect, which contains everything – lies at the upper right corner, the "omega point", which indicates the path of development from the origin of zero via the diagonal (balanced potential) to the end point (63).

The generative unit square 1^2 (points 0,1,8,9) finds its correspondence in the multiplication factors, which connect the base number (7) with its primary manifestations ("TRi.bed"):

7*0	= 0	000000	primal origin (Ur-sprung) (transcendent)	α - gate
7*1	= 7	000**111**	base number	
7*8	= 56	**111**000	mirror image/partner	
7*9	= 63	111111	synthesis (mirror to the primal origin)	Ω - gate

The organisation of the multiplication factors yields the "Amen in prayer", the number 99, which in antiquity, especially among the Greeks, held a prominent place. ("Amen" = Greek "*αμην*" = "1+40+8+50"="99")

The zero parts and the 1 parts form a right angle and represent two different aspects or dimensions. The diagonal corresponds to the neutral "child aspect" and connects points with balanced potential. In the case of the 7 only multiples of the number 9 (binary 1001) are found, which symbolise the space of development of the square.

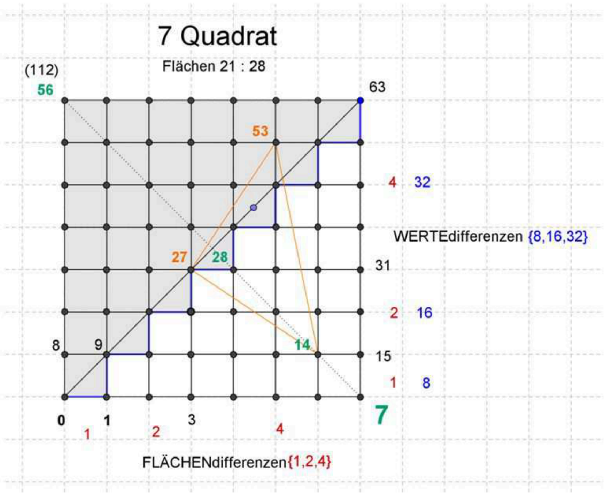
The period of the 7 (also the first cyclic number) is likewise present in the square structure. The numbers of its period can, as for prime numbers with a period length of p – 1, be folded into two parts, which in turn complement each other to the unity 1^2:

7^{-1} = 0.142857 and 0.142
857
0.999

In the square of the 7 the 14 (Fig. 4) is found in the second place on the diagonal that runs from bottom right to top left. After an interval of two square diagonals one arrives at the 28, after a further four at the 56, which bounds the square.
The period of the 7, however, closes with the number 7, which has "borrowed" the 1 of the 112 from the 112 (the next extension, 8 square diagonal lengths away from the 56), since 56+(1)12, with a two-digit ordinal structure of the period (corresponds to the 180° degree angle), gives the sum 57.

With its period the number 7 at the same time also reproduces the intervals between the Mersenne numbers {1,3,7,15,31,63...}, which are characterised by the numbers 1, 2, 4... (overtone series 2^n, female prime numbers). I would also like to point to the sequence of residual angles of the Mersenne numbers, which begins with 14 – 27 – 53 and in the square of the 7 lies on a small square (right angle):

Figure 6 Mersenne numbers and period structure of the 7



The relation of the area differences to the value differences is given by the relation 1:8, which corresponds to the differences of the knitting pattern (Ariadne's thread):

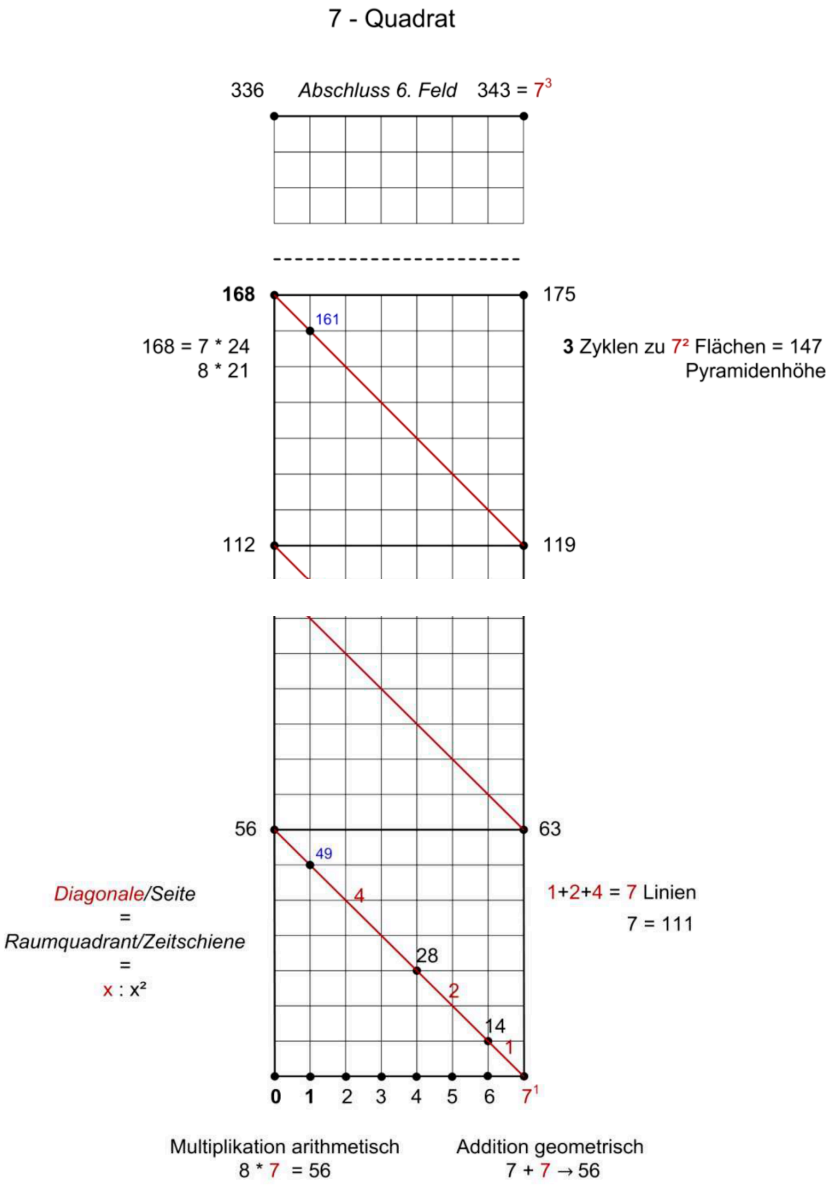
Position: 0, 1, 9, 10, 2, 3, 11, 10, 18, 19, 27 with intervals of
+1/+8/+1/-8/+1/+8/-1/+8/+1/+8

The significance of the Mersenne numbers is also rooted in the counting mode of the female prime numbers, since their sum always corresponds to a Mersenne number.

e.g.: 1+2+4 = 7 (binary: 111) or 1+2+4+8+16 = 31 (binary: 11111)

The square of the Seven shows very beautifully the connection of the first two Mersenne numbers 7 and 3 (the binary representation of the 7 = 111), whereby the first three square areas of 7^2 = 49 units each lead to the number 168, which functions as the key number of our 7-day week/calendar as such. *(see Pakhomov's works on this)*

The conclusion of the altogether 7-1 = 6 digit square fields is formed numerically by the number 343 or 7^3, which together with the beginning (7^1) indicates the fundamental 1:3 relation in the exponent. These six square areas also correspond to the 6-digit period of the cyclic number 7, which in decimal has the representation 1/7 = 0.142857 per. The first three digits of the period complement each other with the following three to the unity 1^2 in its dynamic form (0.999) and contain the numbers 1,4 and 2, which as "intervals" on the diagonal illustrate the process.

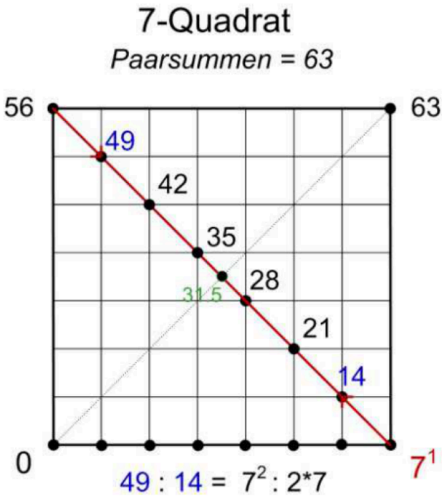


In this process it becomes apparent that the diagonal is potentially "mightier" than the sides, whereby the two sides represent the quadratic aspect and the diagonal the linear - and thus the one reduced by one dimension - aspect. The calculation 8*7=56 can therefore also be carried out geometrically - starting from the number 7 as the right corner - through the addition of segments of 7 line segments. Here the basic sequences 2^X (overtone series) and the Mersenne numbers (2^X-1) unite in perfect harmony, whereby every multiplication can be solved geometrically by the initial number reduced by 1. *(e.g.: 4*7=28, corresponds to 4-1=3 line segments starting from the 7 at bottom right)*

The square of the 7 shows very clearly how the transformation of the number in question takes place on the diagonal. The number 49, or the square of the Seven, lies opposite the number 14, whereby the 49 is separated from the 14 by an "integration step":

$49 = 7^2$ and $14 = 2*7$	reduction of the exponent by 1, the exponent becomes a factor

All pairs of numbers on the diagonal which are arranged centre-symmetrically to the value 31.5 (cf. the 315° angular degrees and the cardinal direction SE) give the sum 63, whereby their relations are interlinked with the period structure of the Seven.



The pairs of numbers are - since the 7 is a Mersenne number - wonderfully balanced and each fit together perfectly, as their binary forms illustrate:

56 = 111000	49 = 110001	42 = 101010	35 = 100011
07 = 000111	14 = 001110	21 = 010101	28 = 011100
63 = 111111	63 = 111111	63 = 111111	63 = 111111

The relations to one another, expressed in decimal, show 3+1 pairs, whereby the pair 42/21, with the ratio of 2:1 to each other, falls out of line, because the numbers 3 and 6 building on the number 0, as a neutral component ("catalysts") - *see 2-3-5 number structure* - become virtually invisible. The numbers 3 and 6 here represent both the boundary of the square and the pair-sum value in the form of the 63. (→ the 6:3 relation is also the only one that can be reduced to whole numbers and thus leads to the 2:1 relationship)

Relations	56 : 07	=	8 : 1	
	35 : 28	=	5 : 4	
	42 : 21	=	6 : 3	see [12:24]
	49 : 14	=	7 : 2	

These ratio numbers of the 3 pairs represent the basic building blocks of the period of the number 7, as one can easily recognise: → 7^{-1} = 0.142857

If one completes the above relations and mirrors them, the number series from 0 to 9, or the first decade, results:

Beginning to end: 9:0 / 8:1 / 7:2 / 6:3 / 5:4 / 4:5 / 3:6 / 2:7 / 1:8 / 0:9

Half of this sequence, interpreted as two-digit numbers, leads to the full circle of 360° angular degrees:

90 + 81 + 72 + 63 + 54 = 360

The square of the 7 can be divided into 2 aspects, the *ordinal*, outer shell and the *cardinal*, inner part on the diagonal from the 7 to the 56. The shell, or the square as frame, is occupied at the corners by the 0, 7, 56 and 63, whereby these four numbers yield the relations
9:0 and 8:1. This leads to the relationship and to the number 01/89 and subsequently to the Fibonacci sequence hidden within it:

01/89 = 0.011235955056... 44-digit period

Two outer pairs of numbers (0-63; 7-56) stand opposite three inner pairs of numbers (14-49; 21-42; 28-35). Their relational sums are:

outside	90 + 81	= 171
inside	72 + 63 + 54	= 189
		= 360

If one takes the middle 180 ± 09 as point of reference, one finds one's way back to the initial quantities - the numbers 0,1,8,9 *(cf. here also the smallest building block in the square of the 7, which is formed by the corners 0,1,8 and 9)*.

If one also adds the mirror values of the above numbers, every pair of numbers has the sum 99:

90+81	plus	18+09	=	198 or 2 * 99
72+63+54	plus	45+36+27	=	297 or 3 * 99
				495 or 5 * 99

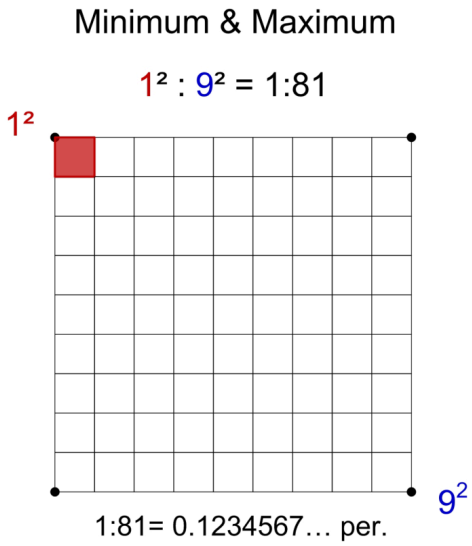
Thus the diagonal sum ("child", number 3) together with the "mother" (shell matrix, number 2) leads to the "father" as spiritual entity (number 5), which as "divine essence" encompasses All. Expressed in terms of the calendar, this leads us to 23 May as an essential anchor point, as it is also duly honoured by various lodges, because it exactly reflects the basic foundations of being - the 2-3-5 structure of the numbers.

The sums of the inner relations 7:2, 6:3 and 5:4 in decimal notation lead to the value 999, and the period sum of the 7: 765 + 234 = 999 corresponds to the 142+857 = 999

The relation 0:9 or 9:0 of the numbers 0 and 63 in the square of the 7 shows a natural connection to the base number 81 (9^2), which is unique insofar as it depicts all numbers of the sequence (0,1,2,3,4,5,6,7,8,9,10,11,12,13...) in its period:

1/81 = 0.012345679 periodic — the period arises through overwriting (so for the two-digit numbers only one place or "decimal place" is available)

The following depiction shows the smallest possible square (unity 1^2) and the largest possible (9^2) of the first decade. *(see also the 81 stable chemical elements)*



THE MERSENNE NUMBERS AND PASCAL'S TRIANGLE AS THE CRADLE OF CREATION

As one can see, the Mersenne numbers form the basic structure of Pascal's triangle (equilateral triangle) and the most fundamental geometric child form alongside the "parents" square (spirit) and circle (matter).

Mersenne numbers and Pascal's triangle

						1									(1)
					1			1							(3)
				1			1			1					(7)
			1			1			1			1			(15)
		1			1			1			1			1	(31)

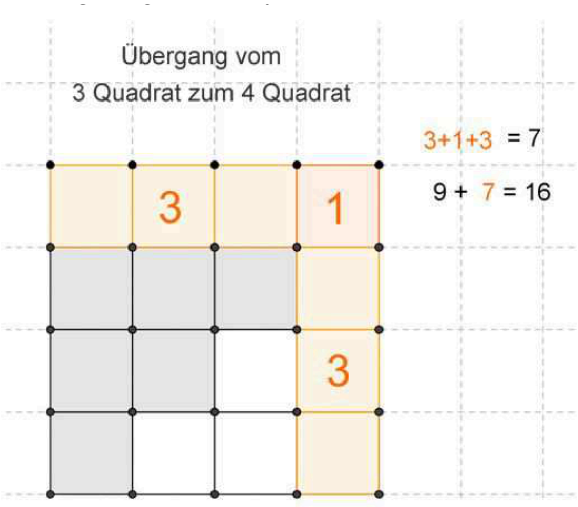
This binary representation of the numbers 1, 3, 7, 15 and 31 not only represents the Mersenne numbers, but, interpreted decimally, with the sequence 11^n or 2^n (digit sums), also shows the basic pattern of Pascal's triangle and the binomial coefficients:

bin:	1	=	dec.	$11^0 = 1$	or	$2^0 = 1$ digit sum
	11	=		$11^1 = 11$		$2^1 = 2$
	111	=		$11^2 = 121$		$2^2 = 4$
	1111	=		$11^3 = 1331$		$2^3 = 8$
	11111	=		$11^4 = 14641$		$2^4 = 16$

The continued addition of one "unit" also illustrates the increase in area from one square number to the next. In doing so we recall the representation of the number squares through the sequence of odd numbers:

2^2	=	sum 1+3	= 4
3^2	=	sum 1+3+5	= 9
4^2	=	sum 1+3+5+7	= 16
5^2	=	sum 1+3+5+7+9	= 25 etc.

The transition from one square to the next larger one is indicated by an odd number of threefold nature, for example from the 3^2 to the 4^2:



The difference results from the 7 (marked yellow in the enumeration in the text), which in the square falls geometrically into three parts, whereby the two polar right-angled sum parts (3 and 3) are complemented by the "growth tip" 1^2.

The connection of the 7 with the 3 is evident, since the 7 can indeed be depicted via the series expansion of the 3:

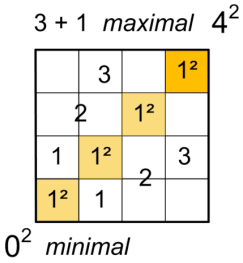
$$
\begin{aligned}
1/7 \quad &= \quad 3^0/10^1 + 3^1/10^2 + 3^2/10^3 + 3^3/10^4 + 3^4/10^5 + 3^5/10^6 + \ldots. \\
&= \quad 0.1 + 0.03 + 0.009 + 0.0027 + 0.00081 + 0.000243 + \ldots \\
&= \quad 0.142856(112)(224)(448)\ldots \\
&= \quad \mathbf{0.142857}\ \text{periodic}
\end{aligned}
$$

→ *cf. also the "heaven on earth" and the planetary system, where the Earth appears either as the 3rd (from inside) or the 7th planet*

IDENTITY AND WHOLENESS IN CONNECTION WITH THE SQUARES

If one regards the newly created number in each case (subjective, individual entity), which differs from the preceding one only by the 1^2, as end product and independent being in the space of the square, one easily recognises that it does not exist at all as a "singular unit".

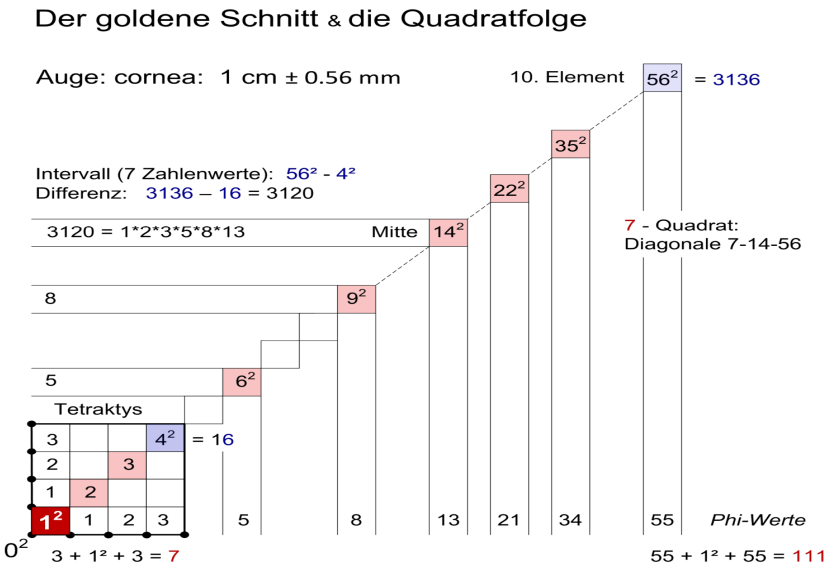
As shown by the example of the Four, the identity of the number relates to the whole - here the *entire area of the square* of 16 units - and is only recognised when it traces its path back to the origin (1^2 and 0^2).



*From the perspective of the new creation (number 4), the diagonal depicts the path from it to the immaterial beginning (0^2). The concept "Four" itself does not appear at all in its space of being (4 * 4 matrix, tetractys), but it contains only the numbers (identities) 1, 2 and 3 in double edition, or four times the unity 1^2 as basic building block and element of growth.*
The 4 therefore derives its form of existence exclusively from the area of the square as such, and from the totality of its cardinal contents, whereas it itself represents an ordinal quantity.

Without connection to the source (4-0, "human being-God") the newest creation ("I") cannot exist, which leads to a paradox that is difficult for the human being to comprehend:

if he wants to recognise his essence, he must first connect himself with his origin, and when he has achieved this, there remains the insight that his "singular, individual form-identity" is only an illusion, and that he embodies nothing new per se.



In other words: once the human being has experienced his wholeness through *re-ligio* (re-connection) and manifests his uniqueness for the first time, he extinguishes it again in the same moment through the process of recognition, since he has established that his "I" only bounds the inner space of the "we" and does not exist at all on its own.

Related to everyday life one can say that the only form of singular and unmistakable being lies not in substance (matter), but in the *different paths* (of learning) on which the human being seeks to connect himself with the source. Once he has found it, he must recognise that his essential being only makes sense in connection with the whole ("area", "soul", "energy"). A quotation from Max Planck shows this very beautifully:

"There is no matter, but only a web of energies, to which form has been given by intelligent spirit."

If one considers the development of the golden section in connection with the sequence of squares, one finds many cross-connections to the square of the Seven. The square numbers 4^2 and 56^2, kept in blue, represent on the diagonal the creation increasing by the 1^2, whereby the 10th square - which shows polar parts that correspond to the Fibonacci sequence - contains the number 56, which appears as the mirror partner of the number 7. Nominally it is interesting that this number connection 10-56 is related to the human eye, namely in the form of the cornea. This is interesting above all, and a "constant of nature", because it represents the only part of the human body that is always the same size regardless of age or origin. (1 cm ± 0.56 mm, the cornea no longer grows from the 4th year of life onwards, *see: "Das dritte Auge und der Ursprung der Menschheit", Ernst Muldashev*)

Note:
The eye, as creative part and antagonist of the physically active sexual sphere, likewise begets "children", though at first only in the form of countless visions, which fill our spiritual living spaces and over time transform into our bodily everyday worlds.

Since numbers as such depict relations, or an interval with ideal-typical boundaries, the range of tension in between (vibrating string, resonance) yields a difference, which can be assigned to a corre-

sponding "sound". The bridge of tension between the base matrix (square of the 4, alpha aspect) and the end point (square of the 56, omega aspect) yields the numerical value 3120, which occurs as the product of the Fibonacci terms 1 to 13:

56^2 minus 4^2 = 3136 - 16 = 3120 3120 = 1*2*3*5*8*13

The beginning and end of this series (1+13) lead to the number 14 ("middle" between the 7 number squares including the 4 and the 56) and to the number 7.

The lower limit (4-square, sum 16 areas) is bounded on the outside by the threeness 3-1^2-3 = 7. The upper limit (56-square) is not only the mirror partner of the 7 (56 = 111000; 7 = 000111) but, via its frame structure 55-1^2-55 and the decimal sum 111, provides the transition to the binary form of the Seven, which is formally represented in the same way: → binary 7 = 111

The interval with the numerical value 3120 symbolises the energy net (the "nourishment") and the spatial potential that is spanned by the pair of numbers 56^2 and 4^2. Just as the number 56^2 does not exist as an independent being (but as an ordinal collective term for the corresponding potential, see also the chapter on the api indices) but, as "crystallisation nucleus" (→ numbers as "crystalline engrams") and definition of a limit value, depicts a stable node of vibration, where seemingly matter = number is anchored linearly (Z^1).

Just as a vibrating string needs a resonance space in order to become perceptible, the number in the square needs precisely this as an enveloping space and sound structure. The minimally possible enveloping space - the zero square (0^2 = 00) - connects via the 1^2 (immaterial atom, basic building block of existence) with the maximally possible ("crown of creation", "apex of the pyramid", last created number, here the 56^2) into a unity which in its trinary character illustrates the foundation of all being.

Hint:
Analogously, in taking in food we also do not digest the respective substances themselves, but install within us a relationship of tension of an informational nature, which makes available to us morsels of energy of different sizes (as copy and vibration pattern). The atoms and molecules of food likewise represent crystallisation nuclei, which, always combined in pairs, on account of their polar nature represent a battery, whose field potential is ultimately present in the body bound in chemical substances.

THE INNER DIVISIONS OF THE 7 AND THEIR RESIDUAL ANGLES

The number 7 possesses a polar distribution of areas of 21 to 28 fields, which leads over to the sum 49 and to the square of the Seven. The relation of the two parts is 3:4, which as a sum corresponds to the base number 7.

If one now examines these relations in the context of the period structures and the circle, one finds a consonance as far as the residual angles mod 360 are concerned:

7: 3 * 4 = 12

Development series building on this (extended by the factor 4):

(12), 48, 192, 768, 3072, 12288 etc.,	reduction angles: 48° – 192° (3072) – 48° (768) - etc.

7: 21 * 28 = 0588

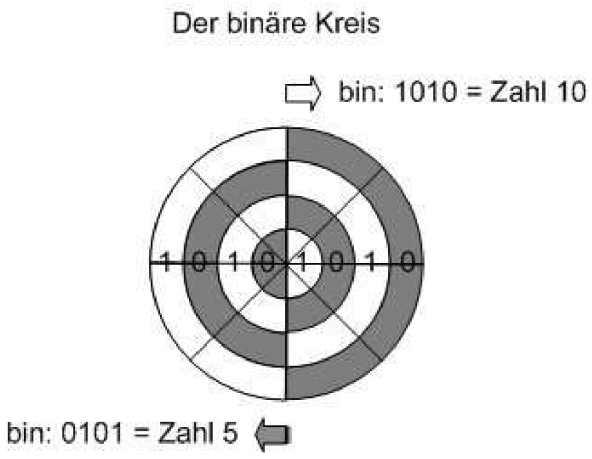
Development series building on this (extended by the factor 4):

(0588), 2352, 9408, 37632, 150528 etc.,	reduction angles: 192° (2352) – 48° (9408) – 192° (37632) etc.

The respective start numbers 768 (first reduction mod 360°) and 0588 are phase-shifted relative to each other by 180° or by the value π, but lead to resonant numbers with regard to the circle.

The alternating black – white segments correspond to the arithmetically binary depicted number sequences 0 and 1, which, four-digit (four quadrants of the circle), depending on orientation (right-left), give the decimal numbers 5 or 10.

Figure 7 Circle and binary coding



THE CIRCLE AND ITS ZEROS – ON THE 7 AND ITS SIGNIFICANCE

If one divides the first 10 numbers "centre-symmetrically" into two equal parts, the 7 takes on the function of a membrane, which as a door separates or connects the two halves. For this we consider the products of the following 3 groups:

1*2*3*4*5*6	*7	8*9*10
720	7	720

The first 6 numbers give as product the same numerical value as the product of the last 3 numbers, whereby the Seven as the middle represents the potential balance of the two groups.

This door function of the number 7 also turns out to be a special case of the division of the circle, if one takes the single-digit natural whole numbers as frame of reference.

If one examines the remainders that occur in the division of the circle, the number 7 alone yields the **remainder 3**, whereas all other numbers yield no remainders:

360 : 1 =	360	remainder 0
360 : 2 =	180	remainder 0
360 : 3 =	120	remainder 0
360 : 4 =	90	remainder 0
360 : 5 =	72	remainder 0
360 : 6 =	60	remainder 0
360 : 7 =	**51**	**remainder 3***
360 : 8 =	45	remainder 0
360 : 9 =	40	remainder 0

* 7 * 51 = 357 plus 3 = 360 remainder 3 and 7 * 52 = 364 minus 4 = 360 remainder 4

The different remainders also relate to the extension of the circle via the number 19 and its square, since 19^2 = 361 exceeds the circle by one degree.

If one adds these -3/+4 remainders, an (average) difference of +1 results on account of a dynamic asymmetric distribution of remainders, which – as an absolute value – give the number 7 and correspond to the relation of its distribution of areas in the square. The division by the natural whole numbers can also be understood as a zero-point residue class operation, which leads over to the time constant 1440 π.

1440 π = 2* 720 π = (1*2*3*4*5*6 + 8*9*10) * π

This proves here to be the product sum of all those numbers which, with respect to the full circle of 360° degrees ($360 = 2^3 * 3^2 * 5^1$), show no remainders of division.
In the next decades there are likewise numbers with remainders of division of 0, namely the 12, 15 and 18, as the following table shows:

Table 1 Numbers 1 to 100 with remainder zero (0)

1st decade	numbers 1,2,3,4,5,6,8,9,10
2nd decade	12, 15, 18, 20
3rd decade	24, 30
4th decade	36, 40
5th decade	45, 50
6th decade	60
7th decade	70, **72**
8th decade	80
9th decade	90
10th decade	100

From the third decade onwards only multiples of the number 3 with remainders of zero occur, whereby the 72 forms the conclusion among the first hundred numbers. As the development of power sums also shows, a structural limit lies there, which is closely linked with the pentagram and its 72° degree angles as well as with the division of the first decade.

Note: $360 = 2^3 * 3^2 * 5^1$ and the next stage $2^8 * 3^5 * 5^3 = 7776000$ leads to the 7776 (6^5), the measure of our division of time *(see: the Babylonian time system)*

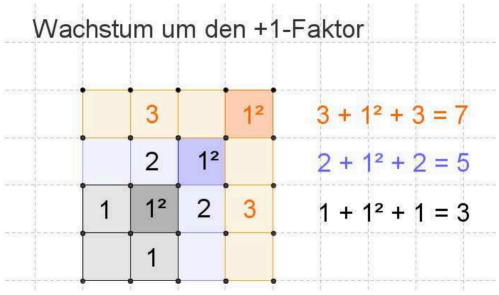
GROWTH OF THE SQUARES

The odd numbers (squares) are each mightier by the +1 factor than their even sisters, which represent the root aspects of the "germinating" odd number forms.

e.g.: number 5 = $2 + 1^2 + 2$

number 7 = $3 + 1^2 + 3$

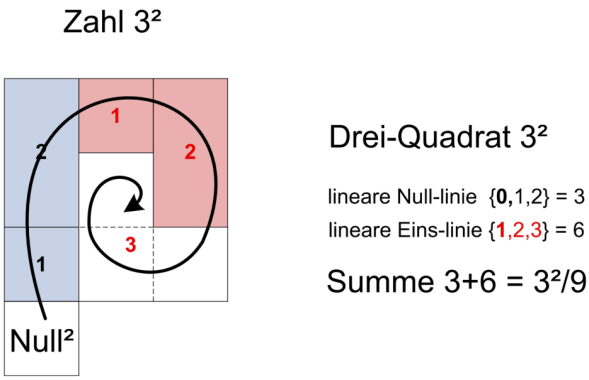
number 9 = $4 + 1^2 + 4$



Origin = 1^2: 1 2 3 **4** 5 nodes

The corresponding geometric forms here increase by the +1 factor along the diagonal and show the centre-symmetric threefold construction of the odd number squares themselves. Their development leads spirally from the origin (zero²) via the one² in a clockwise direction, as *Figure 8* shows:

Figure 8 Development of the square number 3



The number of blue-coloured squares corresponds to the linear zero line (numbers 0,1, 2) and complements itself with the six squares drawn in red/white to the 3-square, which is composed of 9 fields. This development can also be described counter-clockwise; the last field (the 9th field, arrowhead), however, is the same.

THE TWO BASIC ASPECTS OF A SQUARE

Every square consists of two primary parts, the net (points, nodes) and the areas, which depict the primary aspects of the unity as geometry and sound.
The two parts each differ by the 1^2 ("one-square") as a factor and are based on the binary **0/1** structure of the number field.

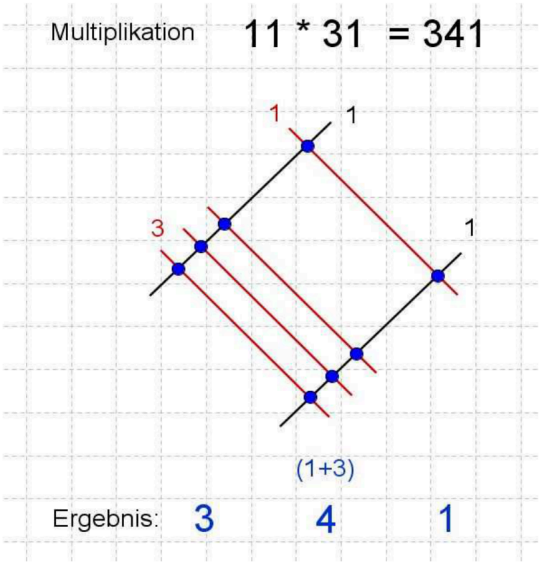
If, in the respective square, one begins counting the points as in a coordinate system with zero as the origin, the square of the 4 has the five nodes 0,1,2,3, and 4. Logically the counting of areas starts with one (1) and ends with the 4, since the areas represent the intervals or spaces between the nodes.

If, on the other hand, one begins counting with 1, the square of the number 4 has exactly $4^2 = 16$ node points and 9 areas, the square of the Five has 16 areas and 25 (5*5) nodes *(see the table on the growth of the squares)*.

Here also lies the root of square multiplication by nodes, as the following example shows:

The multiplication of the numbers 11 * 31 (→ 1131 : $\pi \approx 360$) takes place via the addition of their internal connections in the square field by counting the nodes (points of intersection).

Figure 9 Square multiplication



The numbers 11 (black) and 31 (red) are represented as straight lines in this kind of connection, whereby the units and tens digits of the respective number stand parallel to each other. The points of intersection or nodes result from the right-angled connection (square!) of the two numbers, whereby the result is formed by adding all the nodes in the square. In doing so, the nodes lying in the middle (north-south direction) (bracketed expression) are reduced to one decimal place, which in this case yields the number 4 and the final result.

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