

THE RUNE ALPHABET
AND THE EVOLUTION OF NUMBER SYMBOLISM

Gematria in the Germanic World

by
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A Thesis Presented to
THE UNIVERSITY OF MANITOBA
in Partial Fulfilment
of the Requirements
for the Degree of
Master of Arts
Department of German

February 1979



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A dissertation submitted to the Faculty of Graduate Studies of
the University of Manitoba in partial fulfillment of the requirements
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MASTER OF ARTS

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ABSTRACT

In the ancient languages, number and language were closely related, and from this relationship, number symbolism has evolved. The roots from which number words were formed in the Semitic languages are the bases for the symbolic meanings which have been handed down through the ages and through the various languages. Originally these meanings were understood by all who spoke the language, but as new languages developed, the meanings underlying the number words became less evident, and gradually they had to be explained as being symbolic.

Not only in the spoken language but also in the written word can we trace a definite correlation between number and letter. In Hebrew and Greek, each letter of the alphabet represents not only a phonetic but also a numeric value. Every word therefore can be equated with a numeric, or gematric sum. Since these values are not obvious at first glance, they lend themselves to a secret code which lies hidden within the written word. The Bible employs a system of gematria as a means of giving a unified structure to the text.

In mystic cults, gematria was passed on to initiates as secret knowledge, and as such it was adopted into the Germanic rune alphabet. The gematric values of bracteate inscriptions, for example, show a preference for sums which are divisible by 13. The rune which bears the value 13 is named "yew" (German Eibe).

As this tree is associated with health, strength, and longevity, these qualities were transferred to the number 13, making it the most desired factor in amulet inscriptions.

With the advance of Christianity, shamanism all but died out in Europe and with it the gematria of the runes. Since the symbolic meanings of numbers and letters were never common knowledge, they were lost for centuries, and we are only now rediscovering them.

When the Latin alphabet came into use in Europe, there developed a greater emphasis on the meanings of number words, since the Romans had never established a system of gematria. During the Middle Ages, symbolic numbers were no longer employed to endow words with charms, but to lend harmony and design to the written message. Both the pagan gematria and the medieval numeric structure developed a complexity which cannot be understood from the meaning of the word, as had been the case in the Semitic languages, but has to be explained by a special symbolic code.

To K. W. Maurer

in whose inspiring classes the topic
of this dissertation was conceived.

Without his faithful encouragement
the work may never have been completed.

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ACKNOWLEDGMENTS

I would like to thank the publishers who gave permission to duplicate the following photographs:

- The Vadstena bracteate on page 66 from Dr. Eric Graf Oxenstierna, Die Nordgermanen, Stuttgart: Kilpper, 1957.
- Various bracteates on page 74 from volume II of Wolfgang Krause, Die Runeinschriften im älteren Futhark, Göttingen: Vandenhoeck und Ruprecht, 1966.

My sincere gratitude goes out to the many professors of the University of Manitoba who have freely given of their time to lend advice and assistance, especially to:

- H. Bessason, Icelandic
- Fr. L. C. Braceland S. J., Classics
- R. J. Dowling, Mathematics
- B. K. Kale, Statistics
- M. Nahir, Judaic Studies
- N. Rose, Judaic Studies

Last but not least, I am indebted to R. J. Glendinning, my thesis supervisor, on whom fell the difficult task of editing the manuscript.

INTRODUCTION

Number . . . is not so much
a symbol as an essence.¹

In early times, the concept of number was inseparable from the concept of language. The Greek word *λογος* exemplifies this unity, because it stands for meanings which, to our way of thinking, seem almost unrelated. Among them are:

— word, discourse, story, book;

— thought, reason, reckoning, computation.²

In most languages we recognize a limited correlation between number words and their symbolic meanings, but in the Semitic languages, the two are inseparably linked. In Hebrew, for example, the verb meaning "to unify, collect" has the same root as the number "one."³ The verb meaning "to fold, duplicate, alter, disguise, pervert" has the same root as the number "two"⁴, hence "two" received the symbolic meaning of "division or separation" and therefore "evil." Other

¹ Vincent Foster Hopper, Medieval Number Symbolism (1923; rpt. New York: Cooper Square Publ., 1969), p.68. This is a reference to Gnosticism as compared to Pythagoreanism.

² Langenscheidt's Pocket Greek Dictionary (n.d.), s.v. "logos."

³ James Strong, Dictionary of the Hebrew Bible (n.d.), s.v. #258 "achad" and #259 "echad."

⁴ Strong, s.v. #8138 "shannah" and #8147 "shenayim."

number words have corresponding meanings.⁵

As long as we remain with the Semitic languages, the association of word and number is easily understood. Even in English, the meaning of the number "one" is reflected in such words as "oneness, only, unify, unity." In German, the original meaning of the number "zwei" has given rise to such derivatives as "entzweien, Zwist, Zwietracht." Above two, however, we resort to symbolic explanations to clarify the deeper meanings of numbers, because in the Germanic languages the original bond between number and language has been lost.

This present study will trace the evolution of number symbolism by concentrating on the following stages in its development:

- (a) The unity of number and language in the ancient languages (Chapter One).
- (b) The system of number symbolism in the Germanic world (Chapter Two).
- (c) The reliance on numeric structure in medieval times (Chapter Three).

Stages (a) and (c) have been extensively researched during the last hundred years, while stage (b) has been sorely neglected, probably because the extant primary sources are not always too well preserved and are therefore difficult to decipher. In an attempt to remedy this neglect, this thesis will focus its main effort on this period which presents a necessary link between the other two.

⁵ For a discussion of the meaning of "seven" see pp. 13-14 below.

CHAPTER ONE

UNITY OF NUMBER AND LANGUAGE:

THE BIBLE

I. The Significance of Number in Scripture

He telleth the number of the stars,
he calleth them all by their names.
Ps. 147:4

Lift up your eyes on high and behold
who has created these things that
bringeth out their host by number,
he calleth them all by their names.
Isa. 40: 26

Scripture assigns great significance to numbers and names, and when linking the two concepts, number is mentioned first. Whole pages are devoted to the enumeration of numbers as well as names, and in fact, the fourth book of the law of Moses bears the title "Numbers." Not only the Bible, but ancient writings in general show a preoccupation with the study and application of number.

Some numbers carried greater significance than others, and one way of establishing their order of preference is to simply check the frequency of their use. With the help of Strong's Exhaustive Concordance of the Bible, a rough count of numbers as ordinals and cardinals was made. In this particular

concordance, each listed item is identified by its Hebrew or Greek original, and it is probably the most accurate work of its kind. Table 1 shows the results of this investigation.

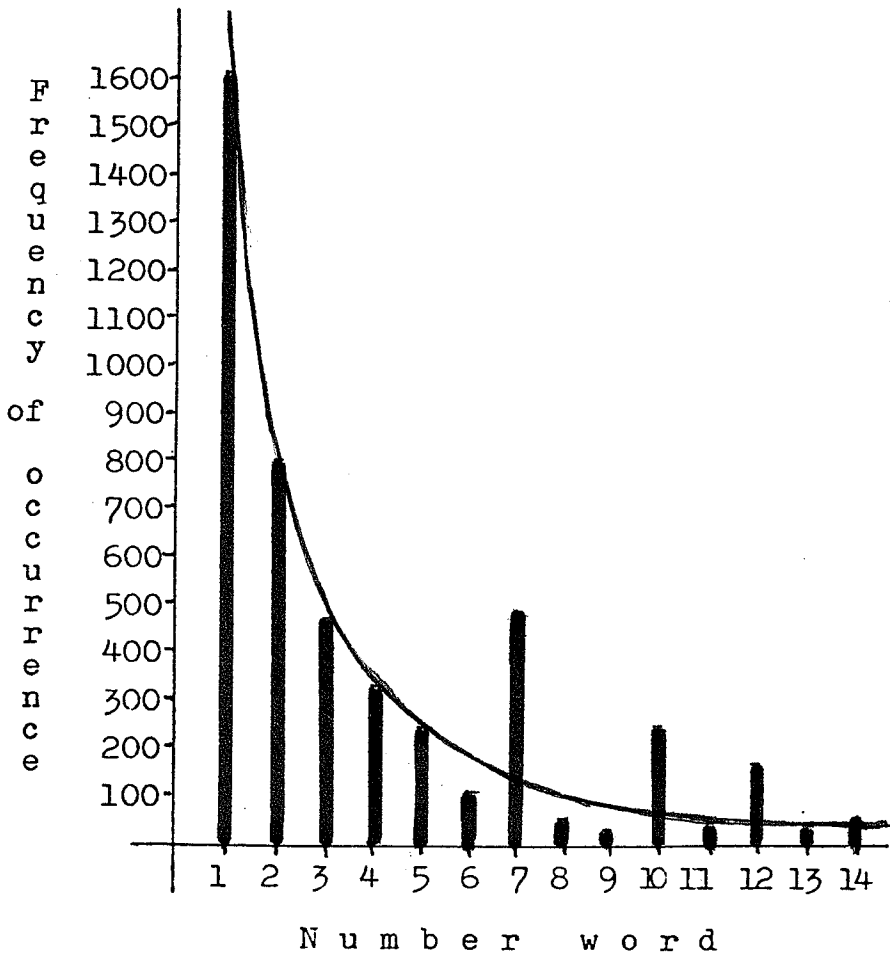
TABLE 1: Frequency of Occurrence of Number Words in the Bible

Number Word	Occurrences
1	roughly 1600
2	roughly 800
3	475
4	325
5	241
6	106
7	exactly 490
8	62
9	17
10	248
11	39
12	186
13	24
14	43
20	126
40	101
50	113
60	24
100	107
1000	140

When visualized in a graph, the significant numbers are more easily recognized. Graph 1 records the results shown in table 1 and compares them with distribution according to chance selection.

GRAPH 1: Occurrence of Number Words in the Bible

■ Bar graph illustrating the findings of table 1
— Line graph showing chance distribution



As might be expected, numbers show decreasing frequency with increasing magnitude. In the numbers from one to nine, a fairly regular curve would emerge, were it not for the abnormally high frequency of the number seven. It occurs about 4½ times as often as expected. "It is the number three (with its multiples) which is the outstanding number in ancient

- 6 -

religions and philosophies, seven having to take a lower place. In the Bible, however, seven stands supreme."¹ Three shows only normal frequency, and its multiples, six and nine, even fall below their expected norms. This fact is surprising, because traditional liturgies emphasize the role of three almost to the exclusion of all other numbers, and in ancient literature the same pattern prevails. In Homer's writings, for example, three occurs more than twice as often as its closest rival, twelve, which is then followed by nine, twenty, ten, and only then by seven in sixth place — disregarding one and two.²

TABLE 2: Predominant Numbers above 2 in Order of Frequency

In the Bible		In Homer's writings	
Number word	Frequency	Number word	Frequency
7	490	3	123
3	475	12	59
4	327	9	47
10	248	20	44
5	241	10	41
12	182	7	34
1000	140	6	25

¹ R. McCormack, The Heptadic Structure of Scripture (London: Marshall, 1923), p. 14.

² Details taken from Gabriel Germain, Homère et la mystique des nombres (Presses Universitaires de France, 1954), p. 8.

Even elementary school children learn to regard 7 with respect, because it is the lowest number which presents considerable difficulty in calculations. When reducing fractions, for example, we have available fairly simple tests of divisibility for every number up to 10, except for 7. There is only one way of finding out whether a number is divisible by 7, and that is to actually carry out the division. This is one reason why this number has so often been regarded with a kind of awe — an awe which is intensified by the reading of the Bible where this number seems to be endowed with mystery. The Pythagoreans also revered the number 7, since it is the only member of the decad which is not generated geometrically by other numbers.³ We shall therefore take a closer look at this number, which appears to have unique mathematical properties as well as mystical qualities.

II. Number as a Literary Device

Besides denoting arithmetic values, number serves several other purposes in the Bible, of which we may distinguish three main groups:

- (a) Symbolic use of number words.
- (b) Numeric structure in which the numbers retain their original symbolic meaning.
- (c) Gematric structure.

³ This is demonstrated in a most intriguing article by Grace Murray Hopper, "The Ungenerated Seven as an Index to Pythagorean Number Theory," American Mathematical Monthly, 43 (1936), 409-413.

Let us deal with these as they apply to the number seven. When visualizing seven, we either see it as an indivisible entity, or we intuitively divide it into two parts, namely three and four. Since this division is characteristic of Bible usage, these two components will be dealt with first.

i. Symbolic Use of Number Words

Since antiquity, three has been associated with the concept of divinity, and in Christian tradition, the very word "Trinity" represents God. Nevertheless, scripture presents a different view of divinity. The idea of divine trinity is certainly foreign to the monotheistic view of the Old Testament. The much abused phrase of traditional liturgy, "in the name of the Father and of the Son and of the Holy Ghost," occurs only once in the New Testament (Matt. 28:19). To the equivalent expression, "the Father, the Word, and the Holy Ghost," are added the words, "and these three are one" (1 John 5:7). Only once more does a similar phrase occur: "the grace of our Lord Jesus Christ, and the love of God, and the communion of the Holy Ghost" (2 Cor. 13:14). Here we are shown not three persons but three aspects of God's personality: grace, love, and communion.⁴

English-speaking theologians refer to the three persons of the Trinity without explaining the original

⁴ This threefold divine nature is reflected in man who is shown to be comprised of "spirit and soul and body" (1 Thess. 5:23).

meaning of the word "person." Theological terminology was formulated at a time when Latin was the language of the church, and the Latin word "persona" does not translate "person," but "attribute, quality, personality trait." The biblical "Trinity" is therefore not three persons, but one God with a three-dimensional nature. For example:

- The oneness of God's eternal existence is expressed in temporal terminology thus: "which art and wert and shalt be" (Rev. 16:5 and 11:17).
- His power resides in the threefold name: "Lord God Almighty" (Rev. 4:8, 11:17, 15:3, 16:7, and 21:22).
- His holiness is exalted in the cries of the seraphim: "Holy, holy, holy" (Isa. 6:3).

In none of these examples is the numeral three mentioned expressly, but whenever God's divine power is demonstrated, an abundance of threes is in evidence. For example:

- After a three days' journey into the wilderness — which is mentioned three times (Exod. 3:18, 5:3, and 8:27) — the Red Sea opened for the Israelites but swallowed the Egyptian army.
- Three people were raised from death by the prophet Elisha (1 Kings 17:22, 2 Kings 4:34 and 13:21).
- Christ also raised three people (Luke 7:15 and 8:55, and John 11:44).
- Christ arose from the dead on the third day:

- 9 times (3x3) Christ talks about rising on the third day.
- 3 times other speakers mention it.
- 9 times Christ talks about the 3 days or 3 nights preceding the resurrection.
- 3 times other writers mention the same matter.

Adding the above numbers, we find this particular association of three and the resurrection exactly 27 times (3x3x3). In fact, all events surrounding the resurrection and all Old Testament types foreshadowing it are so literally interwoven with threes that an impartial Bible reader cannot help but associate three with resurrection.

Three then symbolizes divine attributes, particularly divine power as demonstrated in the resurrection.⁵

Four presents no problem. All writers agree that it symbolizes God's creation: the universe, all living creatures, and created life in general. "When applied to man, it represents the Flesh in an unsaved state."⁶ For example:

⁵ Almost all writers approach this subject with preconceived ideas. Without presenting scriptural evidence, they hold that three represents God. Bullinger and Kistler present a view identical with mine, however, and they are the only ones who quote sufficient supporting Bible references. See Ethelbert W. Bullinger, Number in Scripture (1894; rpt. Grand Rapids, Mich.: Kregel, 1967), pp. 107-122; and Don Kistler, The Arithmetic of God (King's Mountain, N.C.: n.p., 1967), pp. 22-30.

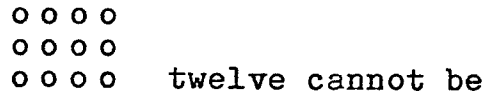
⁶ Kistler, p.30.

- God's creatures are found in four distinct parts of this earth: "in heaven. and on the earth and under the earth and . . . in the sea" (Rev. 5:13).
- The best exemplification of four as the number of creation can probably be found in the vision of the four living creatures which was seen by Ezekiel and also by John in the Apocalypse:
"Every one had four faces and every one had four wings . . . and they had the hands of a man under their wings on their four sides . . . They four had the face of a man, . . .
the face of a lion, . . .
the face of an ox, . . .
and the face of an eagle"
(Ezek. 1:5-10). The number 4 is contained 8 times (2x4) in this passage.

As three represents the eternal, dominant qualities of God, the creator, so four symbolizes the temporal, passive role of his creation. We can find a parallel view in Pythagorean number theory. Since this theory is geometrically oriented, three and four are considered the first real numbers. Three is the first masculine or odd number, the "absolute principle of generation of begotten things."⁷ Four is the first feminine or even number.

⁷ G. M. Hopper, p.411, quoting Proclus who is quoting Philolaus.

When 3 and 4 are multiplied, the product is 12, a number which symbolizes sonship and divine authority. In this union of the two numbers, three, the divine power, rules over four, the creation. By its very nature, 12 proves to be unstable: it falls apart into its components. In the diagram:



visualized as an indivisible whole, but either as 4 threes or 3 fours. Either God rules over his creation with an iron rod, or else the creation rebels against his government. In a perfect relationship, we would expect a blending of characteristics of the two elements, a transferring of attributes, whereby the creation (4) takes on the nature of God (3). This relationship was first realized in the New Testament in the person of Jesus Christ, "for the full content of divine nature lives in Christ, in his humanity" (Col. 2:9).⁸ In other words, the creature (4) is indwelt by divine nature (3). The relationship is perpetuated by a union of Christ and man: "This mystery . . . is Christ in you" and "every man perfect in Christ Jesus" (Col. 1:27-28). This is not a superimposition of two elements but a harmonious blending, so that through "his divine power . . . ye might be partakers of the divine nature" (2 Pet. 1:3-4).

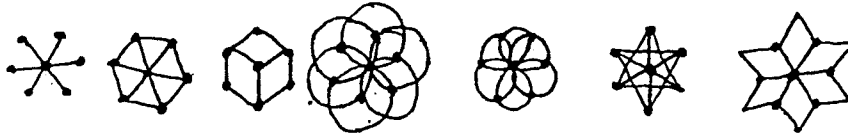
This union of divine nature (3) and creation (4) is symbolized by the addition of 3 and 4. The prime number 7 is stable by nature. It can easily be visualized as a unity and was regarded as such by Pythagoreans.⁹ It is most readily visualized as



⁸ Good News Bible, Today's English Version (1976).

⁹ See G. M. Hopper, p. 409.

a constellation which gives rise to only stable, well-balanced, self-contained images, pleasing to the eye, no matter from which angle they are viewed. For example:



If we perceive 7 as the sum of 3 and 4, we regard the union of God and man as a conferring of divine nature on God's creation. There is, however, another explanation for the indwelling of man by God which is portrayed by the symbol:



Here man, whose number is 6, is indwelled by God, whose number is 1, presenting another view of the number 7. Either as the sum of 3+4 or 1+6, the number 7 represents the same perfect relationship, and therefore 7 symbolizes perfection.

In the Hebrew language, no other number could possibly represent the idea of perfection or completeness, for the very word for "seven" derives its meaning from the word for "fulness, completeness, perfection" — or is it the other way around? Johannes Hehn demonstrates "daß für den Hebräer 'Fülle' und 'sieben' eins sind."¹⁰ The same root appears in sibah=seven and in sheba=fulness, the only distinction between them being the position of the diacritical point above the first letter, a distinction which did not even exist in the ancient Hebrew. Bible translators have experienced considerable difficulty in passages employing this root, because they have failed to realize that the Semitic way of thinking barely distinguishes

¹⁰ Johannes Hehn, "Zur Bedeutung der Siebenzahl," Karl-Martini-Festschrift (Gießen: Tölpelmann, 1925), p. 136.

between the two. Seven contains the idea of fulness, and fulness contains the idea of seven. Thus seven is not merely a symbol for perfection;

seven = perfection.

For example:

- For complete cleansing from leprosy, a seven-fold, or complete, washing is required (Lev. 14:7).
- Silver is perfectly pure after being tried seven times, or a perfect number of times (Ps. 12:6).
- Perfect victory over the city of Jericho and her complete annihilation are achieved when seven priests with seven rams' horns circle the city for seven days and seven times on the seventh day (Josh. 6:4).

The perfect union of Christ and man is embodied in the Church, Christ being the head and his followers the body (Col. 1:18). Thus seven becomes the number of the church, and the Apocalypse, the prophecy regarding the church, abounds in sevens. It is the book which explains "the mystery of the seven stars . . . and the seven golden candlesticks. The seven stars are the angels of the seven churches, and the seven candlesticks . . . are the seven churches" (Rev. 1:20). In all, we meet the number seven 57 times in Revelation. Only Leviticus, the book which foreshadows the order of the church, mentions the number more often, namely 64 times. The total number of sevens in the Old as well as the New Testament reflects the idea of perfection in mathematical exactness. Both are multiples of the square of seven:

Number of sevens in the Old Testament: $392 = 8 \times 7 \times 7$
Number of sevens in the New Testament: $98 = 2 \times 7 \times 7$
Number of sevens in the entire Bible: $490 = 10 \times 7 \times 7$

ii. Symbolic Numeric Structure

Paul states that "all scripture is given by inspiration of God" for the purpose "that the man of God may be perfect" (2 Tim. 3:16-17). If this is true, we should expect a pattern of perfection to run through the scriptures.

Looking at the overall structure of the Bible, we first of all observe that it falls into two main parts: the Old Testament, written in Hebrew, and the New Testament, written in Greek. In their traditional order, the Old Testament books were divided into three sections, namely:

1. the historical books commencing with the Pentateuch or Law of Moses,
2. the prophetic books commencing with Isaiah,
3. the Hagiographa or Writings commencing with the Psalms.

Jesus refers to this threefold division as: the Law of Moses, the Prophets, and the Psalms (Luke 24:44).

According to early church tradition, the New Testament was divided into four sections, namely:

1. the Gospels,
2. the Acts of the Apostles and the Catholic Epistles,
3. the Pauline Epistles,
4. the book of Revelation, called the Apocalypse.

It seems more logical to class all the epistles to-

gether in section 3, but even then we are left with four divisions.

In all, then, we have seven sections which fall into two parts of 3 and 4 respectively. Three, the number of divine nature, characterizes the Old Testament which is the revelation of an invisible God who shows himself by his spirit and by his power. Four, the number of creation and of the flesh, characterizes the New Testament, which reveals God come in the flesh, in the form of a created being. Only by combining the Old and the New Testaments do we arrive at the perfect division into seven.

This same pattern of partition is evident on a smaller scale. For example:

- Of the seven petitions of the Lord's Prayer, the first three regard the benefits to God, while the following four regard man's welfare.
- The seven words which Jesus uttered from the cross, even though they are not recorded in one gospel, adhere to the same order: three words are addressed to God and four to men.

McCormack demonstrates how the structural skeleton of individual books of the Bible is usually based on the number seven and how even a single unified excerpt, such as the Twenty-third Psalm or the Magnificat, falls into two sections of seven sentences each.¹¹

¹¹ Examples of heptadic structure of books of the Bible are found on p. 73, and examples of the pattern of 2 sevens on pp. 17-18 and 24.

For examples of the alternate structure of 1+6=7 see Isa. 11:2, Joel 2:28-29, Ps. 8:6-8; and Bullinger, Number in Scripture, pp. 165-166.

iii. Symbolic Gematric Structure

The use of the perfect seven in the structure of the Bible will become even more evident if we examine the text in the original languages. The Semitic alphabets as well as the Greek possess a peculiarity which is not found in other languages. Each letter has not only a phonetic but also a numeric value. Table 3 lists the letters of the Greek alphabet with their values. Three of the letters, although used in calculations, no longer designated phonetic values by the fifth century B.C. Possibly they were only invented for the purpose of calculation.¹²

TABLE 3: Greek Number-Letter Correspondence

Numeric Value	Letter	Phonetic Value	Numeric Value	Letter	Phonetic Value	Numeric Value	Letter	Phonetic Value
1	α	a	10	ι	i	100	Ϟ	r
2	β	b	20	κ	k	200	Ϛ	s
3	γ	g	30	λ	l	300	τ	t
4	δ	d	40	μ	m	400	υ	y, ū
5	ε	e	50	ν	n	500	Ϙ	ph
6	ς	-	60	ξ	x	600	χ	ch
7	ζ	z	70	ο	o	700	ψ	ps
8	η	e:	80	π	p	800	ω	o:
9	θ	th	90	Ϛ	-	900	↑, Ϟ	-

¹² See Karl Menninger, Number Words and Number Symbols, tr. Paul Broneer (Cambridge, Mass.: M.I.T. Press, 1969), p. 270.

most amazing of these is the system based on the number 7, which he traces in every book.

His findings have not as yet been validated by independent testing, and it is not the purpose of this dissertation to do so; but his methods will be employed here to illustrate the occurrence of gematria in a Greek text. For the sake of objectivity, a Bible excerpt has been chosen which is not dealt with in any of the discourses on Dr. Panin's work,¹⁷ namely a passage which is readily recognized as a unified section, because it is a poem, a psalm, surrounded by prose narrative. It is the "Magnificat" as found in Luke 1:46-55. All calculations are based on the authoritative critical edition of Westcott and Hort, which was also used by Panin. No alterations whatsoever were made in the given text.

McCormack also demonstrates heptadic structure with this passage,¹⁸ and a number of his ideas have been adopted for this present study, but one basic objection must be voiced here. He starts out with the assumption that in any unified section the letter as well as the word count must be a multiple of 7. Where he is not satisfied with the results, he undertakes the necessary alterations. Such a practice must be rejected as unscholarly. Otherwise his dissertation offers many valuable insights.

Table 4 lists the items which were counted or calculated in the Magnificat.

¹⁷ E.g. K. G. Sabiers, Astounding New Discoveries (Los Angeles: Robertson Publ. Co., 1948); and W. E. Filmer, God Counts (Croydon: Uplift Books, 1947).

¹⁸ McCormack, pp. 17-23.

TABLE 4: Numeric Values of the Greek Magnificat

Item Counted	Value
1. Total gematric value	63 301
2. Number of letters	555
3. Number of consonants	252
4. Number of vowels	303
5. Number of syllables	238
6. Number of words	105
7. Number of sentences ¹⁹	14
8. Number of nouns	35
9. Number of pronouns	14
10. Number of verbs	16
11. Number of participles	3
12. Number of articles	17
13. Number of conjunctions	12
14. Number of prepositions	8
15. Number of Old Testament references ²⁰	14

To determine which numbers play significant roles in this passage, let us examine the divisibility of these fifteen items. Table 5 gives all factors up to 14 for each value.

¹⁹ See McCormack, pp. 17-18.

²⁰ According to Westcott and Hort's appendix to The New Testament in the Original Greek (New York: American Book Co., n.d.), pp. 591-592.

TABLE 5: Numeric Values of the Magnificat and Their Factors

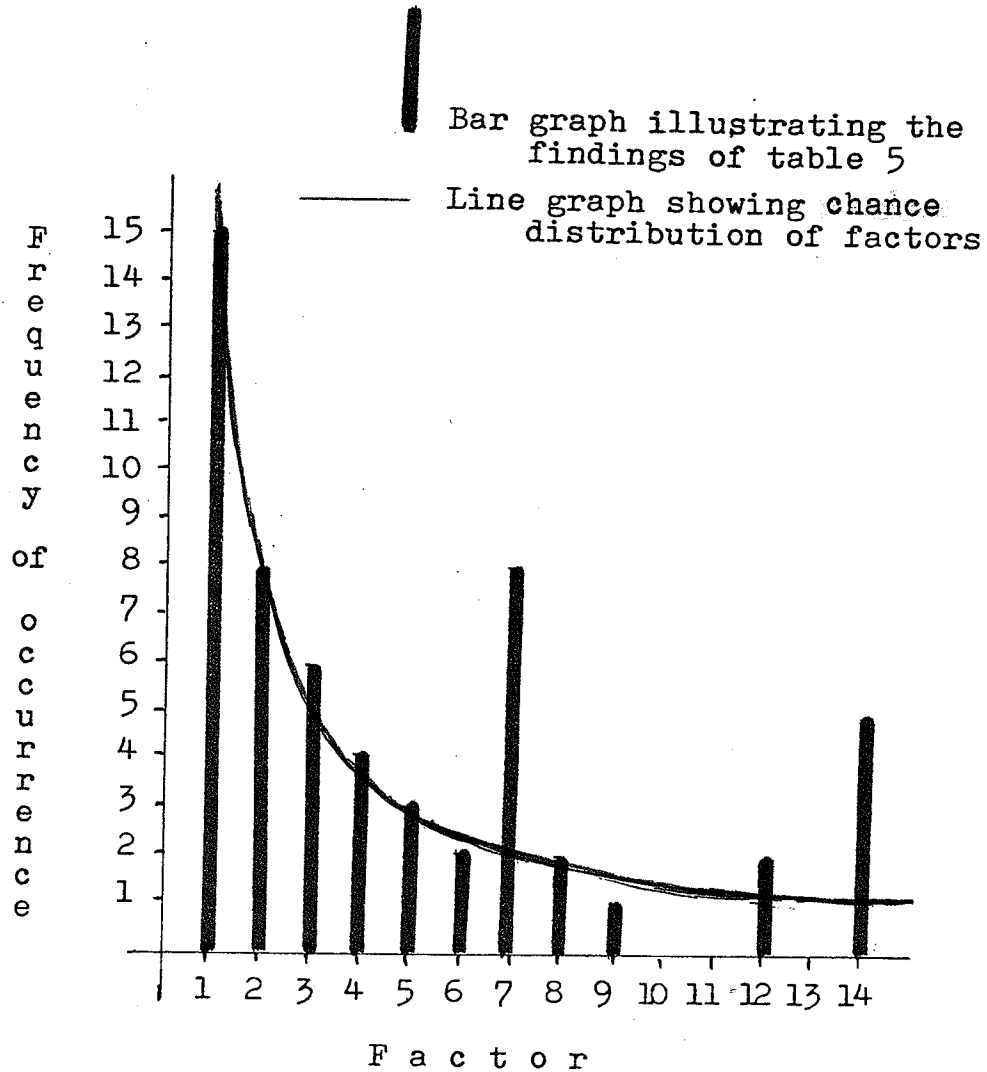
Item	Value	Factors													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.	63 301	1						1							
2.	555	1		1		1									
3.	252	1	1	1	1		1	1		1			1		1
4.	303	1		1											
5.	238	1	1					1							1
6.	105	1		1		1		1							
7.	14	1	1					1							1
8.	35	1				1		1							
9.	14	1	1					1							1
10.	16	1	1		1				1						
11.	3	1		1											
12.	17	1													
13.	12	1	1	1	1		1						1		
14.	8	1	1		1				1						
15.	14	1	1					1							1
Occurrence of Factors		15	8	6	4	3	2	8	2	1	-	-	2	-	5

In a set of numbers chosen at random, half of them would be divisible by 2, one third by 3, one quarter by 4, etc. If the numbers in table 5 were chosen in haphazard manner, then approximately:

- 7 or 8 (i.e. 15÷2) would be divisible by 2,
- 5 (i.e. 15÷3) would be divisible by 3,
- 4 (i.e. 15÷4) would be divisible by 4,
- 3 (i.e. 15÷5) would be divisible by 5, etc.

Graph 2 illustrates the relationship between the actual occurrence of factors in table 5 and the probability of their occurrence.

GRAPH 2: Factor Occurrence in the Greek Magnificat



Graph 2 reveals that only 7 and its multiple 14 show appreciable divergence from the norm. While 7 occurs almost 4 times as often as expected, 14 occurs

closer to 5 times as often.²¹ If we examine the text more closely, other countable items suggest themselves. Of those which occur frequently enough to warrant enumeration, the majority again add up to a heptadic number. For example:

— Of the 35 nouns

- (a) masculine singular forms . . . 7
- (b) masculine plural forms . . . 7
- (c) neuter singular forms . . . 7

— Of the 16 verbs

- (a) in the indicative mood . . . 14
- (b) in the aorist tense . . . 14
- (c) ending in -σεν 7

— Of the 17 articles

- (a) in the singular 14
- (b) starting with τ 14

— Of the 303 vowels

- (a) not counting η, which originally was not a vowel 287 = 41x7
- (b) the three letters with the highest counts:
 - α: 70 = 10x7
 - ε: 56 = 8x7
 - ι: 56 = 8x7

— Ironically, the consonant which is equivalent to 7, namely ϣ, is the only letter which is not used at all in this passage.

Dr. Panin found in his studies that the selection of heptadic items varies from book to book and especially from author to author. Only one item seems to

²¹ For 14: . . . 5x14+15=4.7
and for 7: . . . 4x 7+15=3.7

recur constantly, namely the numeric equivalence of a unified passage which is always divisible by 7. This is probably the most astonishing discovery of his almost lifelong study.

How can we explain such an intricate design? — The chances of arriving at a heptadic numeric equivalent by accident are as follows:

- in 1 passage 1 out of 7,
- in 2 consecutive passages 1 out of 49 (i.e. 7^2),
- in 3 consecutive passages 1 out of 343 (i.e. 7^3),
- in n consecutive passages 1 out of 7^n .

When n represents the thousands of passages contained in the entire Bible, then 7^n would yield an astronomically high figure, and 1 chance out of 7^n (i.e. $1:7^n$) is such an infinitely small number that we have to equate it to nil. The structural gematria can therefore not be explained as a chance occurrence.

This design may be easy enough to verify — to imitate it may not be such a simple task.

Dr. Daniel B. Turney . . . stated, "I tested the matter for myself thus: I gave numeric values to the English alphabet and tried to prepare a letter which would adhere to the numerics and make every section a multiple of seven and present all the other features of Biblical arithmography without descending to nonsense . . . But after working thereon for days, I could get no satisfaction. Yet this fact is accomplished in every one of thousands of Bible paragraphs without the slightest visible effort.²²

²² Filmer, pp. 62-63, quoting from Herald of Gospel Liberty.

One might ask the question whether the ancient writers possessed a skill which we are unable to acquire. If they did, we should be able to find similar designs in other ancient literature, yet studies have shown that no other literature bears this unique trademark, not even the Apocrypha. Some simple structures are displayed in various writings, but in those the result is achieved through artificial means, such as the distortion of the spelling.²³ In the case of the Bible, there seems to be nothing to fall back on by way of explanation but St. Paul's assertion that "all scripture is given by inspiration of God" (2 Tim. 3:16).

In order to preserve the arithmetic design, it is imperative that not a single letter of the text be altered, added, or omitted. We can therefore appreciate why Hebrew scribes have zealously guarded the exactness of biblical transmission. "Eine Thorarolle, in der aus Versehen nur ein Buchstabe zu viel oder zu wenig steht, ist rituell ungültig."²⁴ Thus Jesus declared that not one jot would pass from the law until it be fulfilled (Matt. 5:18).²⁵

Much searching as well as speculating has been done in attempts to trace the number-letter correspondence. Dornseiff believes that "ohne Zweifel" the system is of Greek origin and spread from Miletus to the Semitic world in the eighth century B.C. Yet on

²³ Sigurd Agrell, among others, has studied some of the gematric structures in Greek literature. They are, however, based on a different numeric system which will be discussed in chapter three.

²⁴ Dornseiff, p. 134.

²⁵ The "yod" (י) is the smallest Hebrew letter and corresponds to the Greek iota.

the same page he refers to its apparently well accepted use in Assyria in that same century. When King Sargon II built the city of Khorsabad, he had the city walls measure 16 283 cubits to proclaim his name which has the numeric value of 16 283.²⁶

Dornseiff's confident belief might have been somewhat shaken, had he known that even the book of Genesis, written a thousand years earlier, bears all the marks of the use of gematria — although its writer may not have been aware of it.

III. The Relationship Between the Three Literary Uses of Number

We have seen that the Bible employs number as a literary device in three distinct ways. These are:

- (a) symbolic use of number words,
- (b) symbolic numeric structure,
- (c) symbolic gematric structure.

Using the number seven as an example, it has been shown that in all three ways the symbolic meaning of a number remains constant. Seven is always treated as the number of completeness or perfection, the number representing the union of creator and creation, the union of God and man. Thus the three uses are interrelated, and as they are all present in the same work, they support each other, giving rise to the highest form of number symbolism, a form which

²⁶ As researched by F. Peiser and F. Hommel. See Dornseiff, p. 91; and Maurice H. Farbridge, Studies in Biblical and Semitic Symbolism (1923; rpt. New York: KTAV Pub. House, 1970), p. 94.

surpasses symbolism as we now know it. It shows a harmonious interrelation of number and language, a unity which is based on the precept that language and number are simply variant means of expressing ideas and that both may serve to support each other.

CHAPTER TWO

NUMBER-LETTER CORRESPONDENCE:

THE GERMANIC WORLD

I. The Milesian Number System

i. In the Eastern Empire

The Milesian number system gained wide acceptance in the eastern Mediterranean world which became the Eastern Roman Empire. No less renowned a mathematician than Archimedes (287-212 B.C.) had demonstrated that it could be a more useful tool than the abacus, because it lent itself to operations far more complex than just addition and subtraction. In the Western Empire, however, people were content to do their calculations on the abacus and to record the results in Roman numerals.

Only those Germanic tribes who came into contact with Hellenistic culture could possibly have been influenced by the Milesian system. These were mainly the Goths. The pursuit of science and philosophy, however, did not rank high on the Goths' list of priorities, and had it not been for the efforts of one man, the Hellenistic number system would not even have made an appearance in the Germanic world. This man was Ulfilas (c. 311-383). He was descended from the Goths

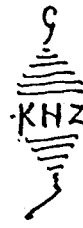
who had been settled in the lower Danube basin, studied in Constantinople, was ordained bishop in 341, and later returned to his own people as a missionary.

When he set out to translate the Bible into the Gothic language, he had no written tradition to fall back on other than the rune alphabet which was a tool of heathen religion and its magic cults. As we shall discuss later, each rune was endowed with potential magical power, and Ulfilas must have realized that a conversion from heathen practice also required a rejection of its magic script. He therefore adapted the Greek alphabet to suit the needs of the Gothic language, borrowing a few formations from the Latin. Along with the alphabet, he also took over the common Greek system of enumeration (See p.17 above). He followed the Milesian model quite religiously and even utilized the identical non-phonetic symbols 4 and ↑ for 90 and 900. His number-letter correspondence is presented in table 6.¹

TABLE 6: Gothic Number-Letter Correspondence

N u m e r i c V a l u e	L e t t e r	P h o n e t i c V a l u e	N u m e r i c V a l u e	L e t t e r	P h o n e t i c V a l u e	N u m e r i c V a l u e	L e t t e r	P h o n e t i c V a l u e
1	Α	a	10	ι, ῑ	i	100	Κ	r
2	Β	b	20	Κ	k	200	Σ	s
3	Γ	g	30	λ	l	300	Τ	t
4	Δ	d	40	Μ	m	400	Υ	v
5	Ε	e	50	Ν	n	500	Φ	f
6	Υ	q	60	Γ	j	600	Χ	x
7	Ζ	z	70	η	u	700	Θ	hv
8	Η	h	80	Π	p	800	Ϸ	o
9	Ψ	þ	90	4	-	900	↑	-

The Codex Argenteus, the main manuscript of Ulfilas' Bible translation, shows how the arithmetic figures were distinguished visually from the phonetic letters. When used within the text, a bar is drawn over them, and in addition, they are usually set apart by dots at either side. Thus M has the phonetic value "m", and \bar{M} or $\cdot\bar{M}$ has the numeric value 40 as also in Greek. When set in the margin to enumerate chapters and verses, numerals are embellished by various ornaments, especially by bars above and below. For example²

 represents 157, because $K=100$
 $H=50$
 $Z=7$.

Obviously, Ulfilas was well acquainted with the system underlying the biblical numeric structure, and we may ask ourselves whether he was aware of its use in the New Testament. If so, would he have tried to incorporate it in his translation, or would he simply have been content to render the text accurately? If he did use the system at all, we should at least find some evidence of numeric structure in his translation of poetic passages. Let us therefore re-examine the Magnificat in Luke 1:46-55, this time in Gothic translation. The items counted are the same as those counted in the original Greek except for two substitutions which were necessitated by the Germanic syntax.³

¹ Details taken from Menninger, figs. 91-93, pp. 260-262. Compare with table 3, p. 17 above.

² From Menninger, fig. 93, p.262.

Table 7 lists the fifteen items counted and their factors.³

TABLE 7: Numeric Values of the Gothic Magnificat

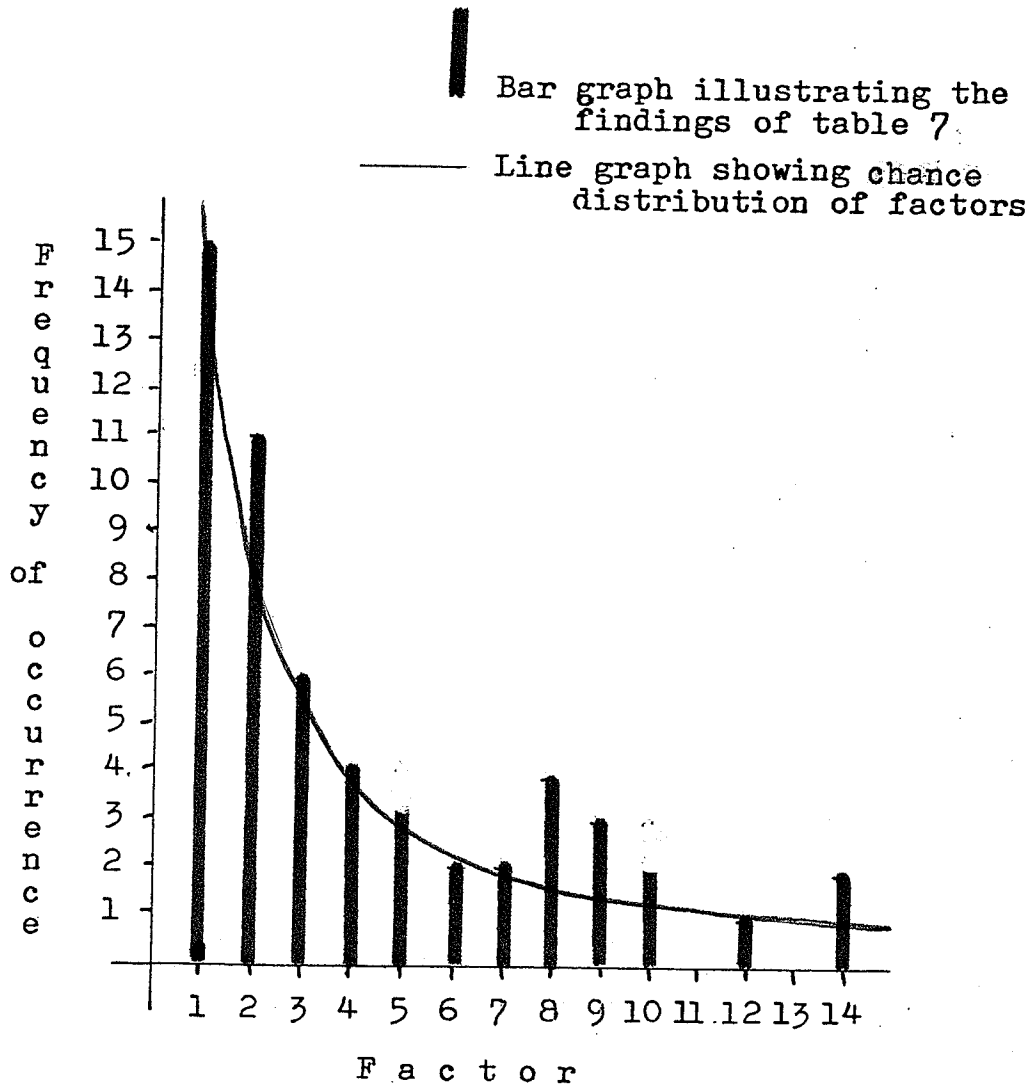
Item Counted	Value	Factors													
		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Gematric Value	33 862	1	1												
2. Letters	526	1	1												
3. Consonants	288	1	1	1	1		1		1	1			1		
4. Vowels	238	1	1					1							1
5. Syllables	200	1	1		1	1			1		1				
6. Words	90	1	1	1		1				1	1				
7. Sentences	6	1	1	1			1								
8. Nouns	27	1		1						1					
9. Pronouns	15	1		1		1									
10. Verbs	19	1													
11. Adjectives	8	1	1		1				1						
12. Conjunctions	3	1		1											
13. Prepositions	8	1	1		1				1						
15. O.T. references	14	1	1						1						1
Total occurrence of factors		15	11	6	4	3	2	2	4	3	2	-	1	-	2

Graph 3 compares the actual factor occurrence with its probability.⁴

³ Compare with tables 4 and 5, pp. 21-22 above.

⁴ Compare with graph 2, p. 23 above.

GRAPH 3: Factor Occurrence in the Gothic Magnificat



The occurrence of factors in graph 3 is compatible with chance distribution so that no particular gematric design can be detected in this passage. We can therefore assume that Ulfilas was only concerned with a faithful rendition of the meaning of the text and that he only adopted the Greek number system as a practical means of enumeration and as a shorthand for the recording of number words.

ii. In the Western Empire

Most of the Germanic tribes were Christianized by the western arm of the church which had its center in Rome. Along with the acceptance of the Catholic faith came the adoption of the Latin Bible, the Latin alphabet, and Roman numerals, in fact, an acceptance of Roman culture, of Roman Weltanschauung, and this certainly differed drastically from that of the Greeks. We can see this difference clearly in the Roman attitude toward mathematics. Cicero expressed it in this way:

By them [the Greeks] geometry was held in the very highest honor, and none were more illustrious than mathematicians. But we [the Romans] have limited the practice of this art to its usefulness in measurement and calculation.⁵

Since mathematics was only a useful tool to them rather than a science, the Romans did not produce any mathematician-philosophers, neither did they perceive language and number as a harmonious whole, and therefore they felt no need to establish a relationship between their written forms. As a result, no definite number-letter correspondence was ever accepted in any of the Romance or Germanic languages other than Gothic.

Later, in the fifteenth century, when the Indian, or so-called Arabic number system invaded the western world, the strangeness of its symbols finalized the dissociation of numbers and letters in all of Europe except in Greece. Since they had already had a workable number system in operation for 2000 years, the Greeks felt no need to adopt the Indian system. Instead, they simplified their own: They simply dis-

⁵ Cicero as cited by Menninger, pp. 138-9.

carded all symbols except the first nine and added a symbol for zero. Their modernized version incorporated all the advantages of the Indian model, including place value, yet it retained the relationship with their own written language.

II. The Thesis System of Numerals

Even before the Milesian system came into use in Greece, another similar one, the so-called thesis system, had gained general acceptance. Following strict alphabetic order, it utilized the twenty-four letters from α to ω to denote the first twenty-four numbers.

Thus

$$\alpha = 1, \beta = 2, \gamma = 3, \dots, \omega = 24.$$

For higher numbers, place value was introduced. Thus

$$\alpha\alpha = 25, \alpha\beta = 26, \alpha\gamma = 27, \dots, \alpha\omega = 48.$$

And $\beta\alpha = 49, \beta\beta = 50, \beta\gamma = 51, \text{ etc.}$

The largeness of the base 24 would frustrate any attempt at written calculations other than addition and subtraction, but these numerals served well the purpose of enumeration. The twenty-four songs of the Homeric epics, for example, are numbered accordingly from α to ω . Since these alphabetic numerals have very little practical value for the mathematician and businessman, the Greeks readily adopted the Milesian numerals for everyday use, and the thesis system, being labeled impractical and therefore unscientific, became the sole property of mystics who utilized it for various religious and occult practices. They developed a type of arithmology comparable to the gema-

tria of the Hebrew cabala.

In contrast to the Milesian alphabetic numeral system, the thesis system stood outside the Judaeo-Christian tradition and was associated with heathen practices.⁶ With the advance of the Roman army, it spread throughout Europe just before the advent of Christianity.

III. The Number Values of the Runes

By the time the thesis system reached northern Europe, the twenty-four letters of the Greek alphabet had been exchanged for the twenty-four runes of the Germanic futhark, but the same number system remained.

i. Futhark Rune Values

Several monuments bear a complete list of runes. Since the first six runes spell out the word "futhark," the alphabet is generally referred to by that term. Several of these futharks are divided into three sections of eight runes each, these sections being called ættir. Table 8 lists the ættir of the Vadstena bracteate with the numeric and phonetic values of each rune.

⁶ Peter Friesenhahn's study, Hellenistische Wortzahlenmystik im Neuen Testament (Amsterdam: Gruner, 1970), is based on the thesis system. It does not, however, present a unified system, but merely presents examples of symbols, names, and phrases which have counterparts in non-canonic writings.

TABLE 8: Futhark Rune Values

Numeric Value	Rune	Phonetic Value	Numeric Value	Rune	Phonetic Value	Numeric Value	Rune	Phonetic Value
1	ƿ	f	9	ᚋ	h	17	ᚠ	t
2	ᚋ	u	10	ᚔ	n	18	ᚢ	b
3	ᚕ	p=th	11	ᚕ	i	19	ᚖ	e
4	ᚖ	a	12	ᚗ	j	20	ᚘ	m
5	ᚗ	r	13	᚛	z→i	21	ᚙ	l
6	ᚘ	k	14	᚜	p	22	᚛	ng
7	ᚙ	g	15	᚝	R	23	᚞	o
8	᚛	v	16	᚟	s	24	᚟	d

Old Norse literature has much to say about the significance of runes. In the Eddic lay "Sigrdrífomál" different runes are credited with different powers and therefore serve specific purposes.⁶ For example:

— Victory runes (ᚠ) should be carved on the hilt of your sword.

Stanza 6:

Sigrúnar þú scalt kunna, ef þú vilt sigr hafa,
 oc rísta á hialti hjors,
 sumar á véttrimom, sumar á valþostom,
 oc nefna tysvar Tý.

— Birth runes (ᚢ) should be written on your hands when you assist a woman in labor.

⁶ Gustav Neckel and Hans Kuhn, eds. *Edda*, 4th ed. (Heidelberg: Winter, 1962), pp. 189-197. The meanings of these runes are discussed pp. 57 ff. Three of the stanzas of "Sigrdrífomál" are quoted on pp. 37 and 38.

Stanza 9:

Biargrúnar scaltu kunna, ef þú biarga vilt
oc leysa kind frá kónum;
á lófa ær scal rísta oc of liðo spenna
oc biðia á dísir duga.

— Surf runes (1), when carved on the prow of your ship and on the oars, will guide you safely to the harbor even through the fiercest storm.

Stanza 10:

Brimrúnar scaltu kunna, ef þú vilt borgit hafa
á sundi seglmörum;
á stafni scal rísta oc á stiórnar blaði
oc leggja eld í ár;
era svá brattr breki né svá blár unnir,
þó kómztu heill af hafi.

Egils Saga recounts an example where the wrong inscription is carved on a piece of whale bone and placed under a sick woman's bed.⁷ Her condition worsens until Egil skillfully scrapes off the curse, burns the bone, and replaces it with a health-bringing rune charm. Egil explains the danger of carving runes without possessing the necessary skill:

Skalat maðr rúnar rísta,
nema ráða vel kunni,
þat verðr mörpum manni,
es of myrkvan staf villisk;
sák á telgðu talkni
tíu launstafi ristna,
þat hefr lauka lindi
langs ofrtrega fengit.

⁷ S. Nordal, ed., Egils Saga Skalla Grímssonar, (Reykjavík: Íslensk Fornrit, 1933), ch. 72, pp.299-230.

With the runes, as with Hebrew and Greek writing, we can substitute the number values for the letters and arrive at a numeric equivalent for every inscription. If an inscription was endowed with a specific magical power, then possibly that power may also have resided in its numeric equivalent. If this was actually the case, then certain number values should recur on articles used for the same purpose. Swords, for example, should show values symbolic of victory, and spears might be dispatched with values carrying a deadly curse. Amulets, on the other hand, should carry symbols of health, wealth, or fertility — possibly all three.

To probe into this subject adequately, an exhaustive study of all runic inscriptions would be required. Just looking at a few striking examples may be an interesting pastime, but does not establish proof. In examining the extant inscriptions, one very quickly realizes that those carved on wood or bone have been weathered and cannot be identified with absolute certainty. Those scratched on metal have fared a little better. Those carved on stone are fairly legible depending on the hardness of the rock, and I shall deal with the gravestones later on in this chapter.

By far the best preserved inscriptions are found on bracteates, which are coin-shaped gold pieces stamped with an inscription and an illustration. For the purpose of the present discussion, I have studied all the bracteates of which clear photographs are available. My main source has been the second volume of Wolfgang Krause, Die Runeninschriften im älteren Futhark.⁸ Additional photographs of the same artifacts have been examined in Hauck, Goldbrakteaten aus

Sievern, and in Oxenstierna, Die Nordgermanen.⁹

Before the inscriptions can be analyzed, certain ground rules must be established:

(a) Each rune must be accepted as it appears regardless of the resultant spelling, because the change in even one symbol will result in an entirely different arithmetic value. If we are to investigate objectively whether a rune master had a certain sum in mind when he composed an inscription, we must give him credit for knowing his craft.

(b) If divisions occur in an inscription, we must presume that they were placed there intentionally. These divisions form groups of runes which are not necessarily equivalent to words or phrases. At times the grouping seems contrary to our logic which is accustomed to word separation; it must therefore have served a different purpose. Group divisions are achieved by various means, namely:

⁸ Wolfgang Krause and Herbert Jankuhn, Die Runeninschriften im älteren Futhark (Göttingen: Vandenhoeck und Ruprecht, 1966).

The transcriptions in the first volume proved to be of very little help, because Krause is not so much concerned with a faithful transcription as with a meaningful interpretation of the written message. One striking example is his purposeful misreading of the Lindkær bracteate #4a (p. 17 and table 3). Even though this is one of the best preserved bracteates with very clear, readable type, he fails to identify half of the 22 runes, simply because they do not suit his interpretation.

⁹ Karl Hauck, Goldbrakteaten aus Sievern (München: Wilhelm Fink, 1970); and Dr. Eric Graf Oxenstierna, Die Nordgermanen (Stuttgart: Gustav Kilpper, 1957).

- by allowing a part of the picture to cut into the inscription,
- by placing non-runic symbols between runes,
- by interspacing runes with dots.

The numeric equivalent for each group of runes may be presumed to be of significance. Also, since varying numbers of dots are frequently used within the same inscription, we must consider the number of dots to have numerical significance.

With these considerations in mind, all legible bracteates have been analyzed, and the numeric equivalences have been recorded in the following manner:

- (a) In column A: The total numeric value of all runes occurring on a bracteate.
- (b) In column B: The above total plus the number of dots which are used as dividers.
- (c) In column C: The value of each individual section or subsection of runes.

Each value in table 9 has been tested for divisibility and the factors for each bracteate are listed in table 10. If a factor occurs more than once, the number of times is indicated. In correspondence with the 24 rune values, all factors up to 24 are listed. The number of prime numbers and prime factors above 24 are given under Prime N. and F. The result is displayed in graph 4.¹⁰ Numbers which are perfect squares are considered at least doubly powerful and the factor is therefore counted twice, e.g. 5 would be counted twice as a factor of 25, but only once for 50, because 50 is not a perfect square.

¹⁰ The method was explained on p. 22 above.

TABLE 9: Gematric Values of Bracteate Inscriptions
According to the Futhark

No.	Bracteate	V a l u e s		
		of entire inscription		of individual sections and subsections ¹¹
		without dots	with dots	
A	B	C		
2	Vadstena	366	372	66, 36, 100, 164
4a	Lindkær	207		
4b	Over-Hornbæk III	276		
103a	Slangerup	34	36	27, 7, 9 ^a
103b	Klaggeröd	27		
104	Darum V	94		67, 27
105	Skodborg	309		
107	Schonen IV	68		
108	Ars II	52		
109	Skrydstrup	79		52, 27
110	Börringe	133	135	56, 25, 52, 81, 83 ^b
111	Dänemark I	46		
112	Seeland I	46		
113	Allesø	174	176	47, 55, 102, 104, 30, 42, 72 ^c
114	Hesselager	113		52, 23, 17, 19, 2
115	Darum IV	222		105, 56, 61, 117 ^d
116	Højstrup	30		
117	Darum I (3) ^f	104		74, 30
118	Skonager III	112		67, 45
119	Fünen I	192		53, 110, 29
121	Lellinge	86		
122	Faxe (3) ^g	201		67, 67, 67
123	Ølst	57		27, 30

cont. on next page



TABLE 9 continued

124	Norwegen	62		
125	Tjurkö II	37		
126	Lekkende	23		
127	Seeland II	262	271	106, 45, 60, 51, 211 ^e
128a	Väsby	278		
128b	Äskatorp	278		
129	Over-Hornbæk II	330		
130	Trollhättan	129		73, 56
131	Åsum	164	168	
132	Femø	96		
133	Nebenstedt I	137		82, 55
134	Sievern	52		
137	Körlin	45		

11 Notes for table 9:

Where the sections of an inscription are broken down into subsections, the total of column C is greater than that of column A or B, because both the sections and their subsections are listed. Numbers in column C, which do not appear in the breakdown below, represent sections not divided into subsections. The breakdowns:

^a 7 + 2 dots = 9

^b 56 + 2 dots + 25 = 81 + 2 dots = 83

^c 47 + 2 dots + 55 = 102 + 2 dots = 104

and 30 + 42 = 72

^d 56 + 61 = 117

^e 106 + 45 + 60 = 211

^f Darum I #117 is preserved in triplicate and is therefore counted three times.

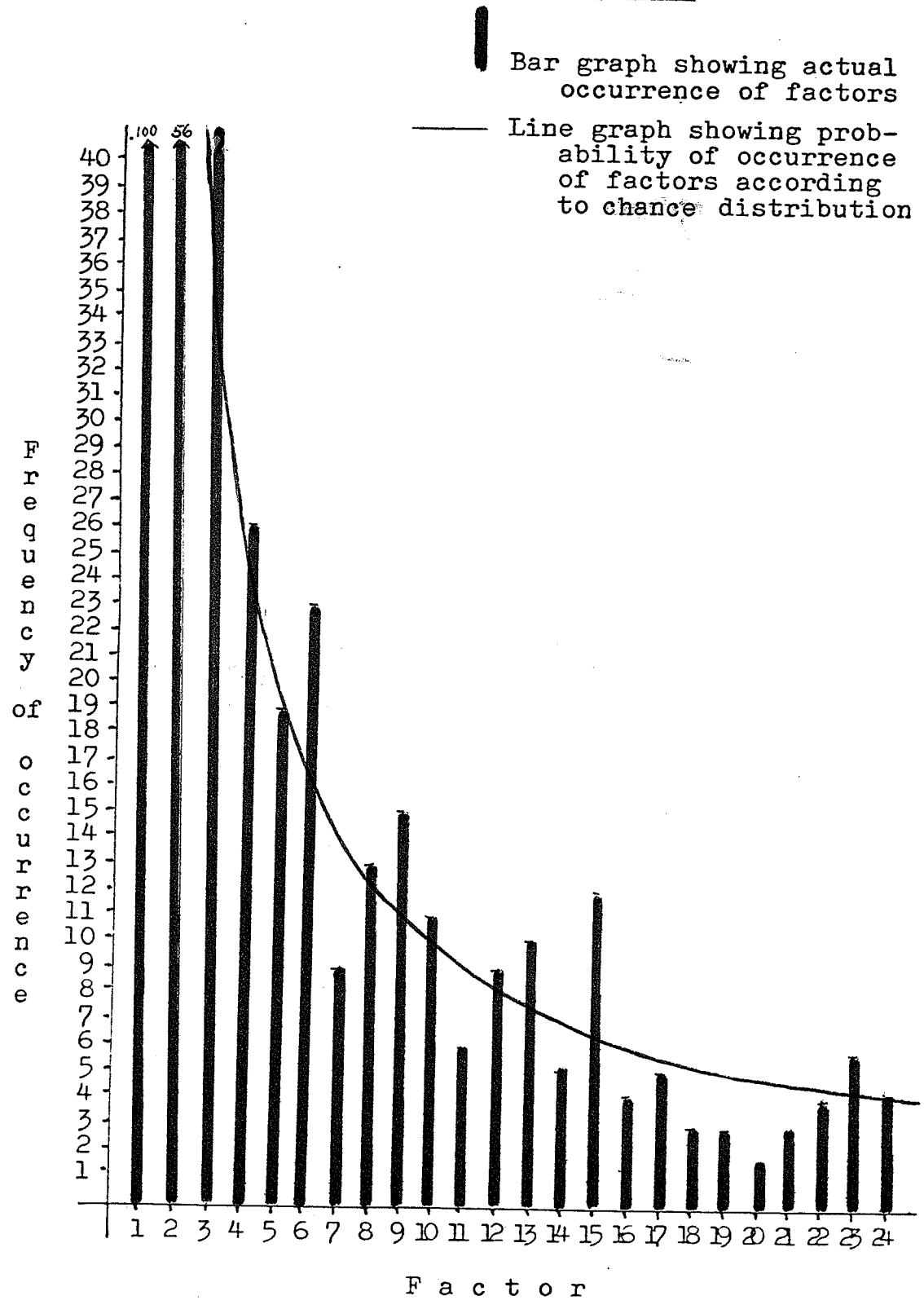
^g Faxe #112 is an amulet fashioned out of three identical bracteates. The total is the sum of all three inscriptions.



TABLE 10: Factors Obtained from the Values in Table 9.

No.	Factor																								Prime	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	N.	F.
2	6	6	4	4	1	5			1	2	1	2					1	1	1							3
4a	1		1					1														1				
4b	1	1	1	1		1					1											1				
103a	5	2	4	1		2	1	3			1						1	1					1			
103b	1		1					1																		
104	3	1	1					1																		1 1
105	1		1																							1
107	1	1		1													1									
108	1	1		1								1														
109	3	1	1	1				1			1															1
110	7	2	2	2	3		2	1	3			1	1	1				1								1
111	1	1																								
112	1	1																							1	
113	9	7	5	3	2	5	1	3	1	1	2	1	1	1	1	1	1	1			1	1		1	1	1
114	5	1		1								1				1	1					1			1	1
115	5	3	2	1	1		2	1					1	1							1					1 2
116	1	1	1		1	1			1					1												
117	9	9	3	3	3	3		3	3			3		3												3
118	3	1	1	1	1		1	1	1				1	1	1											1
119	4	2	1	1	1	1		1		1	1	1			1							1		1	2	
121	1	1																								1
122	4		1																							3 1
123	3	1	3		1	1			1	1				1				1								
124	1	1																								1
125	1																									1
126	1																									
127	7	3	3	1	2	1			1	1		1	1	2		1			1							2 3
128a	1	1																								1
128b	1	1																								1
129	1	1	1		1	1				1	1											1				
130	3	1	1	1			1	1					1													1 1
131	2	1	1	1		1	1	1				1								1				1		1
132	1	1	1	1		1		1				1			1						1				1	
133	3	1			1					1																2
134	1	1		1								1														
437	1	1	1		1								1													
Total	100	36	41	28	19	23	9	13	15	11	6	9	10	5	12	4	5	3	3	2	3	4	6	4	15	23

GRAPH 4: Divisibility of Bracteate Values
According to the Futhark System



Graph 4 displays an occurrence of factors which certainly lies within the limits of chance distribution. No factor shows appreciable divergence from the norm. The seeming lack of gematric form, however, does not prove that none exists. We may have to search deeper to find the key. The application of magic formulae was meant to be understood only by an initiated few who guarded their secret knowledge zealously and passed it on only to those worthy of such a grave responsibility. According to Eddic literature, runes are divine gifts taught to select men by supernatural beings. In "Hávamál," Odin himself testifies to the wealth of wisdom and magic power which he gained when he learned the use of runes, and he advocates the acquisition of the skill, when he declares:¹²

Við hleifi mic sældo né við hornigi,
nýsta ec niðr;
nam ec upp rúnar, æpandi nam,
fell ec aptr þaðan.

þá nam ec frævaz oc froðr vera
oc vaxa oc vel hafaz;
orð mer af orði orðz leitaði,
verc mér af verki vercs leitaði.

Rúnar munt þu finna oc raðna stafi,
miç stóra stafi,
miç stinna stafi,
er fáði fimbulþulr
oc gorðo ginregin
oc reist hropt røgna.

¹² Neckel/Kuhn, *Edda*, pp. 17-44, "Hávamál." Stanzas 139, 141, and 142 are quoted here.

In "Sigrðrifumál," a valkyrie instructs Sigurd in the correct application of runes.¹³ It seems then that the learning of rune skills was a sacred as well as difficult matter. In the light of this consideration, we should perhaps expect any possible numeric symbolism to be even more carefully hidden than we have thought. Possibly the so-called futhark does not even represent the original rune alphabet but a magic formula which was derived from the alphabet.

ii. Alphabetic Rune Values

The only significant research toward finding the key to the rune values was presented by the Swedish scholar Sigurd Agrell in 1927 in Runornas talmystik och dess antika förebild.¹⁴ He concludes that the rune alphabet started not with \mathfrak{F} (f), as had been taken for granted, but with the second letter of the futhark, the \mathfrak{U} (u). The \mathfrak{F} was originally the last letter. Table 11 presents the number-rune equivalence which Agrell suggests.¹⁵

¹³ Excerpts from her instructions were cited on pp. 37-38 above.

¹⁴ Skrifter, Vetenskaps-Societeten (Lund: Gleerup, 1927).

¹⁵ Compare with table 8, p. 37 above.

TABLE 11: Alphabetic Rune Values

N u m e r i c V a l u e	R u n e	P h o n e t i c V a l u e	N u m e r i c V a l u e	R u n e	P h o n e t i c V a l u e	N u m e r i c V a l u e	R u n e	P h o n e t i c V a l u e
1	ᚠ	u	9	ᚦ	n	17	ᚢ	b
2	ᚡ	þ=th	10	ᚧ	i	18	ᚣ	e
3	ᚢ	a	11	ᚨ	j	19	ᚤ	m
4	ᚣ	r	12	ᚩ	p	20	ᚥ	l
5	ᚤ	k	13	ᚪ	z → ð	21	ᚦ	ng
6	ᚥ	g	14	ᚫ	R	22	ᚧ	o
7	ᚦ	v	15	ᚬ	s	23	ᚨ	d
8	ᚧ	h	16	ᚭ	t	24	ᚩ	f

Before we consider the evidence for this shifting of values, we should first examine whether it holds the key to a symbolic structure. The bracteates, which were tested previously, were worn as amulets and must have been endowed with special charms. If we cannot find numerical magic on them, we need not look for it on any other runic artifacts.

If we then reassign the new equivalents to the bracteate inscriptions of table 9, we arrive at a different set of gematric values, which is recorded in table 12. These values are then again tested for divisibility, and the results are displayed in table 10 and graph 5.¹⁶

¹⁶ The procedure was explained on p. 41 above. Tables 12 and 13 should be compared with tables 9 and 10, and graph 5 with graph 4.

TABLE 12: Gematric Values of Bracteate Inscriptions
According to the Alphabet

No.	Bracteate	V a l u e s		
		of entire inscription		of individual sections and subsections
		without dots	with dots	
A	B	C ¹⁷		
2	Vadstena	358	364	58, 52, 92, 156
4a	Lindkær	208		
4b	Over-Hornbæk III	253		
103a	Slangerup	30	32	24, 6, 8 ^a
103b	Klaggeröd	24		
104	Darum V	85		61, 24
105	Skodborg	272		
107	Schonen IV	64		
108	Ars II	46		
109	Skrydstrup	70		46, 24
110	Börringe	119	121	50, 23, 46, 73, 75 ^b
111	Dänemark I	42		
112	Seeland I	42		
113	Allesø	159	161	43, 51, 94, 96, 27, 38, 65 ^c
114	Hesselager	104		47, 22, 16, 18, 1
115	Darum IV	209		99, 53, 57, 110 ^d
116	Højstrup	26		
117	Darum I (3) ^f	117		91, 26
118	Skonagar III	102		60, 42
119	Fünen I	169		48, 95, 26
121	Lellinge	78		
122	Faxe (3) ^g	255	264	92, 63, 52, 48, 207
123	Ølst	41		24, 17

continued on next page

TABLE 12 continued

124	Norwegen	56		
125	Tjurkö	34		
126	Lekkende	21		
127	Seeland II	255	264	92, 63, 52, 48, 207 ^e
128a	Väsby	276		
128b	Äskatorp	276		
129	Over-Hornbæk II	299		
130	Trollhättan	119		68, 51
131	Åsum	154	156	
132	Femo	96		
133	Nebenstedt I	125		74, 51
134	Sievern	46		
137	Körlin	39		

¹⁷ Notes for table 12: Cf. p. 43, notes for table 9. The breakdowns here are as follows:

^a $6 + 2 \text{ dots} = 8$

^b $50 + 2 \text{ dots} + 23 = 73 + 2 \text{ dots} = 75$

^c $43 + 2 \text{ dots} + 51 = 94 + 2 \text{ dots} = 96$

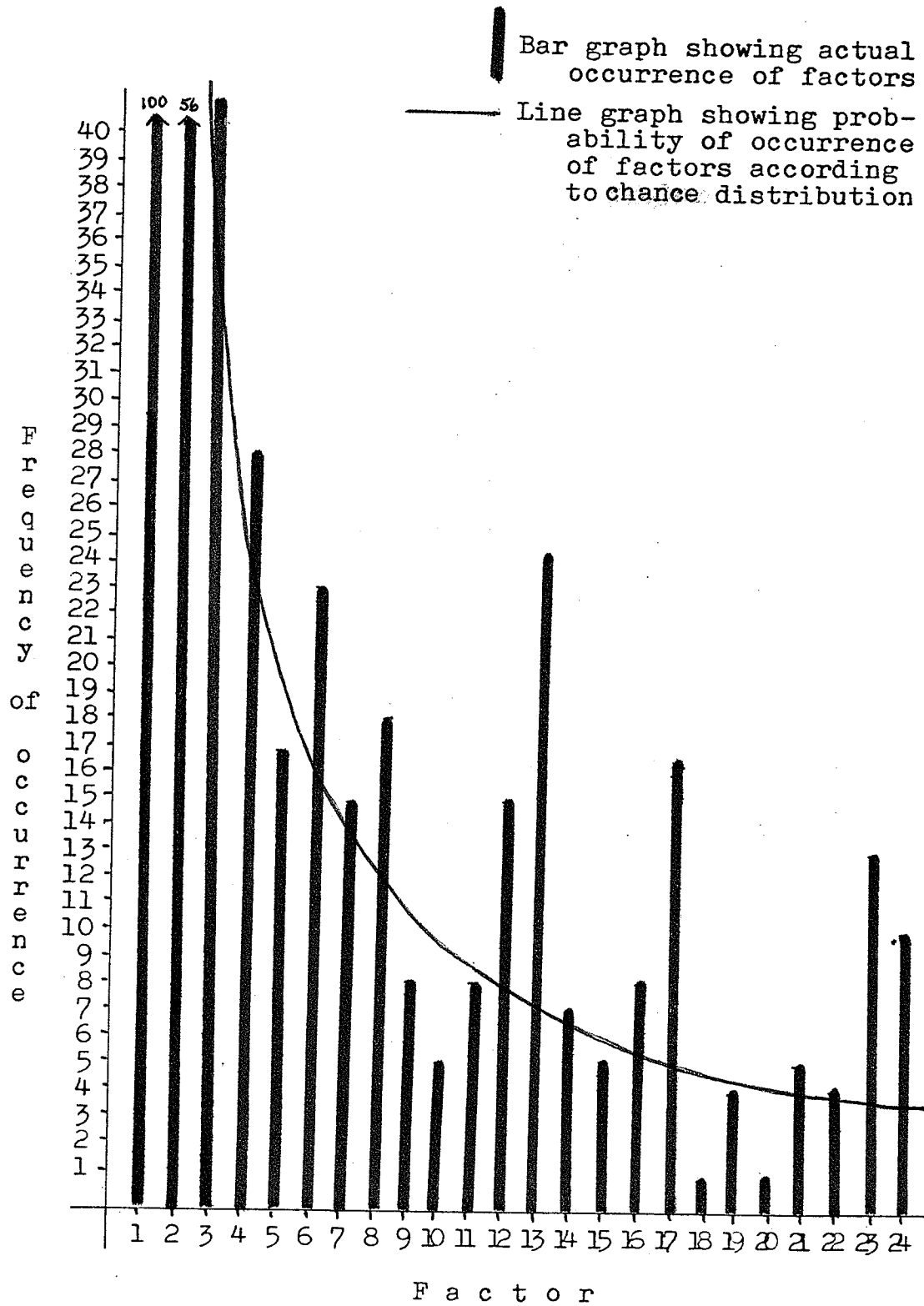
and $27 + 38 = 65$

^d $53 + 57 = 110$

^e $92 + 63 + 52 = 207$ Cf. pp. 73-74 below.

^f and ^g Cf. p. 43, notes f and g.

GRAPH 5: Divisibility of Bracteate Values
According to the Alphabet System



Graph 5 does not conform to chance distribution but points to intentional design. We do not see a marked prominence of a single number as we did in the Bible example, but instead, several numbers stand out.¹⁸ Both 13 and 23 occur about three times as often as expected, and 17 and 24 between two and three times as often.¹⁹ When we apply Agrell's equivalence table, 13 and 23 show a prevalence which cannot be credited to chance.²⁰ We must therefore consider the possibility that they were woven into the inscriptions intentionally. These numbers may have possessed powers which were to benefit the bearer of the amulet. Since this runic alphabet, in fact, seems to hold the key to the symbolic interpretation of the bracteates,

¹⁸ For the Bible example see graph 2, p. 23 above.

¹⁹ Divisibility was tested for exactly 100 numbers. One number in 13 is divisible by 13, i.e. $1 \div 13$. For the 100 numbers tested, 100 times as many should be divisible, namely $100 \div 13 = 7.69$. The actual 24 thirteens are $.24 \times 13 \div 100 = 3.12$ times the norm. Likewise for 23 $.13 \times 23 \div 100 = 2.99$ times, for 17 $.16 \times 17 \div 100 = 2.72$ times, and for 24 $.10 \times 24 \div 100 = 2.40$ times.

²⁰ It may be noted here that Heinz Klingenberg has also studied the numeric values of various runic inscriptions. He, however, uses the futhark equivalences of table 8, p. 37, except that he reverses the values of \mathfrak{X} and \mathfrak{M} . His work appears under the title Runnenschrift — Schriftdenken — Runeninschriften (Heidelberg: Winter, 1973). It is reviewed by Michael Barnes in Medieval Scandinavia, 7 (1976), pp. 246-254. An evaluation cannot be given at this time, because at the time of writing I have had access only to the review. By applying his method to the bracteate inscriptions, however, the resulting values were found to conform to normal distribution of numbers.

we must next examine the evidence for the shift in numeric values from the formerly accepted pattern. For this purpose, a look at the historical background is imperative.

IV. The Origin of the Rune Alphabet

If we know little about the originator of the Gothic alphabet, we know absolutely nothing about the man who adapted the alphabet for the use of the Germanic tribes more than 200 years before Ulfilas. Scholars have speculated that he was a clerk in the employ of the Roman army. He must have been familiar with Latin, because some of the runes resemble Latin script, but most certainly he was well versed in the Greek language, because the great majority of runes can be traced back to Greek script, either printed or cursive.²¹

He not only knew Greek script, but he was certainly initiated into the rites of Greek mysticism. In the second century A.D., the Greeks were already using the Milesian number system for calculations, and the thesis system, which is evident in the runes, was propagated only by mystic cults.

That the runes did serve a mystic purpose is well documented. In "Hávamál", for example, Odin's self-sacrifice is mystically linked with his discovery of runes.²² The very word "rune" embodies

²¹ Shown by Otto von Friesen in Reallexikon der Germanischen Altertumskunde (1918-19), vol.4, pp. 9-12.

²² Quoted in part on p. 46 above.

the idea of mystery and secrecy. Gothic runa glosses Greek μυστήριον in reference to the divine mysteries, and a related Gothic garuni means "consultation, counsel."²³

Even to this day the German verb "raunen" does not simply mean "to whisper," but evokes the idea of the imparting of mystical knowledge as, for example, by a gypsy fortune teller or by the wind as it rustles through the leaves.

During the second century A.D., when the rune alphabet is thought to have become established, the prevalent mystery religion in the Roman army was Mithraism, a cult which originated in Persia and which restricted membership to men. Its hero-divinity, Mithra, had devoted his life to the service of mankind, and since his ascension he aided those who were fighting the forces of evil; thus, understandably, his worship brought special inspiration to soldiers. Mithraism became so popular that the emperor Commodus (180-192 A.D.) declared it an imperial cult.

A Germanic soldier in the imperial army would have found much similarity between the new religion and the ideals with which he had been raised. "Hier wurden Kraft und Treue verehrt, und viele der Göttergestalten waren denjenigen des nordischen Kultus ähnlich."²⁴ In examining the Germanic alphabet, it is therefore not surprising to find a blending

²³ R. I. Page, An Introduction to English Runes (London: Methuen, 1973), p. 107. Page also cites OHG runa and giruni, OE runian, OS runon, OHG runen, ON rúnar, OIr run, and Middle Welsh rhin.

²⁴ Sigurd Agrell, Zur Frage nach dem Ursprung der Runennamen (Lund: Berlingska Boktryckeriet, 1928), p. 9.

of Nordic and Eastern thought reflected in the meaning of individual runes.

Like the letters of the Semitic alphabet, each rune took its name from an object which began with the same sound. We are still in the habit, when spelling words orally, of using names for letters, e.g. G for George and S for Sam, but the runic names were not chosen haphazardly, for each name represents an object or a deity of significance in religious rites. Some of these names have been preserved in modified form in five manuscripts of later dates.²⁵ These are:

- The Abecedarium Nordmannicum, a runic poem in an early ninth century manuscript usually credited to Hrabanus Maurus.
- An Old English poem of the ninth century
- A Norwegian poem of the twelfth or thirteenth century.
- An Icelandic poem of the fifteenth century.
- The Salzburg codex 140, now called Vienna codex 795, which lists the Gothic alphabet with the letter names. These are undoubtedly borrowed from the runes. If its association with Alcuin is correct, then it would have originated in the eighth century.

²⁵ For a comparative table of the rune names see Ralph W. V. Elliott, Runes (Manchester: Univ. Press, 1959), pp. 48-49; and Klaus Düwel, Runenkunde, Sammlung Metzler (Stuttgart: Metzler, 1968), pp. 107-108.

The first rune — $\Lambda, \mathfrak{A}, \mathfrak{N}$ — is called $\bar{u}r$ in all four rune poems and $uraz$ in Gothic, and refers to the aurochs which roamed the woodlands of northern Europe. This animal was the symbol of untamed strength, and its blood renewed those who partook of it in sacrificial ceremony. The hunting of the aurochs was one of the prerequisites for the initiation into manhood. In Mithraism, the slaying of the bull represented the central act of worship, and the blood was allowed to fall on the initiate. The bull was considered the first created being, and when it was slain by Mithra, all the plants of the earth grew from his body. From his seed sprang all species of animals. Thus the bull became the origin, the first cause of life. This explains why the letter representing the bull was placed first in the alphabets from which the runes have evolved. In the Egyptian it was the hieroglyph 𐀀 , in the Semitic the aleph (\aleph), and in the Greek the alpha (A, α) to which the rune Λ bears unmistakable resemblance.

The second rune — $\mathfrak{B}, \mathfrak{D}$ — is called $\mathfrak{b}urs$ in the Norwegian and Icelandic poems and $thuris$ in the Abece-darium. The word means giant or demon and represents supernatural forces harmful to man. Being the number of separation and division,²⁶ two has represented the principle of evil in all traditions, and to this day the exclamation "deuce" refers to bad luck or the devil.

The third rune — \mathfrak{F} — $\acute{o}s$ or $\acute{o}ss$ in all the rune poems, aza in Gothic, and $\acute{o}ss$ in Old Icelandic means god or deity universally, except in the monotheistic religions, and even the Bible presents God as having

²⁶ See p. 1 above.

a threefold nature.²⁷

The fourth rune — R, R — called rad, rat, ræið, reið, and reda means wagon, chariot. The Mithraic sungod's quadriga was drawn by four horses which symbolized the four seasons.²⁸ Four was identified with the four elements as well as with the four seasons, and both concepts are contained in the Semitic idea of creation, which is also symbolized by four.²⁹ The Greek letter delta (Δ, δ) has the same connotation and also stands in fourth place.

Similar explanations for the positions of the other runes can be found in Agrell's works.³⁰ For our purpose we need only examine those runes whose symbolic meanings play a major role in runic magic.

The seventh rune — P, P — is called wyn in Old English and uinne in Gothic. It is the German Wonne, the ultimate joy of the elect to which, according to the Eastern mystery religions, the soul attains only after traversing the seven spheres of the planets. The Mithraic aspirant also had to pass seven steps of initiation. This symbol for seven delimits the Semitic meaning of fulness to "fulness of joy" to which Psalm 16:11 refers.

The tenth rune — I — called is, ís, ïss, iiz, is the death rune, because ice is a symbol for death. In

²⁷ See pp. 8-10 above.

²⁸ See Agrell, Zur Frage, p. 12.

²⁹ See pp. 10-11 above.

³⁰ Especially in Zur Frage . . .; and in "Die spätantike Alphabetmystik und die Runenreihe," Kungl. Humanistika Vetenskapssamfundet, 6 (1932), pp. 155-210.

Greek mythology, the tenth river coming from the Okeanos is the subterranean Styx, the river of death.

The thirteenth rune — 1 — is called eoh, yew in the Old English. It retains its position in 13th place even in the Vadstena futhark by changing places with the 12th rune, ƿ.³¹ Agrell deals only with its position in the alphabet and does not mention its symbolic meaning, which must have been of considerable importance. Both the yew tree and the number thirteen have to this day retained magical connotation, although 13 has fallen into disrepute. To warrant its frequent appearance on the bracteates, it must originally have had beneficial meaning. The yew is an evergreen of almost indestructible toughness and has therefore become a symbol of longevity. The Eddic poem "Fjölsvinns-mál" tells us that no one knows the roots of Mímameiðr, that neither fire nor axe can destroy it, and that its fruit, when thrown in the fire, drives out sickness.³² De Vries identifies this tree as Yggdrasill, the taxus mentioned by Caesar.³³ Odin was hanging on this tree when he discovered the runes,³⁴

³¹ Compare tables 8 and 11, pp. 37 and 48 above.

³² Sophus Bugge, Norræn Fornkvæði: Sæmundar Edda (Christiana, Norway: Malling, 1867), pp. 342-351, "Fjölsvinns-mál," stanzas 20 and 22.

³³ Jan de Vries, Altgermanische Religionsgeschichte, 2nd ed. (Berlin: Walter de Gruyter, 1956-57), vol. I, p. 245. He refers to Caesar, De bello gallico, VI, 31.

³⁴ "Hávamál," stanzas 138-139. See quotation, p. 46 above.

and life-giving springs emanate from it.³⁵ Every religion knows of a tree from which spring life and health, and the Bible also makes ample reference to this symbol.³⁶ "The symbolism of the tree denotes the life of the cosmos: its consistence, growth, proliferation, generative and regenerative processes. It stands for inexhaustible life and is therefore equivalent to a symbol of immortality."³⁷ Being associated with the yew, 13 takes on its symbolic meaning of life and healing, longevity, health and strength. This explains its popularity on amulets. Elliott documents the protective power inherent in amulets and wands fashioned of yew wood.³⁸ The rune which is credited with the same power in "Sigrdrífumál" must surely be the yew rune.³⁹

The sixteenth rune — ↑ — was named tīr, tǫr after Tyr, the god of war and victory. It is called the victory rune in "Sigrdrífumál"⁴⁰ The sixteenth day of the Persian calendar was dedicated to Mithra, the god of the invincible sun.

The seventeenth rune — B, B — is named beorc or bjarkan. The birch tree represents new life, because it bears the first green of every new spring. In the

³⁵ "Völuspá," stanza 19, Neckel/Kuhn, p. 5.

³⁶ E.g. in Gen. 3:22, Deut. 20:19, Job 14:7-9, Rev. 22:2.

³⁷ J. E. Cirlot, A Dictionary of Symbols, tr. Jack Sage (1962; rpt. London: Routledge, 1971), p. 328.

³⁸ "Runes, Yews, and Magic," Speculum, 32 (1957), pp. 250-261.

³⁹ Stanza 10, quoted p. 38 above.

⁴⁰ Stanza 6, quoted p. 37 above.

villages of Lower Saxony, I have observed many rites of spring which involve this tree. On Mayday, doors are decorated with its branches, and gate posts are mounted with small birch trees. All over Germany, Easter eggs are hung from birch twigs mounted in vases. This tree is dedicated to Freyja, a goddess who was known to be of a rather sensuous nature and who was also called upon in child-bearing. In India, the seventeenth day was dedicated to Freyja's counterpart, the god of fertility, Prajāpati. "Sigrdrífumál" explains the efficacy of this "birth rune" in child birth.⁴¹ The frequency of 17 on the bracteates would indicate that birth control was definitely not the order of the day.

The symbolism of 17 must have been restricted to human and probably also animal fecundity, because crop fertility is represented by ḡ with the value 11, meaning *ār*, Swedish *äring*, a year's growth, which is connected to Frey, the god of growth.

One other rune is connected with fertility. The twenty-first rune — O, □, ϕ, ϕ — was named after Ing, the Germanic god of fertility. It is derived from the twenty-first letter of the Greek alphabet, the phi (Φ, ϕ) which stands for φαλλός. Since this symbol was necessarily restricted to masculine fertility and virility, it later came to be confused with M, the m rune called "man." The Abecedarium Nordmannicum lists ϕ as meaning "man," and the Norwegian and Icelandic poems call ϕ "maðr".

The twenty-third rune — N — is called *dæg* in the Old English poem. The concept of "day" is close-

⁴¹ Stanza 9, quoted p. 38 above.

ly associated with the force of light, and Agrell presents evidence that the twenty-third day of the month was hallowed to the god of light. Certainly, the day was the strongest protection against the demonic powers which harrassed people mainly during the hours of darkness. By being positioned in twenty-fourth place in the Vadstena futhark, it may have served to ward off evil beings which practice their powers during the twenty-fourth hour of the day. Twenty-three must therefore have been a desirable ingredient of a skillfully composed charm.

The twenty-fourth rune — ƿ — is called feoh, feu, fé, which is equivalent to German Vieh. As men counted their earthly goods in the number of their cattle, fé was, and still is in some civilizations, equated with wealth. "Das altgermanische Wort fehu (altnord. fé) bedeutete ja auch sowohl "Vieh" wie Fahrhabe jeglicher Art, später in besonderem "Geld". Der Vergleich mit lat. pecus "Vieh" und pecunia "Geld" liegt auf der Hand."⁴² In divination, the card with the highest number is associated with wealth, and in the case of runic magic, this number would be 24. Here, then, is another welcome addition to a good amulet.

⁴² Wolfgang Krause, Was man in Runen ritzte (Halle, Saale: Niemeyer, 1943), p. 37.

V. Symbolic Gematria in Runic Inscriptions

In studying the examples cited by Agrell, which are obviously not chosen at random, one gains the impression that there are basically two types of inscriptions. One type contains 24 as a factor, assuring the owner of wealth. The other type either adds up to a prime number or has such a number as a factor. As he calls all large primes "antidemoniskt," these inscriptions would therefore ward off demonic forces. This type of reasoning shows that Agrell would have done well to consult with a mathematician before drawing his conclusions. Owing to the large number of primes in existence, his observations are entirely consistent with arithmetic probability, and this invalidates his conclusions.

In a random sampling of numbers from 1 to 500, for example, one out of 5 or 6 numbers should be a prime, and we would find an even larger number of prime factors. The last two columns of tables 10 and 13, pp. 44 and 51, list the occurrence of prime numbers and prime factors above 24, which are contained in the bracteate values. Table 10, based on futhark calculations, exhibits normal distribution. Within the given range, the 16 primes are the exact result of random sampling. Table 12, however, displays a different result. Owing to the high frequency of the factors 13, 17, 23, and 24, the number of other factors is necessarily reduced, and we encounter only 5 primes, when the given range should produce 15. The theory of the antidemonic primes can therefore not be maintained.

Agrell was a pioneer who has pointed the way to a new understanding of the Germanic and Indo-Germanic

heritage. Granted, he made many mistakes and was accused of even more by his critics who apparently did not read past his first few examples, but no one ever mentioned his gravest error: he failed to apply the law of probability to his findings. That should have been a necessary criterion in the evaluation of his theory.

An examination of the bracteate values seems to indicate that numeric magic was applied to the inscriptions and that Agrell's theory holds the key to the deciphering of that magic. The evidence is not as conclusive as that of the heptadic numbers in the Bible, for here we find several numbers applied, none of which stands out drastically. A study of the grave-stones, however, later on in this chapter, will reveal more striking evidence of the use of this hidden numeric symbolism.

Since on the bracteates we come across several distinct types of inscriptions, we may assume that there were various ways of applying magical power to an amulet.

- (a) Futhark formulae resemble alphabets or parts of alphabets. These inscriptions either start with $\mathfrak{F}\mathfrak{A}\mathfrak{R}\mathfrak{A}$, futhark, or they are circular, as in the case of bracteates. E.g. Vadstena #2, Grumpan #3.
- (b) Sentences may carry magical powers. For the sake of brevity, these may be replaced by one or more words, e.g. $\mathfrak{A}\mathfrak{U}\mathfrak{J}\mathfrak{A}$, auja, corresponding to the German "Heil," and $\mathfrak{A}\mathfrak{L}\mathfrak{U}$, alu, meaning ecstasy, charm. E.g. Ars II #108, Højstrup #116, Seeland II, #127, Trollhättan #130.
- (c) "Begriffsrunen" are single runes which are

given meaning by their names. The most common are \forall for "feh" and \uparrow for "Tyr." Their usefulness is explained in "Sigrdrífumál."⁴² Generally they occur in conjunction with words or sentences. E.g. Slangerup #103, Femö #132.

- (d) Seemingly non-meaningful letter combinations appear on several bracteates. They might contain "Begriffsrunen" or abbreviations of a message, e.g. Fünen I #119. Others almost appear to be variations of futharks, e.g. Lindkær #4, Over-Hornbæk III #4, Over-Hornbæk II #129.⁴³

i. The Vadstena Bracteate

An example of (a) the futhark formula.
Illustrated on page 66.

The Vadstena bracteate #2 is the most perfect example of a futhark charm, and it has generally been regarded as a complete runic alphabet.⁴⁴ After care-

⁴² See pp. 37-38 above.

⁴³ It is this last group which is intentionally misread by Wolfgang Krause in an attempt at reconstructing the futhark. There is, however, too much evidence against this interpretation: the inscriptions are quite legible, they do not show the required 24 symbols, and several symbols appear more than once in the same inscription.

⁴⁴ See table 8, p. 37 above.



The Vadstena Bracteate #2

fully examining the photographs in Krause, Hauck, and Oxenstierna, I accept Krause's transliteration as correct except for one minor detail: Krause reads two dots after the ∇ , but his photograph of the reverse side clearly shows only one. Below, then, is the circular inscription with its transliteration and numeric interpretation. On the bracteate, it runs counterclockwise, but here it is given in reverse to facilitate the reading.⁴⁵

∇	∇	∇	∇	∇	∇	:	∇	∇	∇	∇	∇	∇	∇	:															
f	u	t	a	r	k	g	v	h	n	i	j	i	p	R	s														
24	+	1	+	2	+	3	+	4	+	5	+	6	+	7	8	+	9	+	10	+	11	+	12	+	13	+	14	+	15
52														92															
4 x 13														4 x 23															

\uparrow	β	\mathbb{M}	\mathbb{M}	\uparrow	\diamond	\otimes	\otimes	.	∇	∇	∇	∇	\uparrow	∇	∇	∇	.												
t	b	e	m	l	n	g	o	d	l	u	v	a	t	u	v	a													
16	+	17	+	18	+	19	+	20	+	21	+	22	+	23	20	+	1	+	7	+	3	+	16	+	1	+	7	+	3
156														58															
12 x 13														58															

When 52+92+156+58 are added, the total is 358, which is not divisible by any number up to 24 other than 2, but when 6, the number of dots is added, the grand total of 364=4x7x13.

The two numbers which figure most prominently in

⁴⁵ The b is written β with rounded backs in this late inscription, because β is used to replace the ∇ .

bracteate symbolism, namely 13 and 23, are the dominant factors. The 23 wards off evil forces, and 13, in its threefold appearance, assures the bearer of a long life free from sickness and accident. The heavenly joy, which is represented in the 7, brings an added bonus.⁴⁶

With a bit of experimenting we can test the variations for which the futhark allows. The rune master could certainly have given the 24 runes in simpler form with their three ættir⁴⁷ divided by non-countable symbols such as swastikas or triskeles. The 23 and two of the 13s would still be there, but the sum of the three ættir would be of fatal symbolic value, for $52+92+156=300$, which is a multiple of 10, the symbol of death. The three ættir could also have been separated by 12 dots, bringing the grand total to 312, which equals 24×13 . Now 24, the symbol of wealth, would be included, but the death symbol would not be eliminated, and health and wealth have little meaning when they are accompanied by death. The author of the Vadstena text solved the problem in an ingenious manner: He eliminated the symbolism of 10 by adding the harmless 4th section "luvatuva," which increases the total to 358 and the grand total to 364, a multiple

⁴⁶ Agrell reads the last section as "tuvatuva," reasoning that one stroke of the ↑ is covered by the clasp, but when we compare the other ↑ with the two ↑, his reading proves to be incorrect. The diagonal line on the ↑ is longer and at a sharper angle than those of the ↑. Agrell consistently ignores the total without dots, and his grand total, $360=15 \times 24$. He does not deal with the problem of the factor 10, the death symbol appearing on an amulet.

⁴⁷ The term ættir was explained on p. 36 above.

of 13.

If the rune master had taken Agrell's original rune alphabet (table 11, p. 48) and had divided it into three equal sections, he would have obtained the formula $36+100+164=300$. Not one of these four numbers contains a symbolically beneficial factor, but two of them contain the death symbol. In fact, 100, the square of 10, is the most deadly curse available. An amulet inscribed with this curse would have made an ideal gift for an enemy.

The Vadstena is the longest of all the bracteate inscriptions and has the highest numeric value. Its originator was no doubt one of the most resourceful rune experts of his time, and this may have been his masterpiece. We can therefore expect the other details of the amulet to be in keeping with the symbolism of the inscription.

Until the appearance of Karl Hauck's monumental work in 1970, all interpretations of bracteate inscriptions were guided by "spekulierende Improvisation."⁴⁸ Hauck does not treat the bracteates simply by themselves, as writers had done previously, but traces the historic development of their pictorial symbolism. His painstakingly detailed research leaves no room for speculation but sheds light on every type of imagery found on bracteates.

"Da es sich bei ihnen [den Brakteaten] um Amulette handelt, ist ihnen von allen literarischen Gattungen die der Zaubersprüche am engsten verwandt."⁴⁹

⁴⁸ Goldbrakteaten aus Sievern (München: Fink), p. 142.

⁴⁹ Hauck, p. 175.

The most commonly recurring theme is the story known to us through the second "Merseburger Zauberspruch": the healing of Baldr's horse by his father Odin, the highest of gods. Various episodes are depicted on the bracteates in partly descriptive, partly symbolic imagery:

- the young Baldr with long braided hair riding to the thing, e.g. Hesselager #114, Fünen I #119.
- the fallen horse, with a bleeding hoof or legs twisted or even detached from the body,⁵⁰ being assisted by Odin in shaman's regalia, e.g. Lellinge #121, Kōrlin #137.
- the horse restored to health with new life emanating from his mouth, e.g. Vadstena #2, Börringe #10.

Such an example of supernatural healing power would make the amulet effective as a shield against sickness, accident, or any kind of harmful influence. As shown earlier, 13 is the number which assures the wearer of a long healthful life, and 23 wards off evil forces which cause accident or other ill.⁵¹ It is therefore not surprising that the Baldr illustrations are predominantly accompanied by 13 or 23 or both.

In the Vadstena illustration (p. 66), Odin is recognized as the head shaman by the inverted bird's

⁵⁰ One bracteate showing both forelegs detached was found in close geographical proximity to the Zauberspruch in a woman's grave at Obermöllern, near Merseburg. See Hauck pp. 211 and 402.

⁵¹ Pp. 59-60 and 61-62 above.

cap and the winged helper which accompanies him.

Unter der Göttern ist Odin der große Magiker. Galdrs foður nennt ihn ein Eddagedicht (Bdr. 3). In den Hávamál rühmt er sich, Zaubersprüche zu kennen, um Wunden zu heilen, Feindeswaffen stumpf zu machen, Fesseln zu sprengen, u. a.⁵²

His changing of form (Gestaltentausch) is well documented by Snorri,⁵³ and it is also reflected in his many names which characterize him as an animal. On the Börringe bracteate #110, he is represented by an animal head (probably a bear's) wearing an inverted bird's cap. "Auf eine Habichtgestalt deuten Namen wie Geirloðnir, Ginnarr, Olgr; auf die eines Adlers Orn, Arnhofði, Viðhrímnir (Falk 3,41)."⁵⁴

Various animal masks and caps are still worn by shamans in all parts of the world during certain rituals. For healing ceremonies, the shaman evidently was to take on the character and form of a bird and deliver the incantation in a birdlike voice.

Der gewöhnliche Name für den Zauberspruch ist galdr. Dieses Wort ist vom Zeitwort galan abgeleitet, das sonst "singen" bedeutet und besonders auf Vogelstimmen angewendet wird. Man darf daraus schließen, daß die magischen Lieder mit einer hellen, vielleicht zu Falsett neigenden Stimme gesungen wurden.⁵⁵

⁵² De Vries II, p.73.

⁵³ Hauck, p. 202

⁵⁴ De Vries II, p. 64; and ⁵⁵ I, p.304.

The accompanying bird, always placed in front of Odin's face, may be a "gefiederter Hilfsgeist," as Hauck calls him, who tries to find Odin's ear "um ihm Kunde aus der Welt der Geister und Seelen zurufen zu können,"⁵⁶ or he may be a personification of the spiritual power emanating from the shaman in bird form.⁵⁷

Odin's mouth is turned directly to the horse's ear, and the horse responds with apparently joyful whinnying. Hauck calls the symbolic line coming from its mouth "den Atemhauch des ersten Wieherns, mit dem das wiederbelebte Tier auf den Rede-Logos antwortet."⁵⁸

One other recurring symbol deserves notice: the horns found on Baldr's horse. Horns were a part of the insignia of the Celtic-Germanic troupes in the Roman army, and because of their significant contribution to the victory at the Milvian bridge in 312 A.D., Constantine gave special concessions to the Germanic "cornuti" and incorporated the horns in the emblems of the Roman army, combining them with the cross, the sign under which he had won that decisive battle.⁵⁹ The combination of these pagan and Christian emblems, the horns and the cross, is seen on several bracteates, e.g. Lindkær #4a, Olst #123, Lekkende #126. On most bracteates, Baldr's horse is

⁵⁶ Hauck, p.187.

⁵⁷ De Vries II, p.63.

⁵⁸ Hauck, p.410.

⁵⁹ Shown by Andreas Alföldi in "Cornuti: A Teutonic Contingent in the Service of Constantine the Great and its Decisive Role in the Battle at the Milvian Bridge (Dumbarton Oaks Papers 13, 1959). Cited by Hauck, p. 412.

adorned by the horns alone, identifying the rider as belonging to an elite group of warriors. Where we find the horns fallen to the ground, they emphasize the helplessness of the wounded horse, e.g. on the Obermöllern bracteate, on which the legs are also detached.

ii. The Seeland II Bracteate

An example of (b) rune sentence and
(c) "Begriffsrunen" (See p. 64).
Illustrated on page 74.

One of the most beautiful and best preserved bracteates, the Seeland II #127, exemplifies the use of a complete sentence as well as the application of "Begriffsrunen." The inscription again runs counter-clockwise and is here given in reverse:


HR I N N F N F I T I A F : F F R R N I H F :
h a r i u h a h a i t i k a f a r a u i s a
8+3+4+10+1+8+3+8+3+10+16+10+5+3 24+3+4+3+1+10+15+3

92

63

4 x 23

3 x 21

X I B N F N T F : 
g i b u a u j a 3x t
6+10+17+1+3+1+11+3 3x16

52

48

4 x 13

3x16 (and possibly 2x24)



Seeland II #127



Trollhättan #130

B R A C T E A T E S



Lindkær #4a




Over-Hornbæk III #4b



Over-Hornbæk II #129

The total of all single runes is $92+63+52=207=9 \times 23$. Adding the large triple victory rune, we arrive at $207+48=255=15 \times 17$, and when the 9 dots are added, the grand total of $264=11 \times 24$. The "Begriffsrune" ↑, named after Tyr, the victorious war god, appears in large


triplicate as  .⁵⁹ Having twice the size of the other runes, it emphasizes the role of the victory symbolism of the number 16. The other five numbers are not immediately obvious, but are evidently carefully chosen:

- 13 for good health and a long life
- 17 for fertility
- 21 for virility
- 23 for protection from evil (appears twice)
- 24 for wealth.

The skill which fashioned such intricate symbolism was probably acquired through years of studying and experimenting, and the rune master was therefore rightly proud of his art. The inscription reads:

Hariuhahaitika farauisa gibauauja

Krause translates: "Hariuha heiße ich, der Gefährliches Wissende. Ich gebe Heil."⁶⁰ For the word fara, which he interprets as "Gefährliches," he lists the additional meanings of "Unglück, Zorn, Verderben, Gefahr." The author of the inscription points out the

⁵⁹ All rune scholars, including Krause, accept this reading, yet are unwilling to identify the  of Over-Hornbæk II #4.

⁶⁰ Krause, p.262.

power of the runes for evil as well as for good, for curses as well as for blessings, and has packed this charm with a variety of blessings.

The imagery depicts a modernized version of the healing of Baldr's horse. The animal is still adorned by horns, but his hoofs are split and resemble fish tails. Odin still wears his bird cap, even if it appears in stylized form, but his spirit bird has been replaced by a spear to symbolize an aspect of Odin's personality which was more readily understood. It also repeats the symbolism of the victory runes. The exaggerated shape of Odin's mouth seems to indicate that he has just breathed new life into the horse. In this healing ceremony the shaman, Odin, uses all the resources at his disposal, uniting with the whole animal kingdom — mammal, reptile, bird, and fish being represented. This is a ritual in which "die Grenzen zwischen Mensch und Tier, zwischen Belebtem und Unbelebtem verschwinden."⁶¹

iii. The Trollhättan Bracteate

An example of (b) rune sentence (See p. 64)
and algebraic engineering.

Illustrated on page 74.

Another bracteate should be examined here, because it demonstrates clearly the purpose of sections within an inscription. The Tollhättan bracteate #130 reads:

⁶¹ Krause, p. 267.

↑ ƒ ƒ ǫ ʀ	ƒ Ɔ ǫ ǫ ʀ
t a v o l	a t h o d u
16+3+7+22+20	3+2+22+23+1
68	+ 51 = 119
4 x 17	+ 3 x 17 = 7 x 17

Were the inscription divided according to words, it would read "tavo lathodu," which Krause translates as: "Ich nehme eine Zitation vor."⁶² Were it divided according to the availability of space, it would read "tavo lathodu" or possibly "tav olathodu." The runes of "tavo" are cramped while "lathodu" is loosely spaced with room to spare on either side. Only two explanations are possible for the unusual and seemingly impractical division: Either it was to produce a symmetric form of five runes on either side, or else it aimed at creating a powerful threefold fertility charm. If the main consideration had been that of symmetric form, one would expect a little more foresight in the allocation of space. The gematric symbolism of 17, on the other hand, is evidently achieved by careful planning. The chance for arriving at three consecutive multiples of 17 is 1 out of 4913 for one bracteate and 1 out of 136 for the 36 bracteates under consideration.⁶³ It therefore appears that the sections were chosen for the sake of numeric magic.

⁶² Krause, p. 267.

⁶³ $17 \times 17 \times 17 = 4913$ and $4913 \div 36 = 136$.
The total of 119 appears to be an intentional multiple of 17, because the author could have changed it by adding a nonsense word as in the Vadstena bracteate.