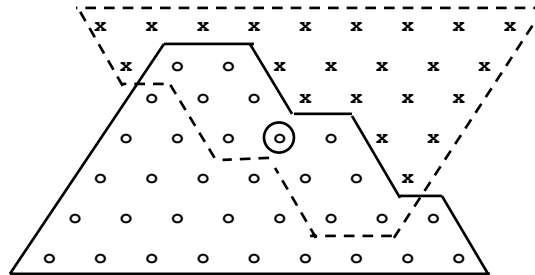


The Homeric MATRIX FOR 13,500. The grid of  $7 \times 7 = 49$  values is abstracted from the Holy Mountain (the Marduk Cosmos) for 8,640,000,000 that probably inspired the maze on Crete for Homer. The number 13,500 comes from a compression to smallest integers. From 13,500 as  $4 \times 3375$  (i.e., from  $125 \times 27 \times 4$ )--the original number of lines in the Iliad--the tonal diesis of 128:125 is mapped symmetrically in the fourth rows above and below the central SEVEN.



There is no graph (“net of the gods”) of quite this size and shape in The Myth of Invariance, but this is the kind of economy we expect from Greece and Israel. The reciprocals of one set of numbers define either or both patterns, “dialectically.” Tonal relevance is confined to only the three central horizontal rows. It functions for me as a “confirming key” to the Iliad code that I believe (from a study of the catalogue of ships in Book 2) operates rigorously on through the Odyssey. I distribute this to our Bibal group simply as a sample of how “Platonic” harmonical decoding searches for patterns that illuminate meaning. Homer reduces the essential numerosity from over 13 million to only 13,500. The reduced matrix below is followed by the expanded matrix with all 49 values given the doubling required for scale order, making each row “serpentine.”

15625	46875	140625	421875	1265625	3796875	11,390,625
3125	9375	28125	84375	253125	759375	2278125
625	1875	5625	16875	50625	151875	455625
125	375	1125	3375	1025	3075	91125
25	75	225	675	2025	6075	18225
5	15	45	135	405	1215	3645
1	3	9	27	81	243	729

Notice that the cornerstone below is  $2^{23}$ . The whole construction is in smallest integers, abstracted from the Marduk cosmos, mapping the diesis of 128:125 in the fourth rows above and below the center (i.e., the deficiency in the cube root approximation 5:4).

8,000,000	12,000,000	9,000,000	13,500,000	10,125,000	7,593,750	11,390,625
12,800,000	9,600,000	7,200,000	10,800,000	8,100,000	12,150,000	9,112,500
10,240,000	7,680,000	11,520,000	8,640,000	12,960,000	9,720,000	7,290,000
8,192,000	12,288,000	9,216,000	<b>13,824,000</b>	10,368,000	7,776,000	11,664,000
13,107,200	9,830,400	7,372,800	11,059,200	8,294,400	12,441,600	9,331,200
10,485,760	7,864,320	11,796,480	8,847,360	13,271,040	9,953,280	7,464,960
8,388,608	12,582,912	9,437,184	7,077,888	10,616,832	7,962,624	11,943,936

This posting to Bibal concerning the number of lines in Homer's Iliad concerns also the nature of the "Wars of YHWH" and the meaning of the Serpent/Satan/Leviathan imagery of the Bible, and thus functions as a window into my own harmonic research since 1960. I send this as an advisory while a more careful exegesis is developed for my website that anyone can download. I am still wrestling with some way to present this complex story in a more coherent linear way, for it is fantastic in illuminating many, many issues.

In Duane's posting for 2/18 titled "Fw. Homer" he is forwarding to Bibal a message from John Bremer re Homer, and he writes to John: "Let me quote here the words of Austin Smyth from your manuscript:

"The object of this essay is to demonstrate that the Iliad of Homer at one time consisted of 13500 lines, neither more nor less, divided into 45 sections of 300 verses each, with major divisions after the 15th and 30th of these; from which it follows that the remaining 2193 verses, which appear in our present texts, are more recent additions and ought to be removed." (End of Duane's quotation of John.)

I now have found this connection to my "Holy Mountains" and am trying here to correct the nonsense I sent you on 2/17 re 13,500 as a text attachment. I made a gross error in mapping the reciprocals of the number that week and stumbled on the correction by accident only last night. Bremer has supplied a vital link to our work connecting Homer directly to the Marduk Universe of 8,640,000,000 developed in M.O.I. as Chart 15 on p. 77, and to Jewish ritual. This "largest integer" or "harmonic seal" in the Marduk Universe defines a "net of the gods" (i.e., products of Mesopotamian "gods" 30, 40, 50, 60) (read Genesis "Creation Days" 3, 4, 5, 6 and Brumbaugh's translation of Plato as "6:3 plethra" meaning "full") that displays a near coincidence on the square root of 2 between the "peak" value of 6,103,515,625 in the 15th row (i.e., 5 to the 14th power) with the 7th value in the base at 6,115,295,232 (i.e., 3 to the sixth power = 729, doubled 23 times). The Marduk scribes are showing off their stupendous control of the arithmetic. Homer is mocking them with a fantastic reduction in numerosity that Greek rationality notices is available in base 10 computation, and "Davidic musicology" (for reasons we do not yet understand) shares Greek "monotheistic" reductionism and imposes the result as "Jewish ritual."

These calculations constitute "the Wars of YHWH" which He "fights" with unassailable logic (his name is an algebraic formula) in ways so similar to that of Apollo that it is a very tricky business indeed for a musicologist to track the distinctions. I think I'm doing it successfully, but not without miss-steps, and not without help. So I must beg some degree of indulgence while we work out an explanatory strategy. I sketch one here tentatively. The "peak" value lies at the top of our biblical "Mt. Ararat" where the ark comes to rest, reached by the Jews as 70 (i.e.,  $5 \times 14$ ) additions, thus accounting for Noah's

"flood" as "covering the mountains to a depth of 15 cubits." (This "peak" value becomes the first "drop" of Jewish "Holy Oil" when the matrix is inverted, as I indicated a few months ago, apparently to general merriment.) I demonstrate Jewish addition from Ginzberg's Legends:  $1+1+1+1+1=5$ ; then  $5+5+5+5+5=25$ , etc. Thus it requires 70 additions to ascend 14 steps to 5 to the 14th power. This is the same mountain (so I shall assume) that Moses is invited to ascend with "70 elders." The Egyptians would have climbed it by quintupling in a different way called "duplatio" today:  $1 \times 2 = 2$ ,  $2 \times 2 = 4$ , so that  $4+1=5$  and produces the following "climbing" algorithm: to ascend each successive step, "double each value twice and add to itself." (Thus to mount from the 2nd step to the third we proceed via  $5+20=25$ , followed by  $25+100=125$ , etc.) This is the arithmetic that nobody knows today except a few specialists. Small children use it with delight, but most scholars have no time for it. It is a way of thinking that makes ANY further shortcuts precious indeed, and the Sumerians found them brilliantly. Here Babylonian (or Akkadian?) scribes are flaunting their skills for the sheer fun of it, and in ENUMA ELISH, the Babylonian creation story, they tease us unabashedly to recognize their techniques, which require 10 digits in modern base-10 Hindu/Arabic "floating place value." (Here is where we get "arks" on the "water," and with "baby Moses" in the smallest one.) The mythology proves a total delight AFTER one catches on to scribal cleverness in handling the metaphors, that our culture has forgotten despite biblical reminders on every page.

The mathematical goal is elusive; it is the defining of eternal cycles ARITHMETICALLY, so that each new one repeats the previous one. In this case concerning our "musical" model, so that "semitones" repeat on the 13th tone (giving Christianity its eventual "Leader with 12 disciples" who become "fishers of men" meaning symbolic "fivers" as illustrated above. (The calendar has a similar problem with a "left-over" occasional 13th month.) The "Wars of YHWH" are purely "spiritual" or "intellectual" variants of the Marduk Cosmos, that is, they concern an "idealist" model. Bremer's familiarity with a 13,500 line Iliad proves a crucial clue in helping us to understand how HOMER mediates a "Greek" simplification of very great power, apparently known also to Bible authors. I was attracted to Bremer's number because 13,500 is "headed" by 135, my "symbolic Benjamin" (i.e., the 12th product of the primes 3 and 5 who are Jacob's "sons" born before he dies at 147). (The "tribal" system reduces to 1, 3, 5, 9, 15, 25, 27, 45, 75, 81, 125, 135 plus "sister" Dinah as prime number 2, their "idealist" common wife to Plato, alluded to in some Jewish legends but suppressed in the Bible which artfully "cleans" up some of the frank sexuality that enlivens Sumerian telling.) "Jewish computation" requires (sic REQUIRES) factors of 100 (hence Isaac's birth when father Abraham reaches 100 as his Platonic model) to "correct" deficiencies of "human fivers," and here we see "Benjamin" as 135 "increased" by "God's approval" by 100 into 13,500. YHWH freely supplies factors of 10 (as "floating place value") to anything he approves as needed, and today they show up as "Jewish tails" of "trailing zeros." All of this becomes simpler as we grow accustomed to Bible arithmetic (that linguists prefer to NOT think about at all, and a musician should not really blame them, I suppose).

Now to understand the genius in 13,500 (no doubt, I believe, the authentic original line count of the Iliad) I study it via Platonic analysis first by casting off all doubling, that is by halving to 6,750 and then to its irreducible minimum of 3375 where continuing divisions by 3 and 5 demonstrate that it comes to birth as  $27 \times 125$ , or  $3^3 \times 5^3$ . But each factor of 3 "moves" perspective one place to the right in my "Platonic" (actually Sumerian) matrices, and each factor of 5 "moves" it one row upward along my right diagonals /, so that now I know that 3375 is the fourth counter in the fourth row in the reduced matrix. [Here is where I made a stupid error in my earlier posting.] But to be fourth in a "continued geometric progression" ("the world's best bonds" to Plato) means to be the "middle" among 7, and Babylonian cosmology is developed from Sumerian brilliance with prime number 7 used NOT as a "generator" but as a "limit" to generation. (In Homer, "little" Ajax fights behind the shield of "greater" Ajax, leaders of the 4th and 7th Greek fleets at Troy.) This kind of matrix thinking makes the seven tones F C G D A E B perfect symbols of the mysterious SEVEN (in the Berossus legend) who rise "from the sea" to construct Sumer's ancient cities. (These SEVEN enjoy many names, all suppressed here; they are Marduk's pet, the seven headed mushussu dragon because they "head" seven "white key" modes generated from the same basic material.)

Now the Marduk Cosmic Matrix (i.e., his "net of the gods" that I did not yet recognize as such when I published M.O.I. in 1976) defined by 8,640,000,000 surrounds its own "throne" on this number with 7 rows of 7 factors that function in the Rg Veda as the "Seven Rivers" of the Hindu Saraswati in "flood stage," and I've long suspected that these  $7 \times 7 = 49$  counters also constitute the infamous labyrinth on Crete to which ancient Athens was obligated to send 7 youths and 7 maidens periodically. (I worked out that "maze" arithmetic a year or so ago and tried to offer it to the Washington Cathedral which programs monthly "walks" on its own large canvas labyrinth, but nobody there responds to any of my missives.) But Homer knew this subset of 49 well enough to forge (or at least use) a fantastic reduction. His 13,500 is the very center of the maze from a "Greek" or "Jewish" reductionist perspective. Why? Because TOGETHER with its RECIPROCALs it produces the same 49 as 8,640,000,000! I am attaching the "Homeric" solution here (I don't know who did his arithmetic, but it CANNOT be improved) and it brilliantly illustrates the meaning of "celestial warfare" that the Bible continues in its own ways. I will post it on my website where anyone can copy it as soon as possible. In Homer's solution the reduced "throne" value of 3375 must be multiplied by 2 to the twelfth power = 4096 (or 13,500 must be multiplied by 2 to the tenth power = 1024) into 13,824,000 to "frame" the 49 products (i.e., using only 8 digits instead of 10 digits) that we are interested in. Why so much doubling? Because the 7th value in the 7th row is  $3^6 = 729$  times  $5^6 = 15,625$  = 11,390.625, so that the reduced throne of 3375 must be DOUBLED sufficiently to exceed it, "frame" it, or "seal" it, and "limit" further generation.

If you study the matrix you will see that it is "grounded" on a sequence that defines nine tones (not 7) in the "spiral of fifths and fourths," written here as F C G D A

E B F# C#, but my last 3 counters in the lower right corner (mirrored in the upper left corner) are not members of this set of 49, but they cannot be excluded from its matrix here. (The only prime factors are 2, 3, and 5, and it cannot afford to lose any of them.) My rows of matrix counters number 9, 8, 6, 5, 3, 2 in successive rows and sum to 33. When the matrix is rotated on its "throne" eleven members prove common to both subsets so that  $2 \times 33 = 66$  values (that share 11) reduce to only 55 total counters (including our six extras). These numbers (33 and 66) are integral to Jewish ritual concerning childbirth; a woman is "unclean" 33 days after bearing a male child and 66 after bearing a female (i.e., in the inverted matrix). Deity is circled on "D" and the ONLY 3 tones that remain invariant under reciprocation are G-D-A defined by David's own name as 4.6.4 (mapping perfect fifths in both directions from the middle), which I believe Sumer did promptly by assigning them "mantles of radiance" at 7 hours (i.e., seven semitones) in each direction from any point selected as the "middle." This preference for "perspective from the middle" governs virtually all ancient thought for the simple reason that at this hexagonal crossing "excess and deficiency" in the constituent ratios is in best balance (meaning closest to perfection). This is the kind of music theory that Plato inherited from Philolaus and that governs the construction of the Parthenon where every rectangular measure was deliberately distorted, as Anne Bulckens demonstrates carefully in her recent Ph D thesis that Jay Kappraff and I are trying to publicize for her during her current illness. The conversion of linear measure into zig-zag serpentine measure mirrors the activity of a musician in turning the scale, and produces the integers that the SAME tones require in LINEAR SCALE ORDER. THIS IS WHOLLY AN INTELLECTUAL EXERCISE FOR THE MATHEMATICIAN, but a psychophysical one for the musician. Greek geometrical methods break the bond to the body (i.e., to the ear) and then let Deity mysteriously "bend" their arithmetic "round into circles" as if nobody really knew how it had been done for thousands of years. The Orient NEVER forgot. Nor did Western musical practice. We still tune a "serpentine" model octave by ear--an experience no aspiring philosopher should ever escape, no matter what the margin of personal failure, for it illustrates the union of soul and body. But our Neoplatonic theology "self-levitated" with an excessive passion for "transcendence," despite Boethius' profound common sense, not always shared.

I am astounded to be discovering this Homeric reduction of the "maze" and its connection to Jewish ritual. It's existence may spur John Bremer to "correct" the Iliad if he lives long enough. Let's hope he does. He is trying to bring Ernst Levy's 1950 Pythagorean Lectures at the University of Chicago into print (my own introduction to this subject). Bible scholarship requires this kind of "Greek validation" to lend confidence to its own variations on the same themes. Musicology has simply misrepresented itself in the ancient world, and everybody suffers as a consequence. The publication of Akkadian tuning theory by Kilmer, Crocker and Brown in Sounds from Silence in 1976 should have (but did not) effect a revolution in historical thinking. They did a brilliant job of explicating tuning theory on the 9 string lyre as a study in "serpent technology," rigorously presented in inverse ways. Kilmer's heroic labor in correlating cuneiform musical studies in this area have never been properly appreciated. During her Vermont vacation in 1996 she visited me for two days for a private seminar on this material, and

supplied me with many of her essays in cuneiform studies, for which I remain eternally grateful. My own technical competence is very narrowly focused on the computing, but that happens to constitute what today is called "epistemology," and I believe others eventually will find it useful. I work personally from the background explicated most brilliantly in Ernst Levy's Theory of Harmony, edited posthumously in 1985 by Siegmund Levarie, and so my own work is most directly indebted technically to theirs, and to Levarie's continuing help (now at 90). Bremer stuns me with a 13,500 line Iliad that I never heard of, but for decades I've been trying to track down Benjamin's extreme importance, and Homer's arithmetic may be a strong clue to a better understanding. In the completed Homeric arithmetic Benjamin is 4th counter in the 7th row as 13,500,000 controlling everything right, left, and below, as displayed in my attachment. And the author(s) of Genesis probably knew it.

Ancient cosmology is not about the heavens but about clarity of thought. Mind had to be disciplined before the heavens could be measured accurately in ways to produce a scientific system. "Wanderers" testify to mankind's earlier confusion about their behavior. The Platonic cosmos was an error in its result but a brilliant step in the right direction. And devotion to "Oneness" remains fervent in scientific thought however faith may wither in an unimaginative Church. The Creator of ANY system becomes responsible for the disorder within it, and YHWH never shirks His duty, even if it requires suffering in silence. Plato thought "the World Itself a veritable "deity," supreme in excellence. Ernest