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Homer and the *Roland*: The Shared Formular Technique, Part II

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In the last issue of *Oral Tradition*, (8/1 [1993]: 87-142), I outlined the history of statistics as it has been applied to the study of Homer and the *Song of Roland*, and continued the application by making, at some length, the following three points:

1. We can define the term "formula" in a way that is consistent with Milman Parry's definition, but more precise, more useful to statistics, and employ it for both Homer and the *Roland* without alteration or adjustment as we go from one author to the other. A formula for our purposes is a noun-verb or noun-epithet phrase that is either a) exactly repeated (same words, same grammatical case, same place in the line of verse), or b) repeated with slight variations (different position in the verse, extended by an added word, inflected, having its parts separated or inverted), or c) partly repeated by including a generic epithet or verb (a word used in identical metrical circumstances with at least two nouns of the same metrical shape), or d) partly repeated by including a patronymic. We then distinguish "regular formulae" from "infrequent formulae": regular formulae are exactly repeated six times or more in a given poem; infrequent formulae are either exact repetitions occurring less often, or formulae that are repeated inexactly in certain precisely defined ways. Armed with these definitions, we isolate 190 nouns in Homer (113 in the *Iliad*, 77 in the *Odyssey*), and 22 nouns in the *Roland* that display at least one regular formula; we also construct a Homeric set of 70 nouns, closer in size to the *Roland* set, and base our comparisons on all three sets. We then calculate the percentage of formulaic occurrences (out of total occurrences) for all the nouns thus isolated, and discover that the nouns in Homer have about the same formularity as those in the *Roland*; most of the Homeric nouns cluster around 74.8% formularity, those in the *Roland* around 70.5%. This fact enables us to construct linear equations for each of our three sets (Homer's 190 and 70 nouns, the *Roland's* 22) relating **formulaic occurrences** and **total occurrences** (the bold print is used when the phrases

refer specifically to mathematical variables). These equations indicate a very high correlation in each set between the two variables; also the parameters (slope and y-intercept) of the Homeric equations are very nearly the same as those of the *Roland* equation. We can feed data for **total occurrences** for the *Roland* into the Homeric equation, and come up with close predictions of the **formulaic occurrences** that each of the nouns in the *Roland* will display.

2. We can also construct equations that enable us, following a similar procedure, to predict, also from **total occurrences**, the number of **different formulae** that each noun in the *Roland* (or, if we choose to go the other way round, in Homer) will display. These equations, though still linear, are more complex and entail the introduction of new variables, but the predictions are extremely close. We note that variations in the number of **different formulae** from one noun to another are mostly due to variations in the number of **infrequent formulae**; most nouns tend to display between one and three different **regular formulae**, and no more. From this observation we can argue that a considerable number of infrequent formulae were coined in the course of a given performance.

3. We can then plot a **formulae-occurrences** curve for Homer: the x-axis reads, "formulae that occur once only, that occur twice, that occur three times, etc.," and the y-axis gives the appropriate number of formulae for each place on the x-axis: 673 formulae in Homer occur just once, 490 occur twice, 194 occur three times, and so on. The resulting curve is not linear, but hyperbolic: there is a very sharp left-hand tail, a bend that runs from x = 6 to x = 11, and a very gradually descending right-hand tail. This hyperbola confirms the decision to use "exactly repeated 6 times" as our quantitative criterion for a regular formula, and enables us to set out qualitative criteria as well: regular formulae mostly fall in a major colon (1-5, 1-5.5, 5-12, 5.5-12, 7-12, 8-12, 2-8, 3-8), are noun-epithetic, and meet frequent needs; infrequent formulae mostly meet needs that we can demonstrate to be rare; infrequent formulae that meet needs that arise frequently are classified as "accidental infrequent formulae." If we subtract from our totals the non-accidental infrequent formulae, the formulae that meet needs that are demonstrably rare, we no longer have a hyperbola but a gently descending, uneven linear curve; the hyperbolic nature of the hyperbola is due to the non-accidental infrequent formulae, those that address demonstrably rare needs.

In an appendix to this first portion of the article I described in detail how infrequent formulae in Homer come into being.

VI. The Formulae-Occurrences Curve in the *Roland*

In turning to the *Roland*, we are looking for a hyperbola to confirm the distinction between regular formulae and infrequent formulae, and this is what we get on Graph F-O5. (The numbers on the x-axis give the scale; they do not correspond to any points on the graph.) To make the graph clearer, I have omitted x = 0, y = 299, that is, non-formulaic occurrences, which obviously would occur where we expect it to if we had included it. The equation for this curve is **y = 122/x – 10.1, r = .97, s = 7.0**.

Graph F-O5 : Formulae-occurrences curve, *Roland*

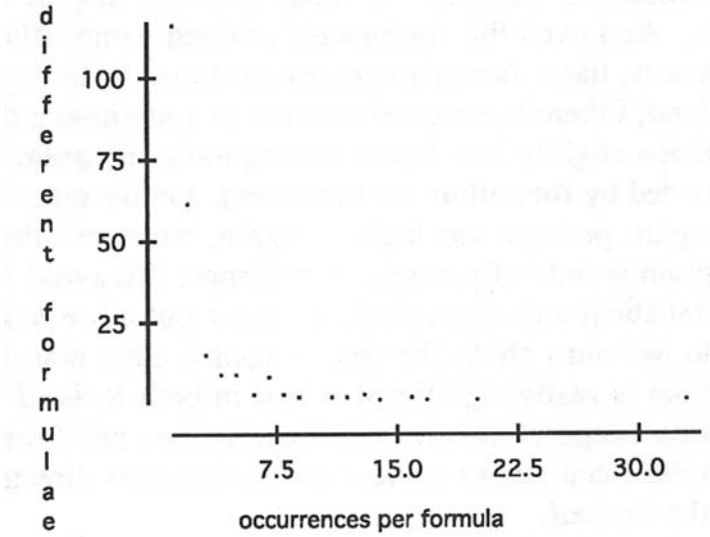

Table F-O5: Formulae-occurrences, *Roland*

x:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	20	33
y:	116	62	15	9	9	3	8	3	2	0	2	2	3	1	0	2	1	1	1

The range for the minimum number to determine a regular formula is evidently from x = 4 to x = 8. Before encountering this curve, I had thought that a lower minimum of 4 occurrences for regular formulae would be appropriate for the *Roland*, which is only a third the length of the *Odyssey* and a fourth the length of the *Iliad*. And a minimum of 4 can be defended, as we can see from the figures on Table F-O5. There is a

flattening after x = 4 that corresponds precisely to the flattening after x = 6 on the Homeric 190-noun hyperbola; and the rather sharp drop (from 9 to 3) between x = 5 and x = 6 is very like the steep drop between 7 and 8 on the Homeric hyperbola. Moreover, several *Roland* formulae that occur 5 times look like formulae that would have occurred more often in a longer poem: "ço sent Rollant," "Guenes li quens," "ço dist Marsilie," "arcevesque Turpin," and just possibly "paien s'en fuient." Of course looks can deceive: there is a fair number of formulae in Homer that look as if they ought to occur frequently and do not (see Sale 1989:392). Against the choice of 4 as a minimum number is the fact that the curve reaches a bottom at x = 6; the fact that in a relatively short poem such as the *Roland* the minimum of 6 is even plausible is most arresting. It is also striking that if we do choose 6 for a minimum, all the character names in the nominative that occur often enough for statistical comparisons (13 times or more) display at least one regular formula. And even the commonest omitted name, Blancandrin(s) with 12 occurrences, has a formula occurring 6 times.[1] In organizing the data for the *Roland*, I therefore elected to use 6 as a minimum; this decision produced a perhaps slightly low figure for regularity (**regular formulaic occurrences** divided by **formulaic occurrences**). On the other hand, using 5 produced a figure perhaps too high.[2] Again, we stress that the *exact* choice of minimum is only of practical importance. To avoid burdensome complexities, statistical and conceptual, we must put a break somewhere; and when we do, we must check the results against other plausible choices in any case. What is really significant is that in both *Roland* and Homer there is a definite range of numbers of occurrences per formula during which the formulae-occurrences curve radically changes direction: 6-11 in Homer, 4-8 in the *Roland*.

Again we have two tails. Again there are many more infrequent formulae than regular formula, 202 as opposed to 29. Again the infrequent formulae are answering to poetic needs that individually arise rarely, but that belong to one of many types, each of which has many members.

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[1] Blancandrins would have 14 occurrences if we could count the doubling formula "Guenes e Blancandrins," but these were ruled out for Homer whenever the doubling alone made the occurrence into a formula, on the grounds that it was hard to know which set to put them in.

[2] With a minimum of 6, the mean regularity for the *Roland* is 52%, for Homer's 190 nouns 54%, for Homer's 70 nouns 55%. The figure for the *Roland* is certainly not uncomfortably low. When the minimum is 5, the Roland's regularity is 58%, which is obviously not an improvement.

"Quan(t) Rollant veit" occurs just twice, but it belongs to the type "Quan(t)...v(e)it" and "Quant v(e)it..." that occurs 21 times, and there are many similar types. The number of different infrequent formulae, and the fact that there are only 5 places on the x-axis where infrequent formulae can fall, again means that there must be at least a large bulge on the left-hand side of Graph F-O5. Again we are looking for a force that produces the steady sharp decline on the left, and again that force must be entropy. The reasons why it is likelier for a formula to occur once than twice, twice than three times, and so on, are still valid. And again we are looking for a constraint upon randomness that lets the regular formulae occur freely, that produces the change in shape between the tails.

In Homer, the change takes place because the pressure to occur in major cola is beginning to dominate: almost all the formulae that occur above the minimum for regular formulae belong to Parryan systems. In the *Roland*, of course, we cannot appeal to Parryan systems as such. Instead we find a similar principle at work: the tendency of formulae, and especially regular formulae, to fall precisely in the first hemistich.[3] Almost all the regular formulae, the formulae on the right-hand tail, fall here; the three that do not are interesting, since they turn out to have been designed specifically to be alternatives to first-hemistich formulae. One is "li emperere Carles," a variation on the first-hemistich minimal formula "Li empereres"; another is "C(K)arlemagne(s)" in 5-8 for "C(h)(K)arles li magnes" in 1-4; and the third is "li quens Rollant" running from 5-8 instead of from 1-4. For these two characters who are mentioned the most often, we find that regular formulae are supplementing regular formulae.

As with the major cola in Homer, the constraint imposed by the first hemistich is not so much causative as enabling: many a first hemistich needs to be filled with something other than a regular formula, if for no other reason than that something unusual needs to be said. The frequency of occurrence of a regular formula is actually *due* to four other factors (not five as in Homer; see Part I:123): the number of times the noun itself occurs, the localization of the noun, the syntax and meaning of the regular formulae, and the existence of other regular formulae for the noun. (The regular formulae of the *Roland* are not extended.) The phrase "Li quens Rollant" occurs 33 times, more often than any other noun-formula. It owes this frequency to the fact that the noun occurs so often, 119 times; only Charles occurs more often. It owes it to the noun's localization, much

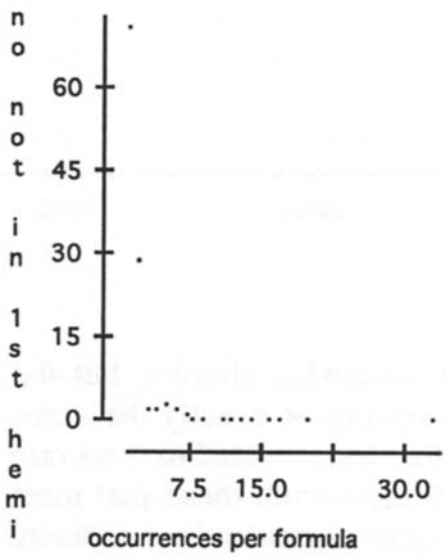
[3] On the importance of the first hemistich, see Duggan's chapter on "*Roland*'s Formulaic Repertory" (1973: espec. 110-12, 117-22).

higher than that of Charles; "Rollant" strays much less often into positions where the regular formula is unusable. It owes it to phrase's being noun-epithetic and to the epithet's being context-free; though the *Roland* has a much higher percentage of noun-verb regular formulae than Homer, they are still restricted by the fact that they refer to both a person and an action, not just a person. Our formula seems challenged by the existence of 3 other regular formulae for the noun; but two of these are noun-verbal, not really competitive, and the other is "li quens Rollant" itself in the second hemistich, probably therefore not reducing the number of its possible occurrences in the first. The verse form is perennially prepared to receive regular formulae, and that preparation makes it almost as likely for a regular formula to occur 33 times as 6 times.

In beginning to look at the job performed by infrequent formulae in the *Roland*, we plot the number of formulae that fill, or fail to fill, the space from position 1 to position 4 at the various x-values for the *Roland* formulae- occurrences hyperbola (Graph F-O5), and we obtain Graphs F-O6 and F-O7. (Again, the unequal size of the graphs is due to my wish to preserve the scale, and bring out the shallower decline on Graph F-O7.) The corresponding numbers are given in Tables F-O6 and F-O7. The number of those not in the first hemistich plunges until it hits $y = 2$, $x = 3$, and then peters out entirely at $x = 8$. The number of those that do fall in the first hemistich declines steadily from $x = 1$ to $x = 6$, then spikes suddenly at $x = 7$ and drops at $x = 8$. In general, the behavior reflected on these two graphs is nearly identical to what we saw on the corresponding graphs for Homer.

The left-hand tail of Graph F-O6 is shaped by entropy, by the fact that these formulae do not fall within the protective constraint of the first hemistich. The left-hand tail of Graph FO-7 therefore cannot be shaped by entropy. It owes its existence mostly to a factor that contributes heavily to the left-hand tail of Graph F-O3 (Homer's major-colon infrequent formulae): a large number of noun-verb formulae that occur just once (there are 36) or twice (21). It is true that in the *Roland* quite a few actions are repeated often enough to create noun-verb regular formulae; 17 of its 29 regular formulae, 59%, are noun-verbal. But it still has a great many more noun-verbal infrequent formulae than this (there are 138), and it has them for the same reason that Homer has them: so many actions necessarily occur only once or twice.

Graph F-O6: Formulae not in 1st hemistich



Graph F-O7: First-hemistich formulae

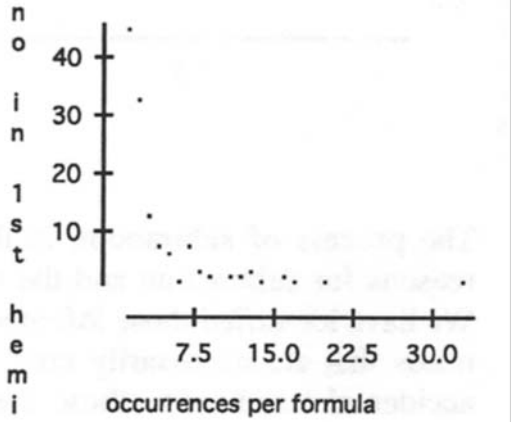


Table F-O6: Non-1st-hemistich formulae

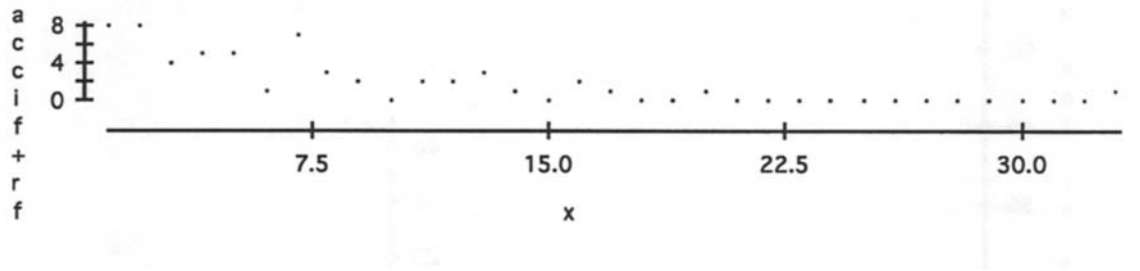
x:	1	2	3	4	5	6	7	8...
y:	71	29	2	3	3	2	1	0

Table F-O7: First-hemistich-formulae

1	2	3	4	5	6	7	8	9	11	12	13	14...
45	33	13	7	6	1	7	3	2	2	2	3	1

If we subtract the first-hemistich noun-verbal formulae from the rest, we are left with a very shallow and irregular left-hand tail for first-hemistich noun-epithetic formulae. Of the 28 infrequent formulae in this company, 8 seem specific to the context: “ceste bataille,” for instance, is said during a particular fight; “trestut le cors” is comparable to formulae with Greek πάντες; “nostre rei,” but not yours; and so on. If we subtract these 8, and add some 10 noun-verb formulae that might conceivably have been regular formulae in a different poem, the left-hand tail has gone, and we now have on Graph F-O8 an irregular and gently descending linear curve very similar to the curve on Graph F-O4, the Homeric curve with major-colon regular formulae and accidental infrequent formulae.

Graph F-O8: Accidental infrequent formulae and first-hemistich regular formulae, *Roland*



The process of subtraction in the *Roland* is somewhat simpler, but the reasons for subtraction and the result have proved to be exactly the same. We have identified those infrequent formulae that were created to meet rare needs that are necessarily rare, and separated them from those that meet accidental rare needs—those that might be regular formulae in a different poem. Three sorts of need are necessarily rare: for formulae that exist outside the first hemistich (that fall in a minor colon in Homer), for formulae referring to actions that occur rarely in the course of a poem, or for formulae specific to a given context. Exactly as in Homer—only in Homer we added noun-epithetic infrequent formulae that occupy rare major cola, that are used for special effect, or that simply were puzzling. The conclusion seems inescapable that the formulary technique of Homer and the *Roland* have a great deal in common.

We argued in Part I of this article that there was a close connection between the principle of right-justification observed by Indo-European poetry generally and the tendency for regular formulae in Homer to fall in the last half of the line. In the *Roland*, in contrast, the regular formulae fall in the first hemistich, and we have left-justification. This is exceptional, but there is a good reason for it. Infrequent formulae are linked to the second hemistich by the assonance, which causes formulae to be altered frequently. Duggan notes several such alterations: among others, from "hostur mué" to "hostur muables" (by the principles I am employing, a change in inflection producing a different infrequent formula), from "qu'en ferat carier" to "que carier en ferez" (inflection and inversion), from "la lei de crestiens" to "la crestiene lei, la nostre lei plus salve" (inversion, extension, and inflection with a change in part of speech). It is only because Charles and Roland are mentioned so often that they are able to display a regular formula in the second hemistich. The need for assonance is comparable to the needs that lead to infrequent formulae: a certain sort of need arises commonly, but for a particular noun the need arises rarely.

(Arming in Homer is common, but Ajax arms himself only once.) The need for assonance is perpetual in the second hemistich, but the need for a particular assonance arises rarely for a particular noun—partly because so often the noun has already occurred in the first hemistich.

It is evident that the basic *Roland* hyperbola, Graph F-O5, must be tested, as we tested the formulae-occurrences curve in Homer, by comparing it with the corresponding graph for number of different *nouns* that occur at each level of occurrence. This graph, as it turns out, is with one exception a straight line parallel to the x-axis: only two of the nouns display the same number of nouns per formula. The only way we could conceivably use it to help explain the formulae-occurrences curve for the *Roland* (Graph F-O5) would be to find a large cluster of nouns at the left-hand side and a sparse distribution on the right. Let us consult Table N-O2. There is a slight clustering on the left: 5 nouns under 20, only 3 in the 20's. But this is misleading: there are 3 nouns in the 30's and 4 in the 40's, and only then is there a real thinning out. Counting 15 twice, the median number of occurrences is 38, not the 23 or 24 that might indicate significant clustering on the left. The slight bunching that we do see at the low end is entirely consistent with the gentle downward slope of the right-hand tail of the *Roland* hyperbola on Graph F-O5, but could not possibly account for the slope of the left-hand tail. Indeed, the reader can consult Appendix 2 to see how many once-only and twice-only formulae are contributed by the two nouns on the far right, "Carles" and "Rollant."

Table N-O2: Nouns/occurrences per noun, *Roland*

occur-rences	15	16	17	19	22	24	25	30	33	36	40	41	43	46	54	56	64	67	76	118	133
nouns	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

To sum up the comparison between Homer and the *Roland*, then: the distribution of formulae with respect to the level of occurrence at which they fall is virtually identical in both. This is a remarkable fact, but has not proved to be inexplicable. We naturally conclude that, like the Homeric poems, the *Roland* recognizes a qualitative distinction between regular formulae and infrequent formulae. In both bodies of poetry—in both traditions—infrequent formulae are formed to meet rare needs of very common sorts; regular formulae, in contrast, meet just a few kinds of need, but the need for each individual formula arises frequently. In both traditions, infrequent formulae fall in a variety of metrical positions, many of them unusual; regular formulae are designed to fit in one or a few positions, but these are the common positions. It is striking that the range

for the minimum number of occurrences for a regular formula in Homer and the *Roland* is very nearly the same: 6–11, 4–8; it is interesting that our statistically necessitated choice should reasonably have fallen on 6 both times.

VII. Conclusion

It is evident from all of these close statistical similarities between the *Roland* and Homer that there must be a deep similarity in the compositional techniques of all three poems. To these we can add two others. First, the *Cantar de Mio Cid*, composed between A.D. 1099 and 1207 in Spain. Research that I have carried out in detail, but not yet published, reveals that this poem displays exactly the same mathematically demonstrable properties as the other two: the predictability of formulaic occurrences and different formulae from total occurrences, and the formulae-occurrences hyperbola; a minimum of 6 exact repeats for a regular formula works very well. The mean formularity is 76.7%, slightly higher than Homer's. The Homeric equations give good predictions: Equation 1A has a mean error of 3.8, not quite as close as for the *Roland*; Equation 4A is also slightly higher, with a mean error of 1.4.

Second, *The Wedding of Meho, Son of Smail*, a poem the length of the *Odyssey* dictated by Avdo Međedović to Parry's assistant Nikola Vujnović in 1935. Using a minimum of 6, I have so far located 69 words possessing regular formulae—compared to 22 for the *Roland*, 25 for the *Cid*, 113 for the *Iliad*, 77 for the *Odyssey*. The **formularities** of the nouns are less uniform than they are in the other poets, though the mean formularity is the same; the **formulaic occurrences/total occurrences** equation has a somewhat lower correlation coefficient, .93. As a result, the Homeric formularity equation, Equation 1A, predicts Avdo's formulaic occurrences less well than it predicts the other two.[4] The correlation between **different formulae** and **total occurrences** (modified by **localization** and **occurrences per formula**), on the other hand, is just as high as in the others. The Homeric equation, Equation 4A, predicts Avdo almost as accurately as it does the others: the mean error is 1.6, as opposed

[4] This is probably due to the extremely rigid structure of the Serbo-Croatian line: precisely 10 syllables, the caesura precisely after 4. Variety is needed, and achieved by avoiding regular formulae and even infrequent formulae where possible. Thus, though the mean formularity is high, the formularity for the two most frequently mentioned characters is rather low.

to 1.2 for the *Roland*, and 1.4 for the *Cid*. The hyperbola reveals that a minimum of 6 exact repetitions for a regular formula works well.

In drawing, or at least suggesting, conclusions about Homer and the *Roland*, it is useful to keep Avdo and the *Cid* in mind: for one thing, doing so dramatically reduces the possibility that similarities are accidental; for another, it makes even more forceful our awareness of *differences* in technique between the Greek and the Frenchman when we see the Spaniard and the Yugoslav differing from both of the others. This is not the place to discuss those differences: they include the Greek multiple caesurae versus the French, Serbo-Croatian, and Spanish single caesura; the fact that the Spanish line can vary the number of syllables from 10 to 20, the Greek from 12 to 17, the French from 10 to 12, while the Serbo-Croatian must maintain 10; the fact that the Greek alone must worry about syllable length, but need not think about assonance, unlike the Frenchman and the Spaniard. The mathematical similarities obtain despite these dissimilarities, suggesting overarching or more fundamental principles.

If now we ask how these similarities came about, we can begin, I think, by dismissing the theory that Homer influenced the other three poets. The *Roland* refers to Homer, to be sure; but even if Turoldus knew how to read French, he could not read Greek; and whatever medieval Greek oral tradition there was, it was not engaged in preserving Homer; and even if it had been, Turoldus could not have listened with understanding to one of its singers; and even if he could have, it is hard to see how he could have extracted from it the technique we have been laying bare. Similarly for the Spaniard. It is barely possible that he could have learned his technique from a French singer—not from French poetic texts alone, where the mathematical relationships are too obscure to be observed without statistical methods, but conceivably from direct training, where by following the Frenchman's practice he might produce a similar result. I would not want to entertain a theory that depended upon the assumption that such training actually took place; in any case it would not account for the similarity with Homer. Avdo could not read or write; if Homer influenced him, the influence was very indirect.

Nor does it seem possible that each poet invented the style by himself. Of course the same circumstances (such as the demands of oral composition) can have called forth (I think did call forth) the same technique, but the technique is too elaborate for four men working independently to have evolved it by themselves. It is far more likely to have been evolved by four *traditions* responding (probably) independently to identical circumstances. Those circumstances, moreover, cannot have

been merely the need to compose epic verse about heroic warriors (or, as in the *Odyssey*, wanderers and questers). Virgil, Apollonius, and Quintus Smyrnaeus composed epic verse with just such themes, and their practice simply does not conform to the techniques we have been examining. Apollonius has roughly 5800 lines: I have found only 3 regular formulae (out of 54 nouns studied); the mean formularity of these nouns is only 42%, and would have been lower if I had included frequently occurring nouns entirely lacking formulae, as I did not; Homer's Equations 1A and 4A, when applied to these 54 nouns, not surprisingly give poor predictions. Virgil has roughly 9900 lines: I have found just 12 nouns with regular formulae, with a total of 13 regular formulae (out of 40 nouns studied); the mean formularity for these 12 is only 38% (for the total of 40 it drops to 35%, and again would have been lower had I included frequently occurring nouns with few or no formulae); Homer's equations give poor predictions, even when restricted to the nouns with regular formulae. Aeneas himself has two regular formulae, *pius Aeneas* and *pater Aeneas*, a situation that looks promising; but both run from 2-5, and thus overlap metrically, unthinkable for a Homeric character.[5] Turnus, on the other hand, has no regular formulae, and indeed it was with difficulty that I persuaded myself that he had any formulae in the nominative. Quintus of Smyrna, who is a remarkable imitator of the Homeric style, is much more subtle at revealing his disparity. He has roughly 8000 lines: I have found 22 nouns with regular formulae (out of 99 studied); the mean formularity for these 22 is a healthy 67%, and the Homeric equations provide good predictions (for these 22). Where Quintus gives himself away is his overall lack of regular formulae and regular formulaic occurrences. The 99 nouns I chose for preliminary study occur frequently (the average **total occurrences** is 32), and occur in contexts where formulae would be expected. If Quintus really had employed the Homeric style, at least three-fourths—not fewer than

[5] The supposed regular-formula overlap, Θεὰ λευκώλενος Ἥρη (Βοῶπις πότνια), would be comparable if it were a violation of economy, but it is not: Θεά is a generic that *extends* the regular formula λευκώλενος. The supposed overlap ἑκάεργος Ἀπόλλων (Διὸς υἱὸς) is not comparable, since the latter may well be an accidental regular formula (it occurs just 7 times) and is in any case the third of four regular formulae (Φοῖβος Ἀπόλλων is the most frequent). And of course elision is possible before ἑκάεργος (*Iliad* 22.15), though we do not happen to find it in this formula; scholars therefore usually cite both formulae in their extended form with ἄναξ as the true violators of economy. But when formulae are extended with such generics as Θεά and ἄναξ, there is no loss of economy, since these generics are part of the generic store in any case. See also Sale 1989:391.

one-fourth—of these 99 nouns would have displayed regular formulae; there would have been at least 160 regular formulae, not 34.

The formulaic characteristic that most blatantly and importantly differentiates Homer, the *Roland*, the *Cid*, and Avdo from Virgil, Apollonius, and Quintus (and countless later poets) is the *consistency* with which the poets in the first group are formulaic: most of their nouns maintain a uniformly high formularity; most nouns have regular formulae; and most nouns fit the Homeric equations. When we then ask why Homer, Turoldus, Avdo, and the Spaniard were so consistent, while the others were so sporadic, it is hard to avoid the answer that the former faced the problem of composing oral verse in performance, the latter did not.

Naturally, we cannot be content with a conclusion based on our inability to find any other solution. We turn, therefore, to the nature of the technique that Homer, Turoldus, Avdo, and the Spaniard shared. One aspect of it has been thoroughly explored for Homer by Parry, the existence of regular formulae (not Parry's term) that belong to *systems* defined by the metrical and syntactical properties possessed by those formulae. Homer has, for instance, a system of regular noun-epithet nominative formulae that fall in position 9-12; then there are narrower systems defined by the nouns of various shapes that help to make up these formulae—a sub-system for bacchiacs with regular formulae in 9-12, one for monosyllables, one for spondees. Parry believed, I think correctly, that such systems were traditional, that no one poet could have devised anything so elaborate in a single lifetime. He also thought that all, or almost all, of the formulae themselves were traditional and existed before Homer lived.[6] For our

[6] Parry also thought that the poems themselves were to a large degree traditional; the most he wanted to allot to Homer seems to be said in the following passage: "If the tale is old, and, as is usually the case, regarded as more or less true, the singer may tell it just about as he heard it... the good singer will keep what is striking, and even add, on the pattern of other poems, *lines* which he knows will please, and *new incidents*, or give a *fuller tale* with many such borrowings. He may even have heard the same tale told by a singer living at a distance who inherited it from a different tradition; then he will *fuse the poems*, using the best in each" (1971:334-35, emphasis supplied). To which we should add, as implying greater freedom: "the event may be new, but it will be told in the traditional way on the pattern of passages from other poems, and in more or less the same phrases as were used in those passages, so that the only difference between the poem made about the present and that which tells of the past is that the former will be made from the memory of a larger number of different poems" (1971:334). Parry's "only difference" cannot be quite right: a different event is a different event, and may entail different material objects, feelings, beliefs, and so on, all of which may require new formulae. That is one of the reasons why I find Albert Lord's model for composition (espec. 1960) more

purposes here we need not go so far; we need only assert that the systems and many of the formulae existed before the *poem* was *composed*. Let us nominate these formulae, and the systems to which they belonged, the "regular store" of phrases that the poet had on hand before he began to compose his poem, or his version of it. We then ask why this regular store existed: what possible purpose was served by having on hand sets of formulae that are designed to fall into certain fixed places in the line of hexameter verse? No one has had any success at refuting the answer that they allow poets to compose rapidly: the portion of the line they fill will come out right metrically, and the portion they do not fill can be filled by matching formulae, or by material that can readily be constructed to imitate such matching formulae. The poet is free to concentrate on what he wants to say, and not worry unduly about how to say it. But why should poets want to compose rapidly? Can there be any reason other than the need to compose in performance? Legitimate dispute has arisen over whether Homer himself composed orally with this equipment, but there has been no persuasive attempt to dispute the original intent of the equipment itself. Systems of regular formulae for Turoldus, the Spaniard, and Avdo have not, to my knowledge, been isolated as such; but all three of them display regular formulae, and it is reasonable to suppose that all three had a regular store.

The aspect of the shared technique most relevant to the current study, however, is not the regular-formula systems. It is the mathematical relationships, together with the distinction they imply between regular formulae and infrequent formulae, and it is the formation of infrequent formulae. Let us begin by analyzing the latter, without assuming oral composition.

Infrequent formulae are produced partly out of a supply of words of a certain kind, and partly as the result of a certain kind of training. The *words* include, first of all, generic verbs and epithets, in the form either of individual words, or of words embedded in model formulae. It is reasonable to suppose that most of these existed as poetic tools before the final version, at least, of the poem was composed. We make this supposition partly because such words are ubiquitous; they pervade every corner of the texts in which they are found. But the main reason is their generality: their meanings do not belong to specific people or gods, but to the characters of epic poetry generally. And their metrical forms correspond: they are of just the right shapes to combine with nouns so as to produce formulae that fill the various cola, minor and major. They have

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satisfactory.

been carefully chosen, not for a poem, but for a *style*. Let us call these the "generic store."

The supply of words also probably included flexible formulae not drawn from the generic store that could be counted on to produce what we call Hainsworth-alterations when such were needed: formulae that were mobile, or separable, or could be inflected or inverted or extended. We do not need to assume that such formulae existed prior to the poem's composition, but many probably did; let us term those that did the "precompositional distinctive store," since Parry used the term "distinctive" in contrast to "generic."

The poets' *training* will have included the ability to create such alterations easily. If they had the formulae in stock, they could change them as needed; if they did not, they knew how to coin an alterable phrase, and alter a phrase that they had just coined. They were of course trained to use the generic words when needed. They were also trained to repeat themselves precisely, and without alteration, since a phrase once used during the process of composition to solve a certain metrical, semantic, or aesthetic problem was something to be cherished and repeated as often as it might be useful, not something that cried out for variation or even avoidance. As a poet composed, he fashioned a store of such phrases that remained with him until he reached the very end of the poem. There are so many of these phrases, and so many that are specific to the situations in the *Iliad* and *Odyssey* and *Roland* and *Cid* and *Wedding of Meho*, that we can be quite sure that there must have been a supply created during composition. The non-generic formulae coined during the compositional process, both the exact repeats and the inexact (the Hainsworth-alterations), let us term the "compositional distinctive store." In the case of Homer we should add a patronymic store.[7]

The above discussion implies that there were three distinct phases in

[7] It is at least theoretically possible that the *Iliad* and *Odyssey*, perhaps even the *Roland* and the *Cid*, were traditional poems, orally preserved and handed down to Homer and the others, and passed along virtually unchanged by them; such a model of composition would be even more traditionalist than Parry's. Even so, it is probable that the poets were trained by acquiring stores of words and phrases, and techniques for creating and handling such stores; they will have added a trace of their own poetic selves. In that case, we picture the composition as taking place over generations and centuries, and instead of a poet who composed we must speak of poets. But the principle of composition remains the same. Every time an infrequent formula was created (not just preserved), it arose from a generic store, or from a precompositional distinctive store, or else it repeated (exactly or inexactly) a phrase in the inherited poem that thereby became a member of the compositional distinctive store.

the overall poetic process of composing with infrequent formulae: a training phase, a precompositional phase, and the phase of composition itself. In the training phase the poet will have learned how to use generic epithets and verbs, how to make Hainsworth-alterations with flexible formulae, and how to create a distinctive store. Before he composed, the poet had on hand (besides his regular store) a generic store and a precompositional distinctive store, either compiled from traditional materials, created *de novo*, or (most probably) both. In the course of composing he used (besides his regular formulae) his generics and his precompositional distinctive store; he created a compositional distinctive store; and he altered his regular formulae, his flexible distinctive formulae, and occasionally his generic formulae, so as to create and employ infrequent formulae in such a fashion that the appropriate mathematical ratios were (consciously or unconsciously) met.

Why did this equipment, these stores and this training, exist? The answer, obviously, is so that at any point in the process of composition, at any point in the poem, no matter what the poet was talking about and what he was saying about it, he could compose with a formula if he wanted to. And about 75% of the time that he was employing most of the nouns, he wanted to. And why does a poet want to compose with formulae so frequently? The old answer still seems the right answer: because the formulae fit the meter and the meter fits the formulae. And why is a poet so anxious to have on hand material that fits the meter? Again the old answer: because otherwise the task of composing rapidly in performance—while composing clearly, elegantly, beautifully—is simply too difficult.

Even if a poet is largely re-creating what he has heard, he must be thoroughly steeped in the technique that created what he is re-creating if he is to re-create well. The technique does not exist for mere memorizing. The *raison d'être* for a context-free epithet is to allow you to use it in any context, not to help you memorize it. The *raison d'êtr*e for a generic adjective is not to help you remember what comes after it, which it obviously will not do; it is to allow you to put a word of your own choosing after it. The purpose of a mobile formula is to enable you to move it when you want to—that is, when you are composing. The purpose of a separable formula is to let you separate it when you need to, and the same is true for formulae that can be inverted, inflected, and extended. The purpose of a distinctive formula is to allow you to solve in the same way a problem that you have already solved during composition. These devices are not aids to the memory. Naturally, if you admire a song you will want to reproduce it accurately, but the method of reproduction is, literally,

re-production, recomposition. I am convinced that all four poets did much more than reproduce; but the point here is not what these poets did, rather what their technique was designed to do. It was a technique developed for the *creation* of infrequent formulae during an oral performance.

We turn now to the mathematical relationships. Their message is twofold: the consistency of formularity, and the precision with which infrequent formulae were created. They tell us first that for all five poems the technique is employed *pervasively*; it reaches into every corner of the poem. The density of formulae in various passages may be different, but there is never a point at which the poet has set his technique aside. Not every noun has the same formularity, to be sure, but almost all are formulaic more than half the time, and three-quarters are formulaic more than two-thirds of the time. Most that occur frequently enough will have at least one regular formula; almost all that have a regular formula will also obey the rule that the more often they occur the more different formulae they will display. It is here, as we have said, that the contrast with Virgil, Apollonius, and Quintus is so telling; Virgil can treat the Homeric Aeneas in a fairly accurate Homeric style, and the Italian Turnus differently, because composition by writing gives one the leisure to compose with different techniques. Homer, in contrast, and Turoldus and the Spaniard and Avdo handle their nouns by the same formulary technique throughout. We do not detect a competing style.

But why such consistency? Why do nouns keep their formularity high? The obvious inference is that the demands of oral composition in performance are unrelenting: formulae of various kinds are needed incessantly. A tool has been devised to enable the poet to provide them, and he does not have the leisure to employ radically different tools.

The lesson to be learned from Equation 4 is more specific: it tells us that the production of infrequent formulae was very precise. The more often the poet used a noun, the more infrequent formulae he created or employed, and we can be very accurate about how many more. In other words, the poet was very restricted in his freedom to use an infrequent formulae or not. This would be absurd if he were essentially a literate poet with leisure to decide. There is no aesthetic reason why each noun a poet uses should average two occurrences per infrequent formula, and indeed it would be astonishing if the oral poet knew he was proceeding in this fashion. He is responding to circumstances that in a sense are beyond his control. If you compose in performance the infrequent needs that you must meet with a formula come at you steadily, and you respond according to the rules.

Note carefully that we have left plenty of room for originality, or at least individual variability. The argument, after all, asserts only that a regular store, a generic store, probably a precompositional distinctive store, and a certain training were in place at the time the poems were composed. We may believe that some formulae and generic words were traditional, but the argument requires only that the technique was traditional. It allows the poet to invent his own systems of regular formulae and his own generic adjectives and verbs, provided that he do so ahead of time. Since every poet I know of has taken material from his predecessors, and since it is hard to see why any poet would want to be so blindly original, I feel sure that many of our poets' formulae and generics were traditional.[8] But the argument does not require it. Again, the technique as so far described says nothing about the non-formulaic occurrences that make up the other 25% of the total occurrences of Homer's (and 28.5% of the *Roland*'s) nouns. They may be formular in some sense, but then I suppose all poetry, if not all language, is formular in some sense. Again, a poet may well be more or less formular than his predecessors; we have seen that Homer and the *Roland* poet do not display exactly the same mean formularity. Again, it is conceivable that one poet might differ from another in the minimum number for his regular formulae: this might be a matter of individual style, and it is certainly possible that our choice of 6 for the *Roland* and Homer is obscuring a true divergence. (I have maintained the choice of 6 for Avdo and the *Cantar de Mio Cid*, but their hyperbolae are consistent with 5.) Yet again: one poet may differ from another in the *parameters* of his Equations 2-4, though our poets do not. And finally, it is possible that the technique, evolved for the sake of oral composition in performance, was employed by Homer, Turoldus, and the Spaniard in the course of written composition. I do not entirely understand why literate poets should have continued to practice so slavishly a method of composition appropriate to oral performance, but perhaps the technique was so thoroughly ingrained that one simply used it no matter what. It is far easier to see why a dictating poet, whether he was dictating to a scribe, to a rhapsode, or to a group of

[8] The French tradition actually gives us access to traditional formulae. In the course of demonstrating the difference between the composer of the Oxford *Roland* and other poets of the Old French epic, Duggan points out how "on the level of detail, of individual hemistichs, the *Roland* poet's style is not his own but the tradition's" (1973:168).

rhapsodes, should have kept to the old ways.[9]

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Appendix 2: Data for Formulae in the *Roland*

The following pages include a table of regular formulae (6 or more exact repetitions), then the formulary breakdown of nominative occurrences of the 11 characters who appear often enough in the nominative to lend themselves to statistical study (13 times or more was my criterion), as well as 11 common nouns occurring 13 times or more and possessing a regular

formula. The choice of the 11 characters was made solely on the basis of their total occurrences, before I had any guidance as to where to put the minimum for a regular formula; the choice of the 11 common nouns was made afterwards.[10] These occurrences are grouped into sets, then divided into subsets marked "formulae (regular and infrequent)" and "non-formulaic occurrences." The number of times each formula occurs is marked.

The principles according to which a phrase is declared to be formulaic are found on page 101 of Part I of this article and in Sale 1989. A formula for our purposes is a noun-verb or noun-epithet phrase that is either a) exactly repeated (same words, same grammatical case, same place in the line of verse), or b) repeated with slight variations (different position in the verse, extended by an added word, inflected, having its parts separated or inverted), or c) partly repeated by including a generic epithet or verb (a word used in identical metrical circumstances with at least two nouns of the same metrical shape), or d) partly repeated by including a patronymic. As the work progressed, I came to feel that certain (not very great) modifications of these principles might be appropriate for Old French poetry; but except in a very few phrases among the common nouns, where the modification did not significantly affect the statistics, I retained the Homeric criteria rigorously. Such exceptions are signaled with a question-mark.

In order to maintain the parallel with Homer, we must use the terms "nominative" to mean strictly "possessing a nominative syntax," without keeping rigidly to the forms of the names as signifiers. And "possessing a nominative syntax" means "used as the subject of a finite verb, or as predicate nominative after a form of *estre* and its synonyms." I have therefore not counted uses of nominative forms as vocatives, since these usually require a different form in Greek.

Both Homer and the *Roland* are rich in doubling formula (e.g, "Oliver et Rollant" in final position). These are not counted as formulae or as non-formulae, and are omitted from the total occurrences, unless one or the other name is a part of a different formula (if, for instance, in the above phrase "Oliver" had been preceded by "quens"). This follows my practice

[10] Certain common-noun phrases are very difficult to classify as formulaic or non-formulaic. "Li emperere(s)" fills the first hemistich; it appears not to need, and does not receive, an epithet in this position; but by the standards I was using in counting Homeric phrases, it could not be called formulaic. Intuitively I feel it is a formula, but since I am not an expert in Old French, it appeared best to make my choice from nouns that have clearcut noun-epithet or noun-verb formulae.

in Homer; if the only thing that makes a name part of a formula is the other name, should we count it twice, once in each set? If not, to whom do we give it? Since we cannot answer these questions satisfactorily, it seems best not to count such phrases at all.

Certain exact repetitions ("Rollant ferit," for instance) are not considered formulae because their sole repetitions are too close together to rule out the view that they are being using as "refrains." But "Rollant s'en turnet" is counted, because "s'en turnet" is generic (cf. "Paien s'en turnent," 3623). On this point see Sale 1989:347 with further references.

Some of the characters have alternative names (alternative signifiers), such as "emperere" used without "Carles," or such as "Francs." If the alternative name appears to be used as metrically equivalent to the basic name, I have counted it along with the basic name. If it does not appear to be used as metrically equivalent, it must be counted separately if at all, since some of the mathematical argument depends on the concept of localization, and two nouns with metrically different shapes can be expected to have different localizations.

On the charts I have used the following abbreviations: TO = total occurrences, NFO = non-formulaic occurrences, FO = total formulaic occurrences, RFO = regular formulaic occurrences, IFO = infrequent formulaic occurrences, and DF = different formulae. The numbers in italics following the formulae give the position in the verse, each syllable being numbered from 1 to 10. We begin with a list of the regular formulae and their classification (an asterisk marks those that do not occur in the first hemistich):

Regular Formulae

Li quens Rollant 1-4	33x	Noun-epithet
Li reis Marsilie 1-4	20x	Noun-epithet
...di(s)t li reis 1-4	17x	Verb of speaking
Dient Franceis 1-4	16x	Verb of speaking
...dist (dient) al rei 1-4	16x	Verb of speaking
Guenes respo(u)nt 1-4	14x	Verb of speaking
Dist Oliver 1-4	13x	Verb of speaking
A icest (icel) mot 1-4	13x	Noun-epithet
Naimes li du(c)x 1-4	13x	Noun-epithet
cheval brochet 1-4	12x	Verb with "horse" oblique
L'escut li freint 1-4	12x	Verb with "shield" oblique
Ço di(s)t Rollant 1-4	11x	Verb of speaking
Respo(u)nt Rollant 1-4	11x	Verb of speaking
...bataille est 1-4	9x	Verb for battle
Sire co(u)mpai(g)n(z) 1-4	9x	Noun-epithet

Respo(u)ndent Franc(s) 1-4	8x	Verb of speaking
Dient paien 1-4	8x	Verb of speaking
C(h)(K)arles li magnes 1-4	8x	Noun-epithet
li emperere Carles final	7x	Noun-epithet
Dist l'arcevesque 1-4	7x	Verb of speaking
Dist Baligant 1-4	7x	Verb of speaking
Cent (xx) milie Franc(s) 1-4	7x	Noun-epithet
Pleine sa hanste 1-4	7x	Noun-epithet
de sun osberc(?) 1-4	7x	Noun-epithet equivalent
el cors li met(mis) 1-4	7x	Verb with "body" oblique
...dist Guenes 1-4	7x	Verb of speaking
Li quens Rollant 5-8 *	6x	Noun-epithet
Plu(o)re(n)t des oilz 1-4	6x	Verb with "eyes"
C(K)arle-magne(s) 5-8 *	6x	Noun-epithet

The 22 Nouns

(Noun-epithet formulae are in the left-hand column, noun-verb formulae on the right)

Proper Nouns

L'arcevesque(s) 39x minus 6x oblique = **33x**

TO	NFO	FO	RFO	IFO
33	16	17	7	10

Localization: 24x in 2-4

Total formulae: 7 DF, 17x

Regular formula:	**1 DF, 7x**		
		Dist l'arcevesque *1-4*	7x
Infrequent formulae:	**6 DF, 10x**		
arcevesque Turpin *final*	5x		
Turpin, li arcevesque *final*	1x	Ço est l'arcevesque *1-4*	1x
Li arcevesque Turpin *1-6*[11]	1x	Li arcevesque cumencet *1-7*	1x
		Li arcevesque brochet *1-6*	1x
NFO	**16x**		

Baligant: 22x minus 4x oblique and 2x vocative = **16x**

TO	NFO	FO	RFO	IFO
16	6	10	7	3

Total formulae: 4 DF, 10x

Regular formulae:	**7x**		
		Dist Baligant *1-4*	7x
Infrequent formulae:	**3x**		
li paien Baligant *final*	1x	E Baligant cumencet *2-7*	1x
		Dist Baligant *final*	1x
NFO	**6x**		

C(h)(K)arles 164x minus 27 oblique, minus 4 vocatives: **133x**

Carle 6x, Carlemagne 13x, Carlemagnes 6x, Carles 112x, Carlles 3x, Charles 11x, Karlemagne 2x, Karles 10x, Karlon 1x (Carlon, Carlun, Charle, Charlemagne, Karlun *display no nominative usages*)

TO	NFO	FO	RFO	IFO
133	41	92	21	71

Total formulae: 38 DF, 92x

Regular formulae:	**3 DF, 21x**		
C(h)(K)arles li magnes *1-4*	8x (5C, 2K, 1Ch)		
li emperere Carles *final*	7x		
C(K)arle-magne(s) *5-8*	6x, in the following phrases:		
Carlemagne dreit	1x		
Karlemagne li vielz	1x		
Carlemagnes li ber	1x		
Carlemagnes li reis	3x		
Infrequent formulae:	**35 DF, 71x**	C(K)arles se doïst *1-4* (1xK)	5x
Carles li reis *1-4*	4x	C(h)arles respunt *1-4* (1Ch)	4x
Carles de France dulce *5-8* [li e.. 1x]	4x	Quant Carles veit *1-4*	4x
		si l'orrat Carles *1-4*	4x
		Carles repa(e)iret *1-4*	3x
		dist Carles *1-4* [12]	3x

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[11] The principles we are using for counting formulae preclude our placing this in 1-4, since we cannot count "Li arcevesque" by itself; cf. the two noun-verb formulae next in the right-hand column.

[12] Ordinarily a formula must fill the entire colon in order to be counted as occupying that colon, on the grounds that any empty space represents a further demand upon the poet. But the space left by formulae of this form can always by immediately filled by "Ço li," or a disyllabic vocative, if the poet does not choose to put something else there; there is no real further demand. On the other hand, we

			que Ca. a(ve)it(ad)..chere *final*	3x
			C(K)arles l'oit(d) e *1-4*	3x
li reis Ch(K)arles *final*		2x	Carles n'est mie... *5-9*	2x
Carles li velz *1-4*		2x	Carles apelet *1-4*	2x
C(K)arles de France *1-4*		2x	Carles en ad *1-4 l*	2x
Carles...li reis poesteifs *1-10*		2x	que Carles a(i)ma(e)t tant *final*	2x
			Sours est Carl(l)es *1-4*	2x
Carles li reis *4-6*		1x	Quant Carles oit *1-4*	1x
Carles mi sire *final*		1x[1x voc]	Karles...ki est a porz passant *1-10*	1x
Carlemagne *final*		1x	Carles cevalchet *1-4*	1x
[li empereres Carles{de France}]	[1x]		Carles escriet *1-4*	1x
Carles li emperere *final*		1x	vos mandet Carles *3-6*	1x
			nos ad Ch. plus chere *final*	1x
			Carle me mandet *1-4*	1x
			Carles li dist *1-4*	1x
			Carles, ki France tient *5-10*	1x
			que Carles diet *1-4*	1x
			ki France ad en baillie *1-10, 4-10*	1x,1x
NFO, breaking down into:		**48x**		
Carles NFO		39x	Charles NFO	3x
Karles NFO		5x	Carlles NFO	1x
Oblique		**27x**		
Carle:		5x	Charles	3x
Carlemagnes		1x	Karles	0x
Carles		5x	Karlon	0x
Carlles		1x	Carlemagne	12x
Vocative		**4x**		
Doubling formulae		**0x**		

Franc(s): 56x minus 10x oblique, minus 3x vocative, minus 3x doubling = **40x**

TO	**NFO**	**FO**	**RFO**	**IFO**
40	14	26	15	11

Localization: 19x in 4

Total formulae: 11 DF, 26x

Regular formulae:	**2 DF, 15x**		
Cent (xx) milie Franc(s) *1-4*	7x	Respo(u)ndent Franc(s) *1-4*	8x
Infrequent formulae	**9 DF, 11x**		
		ont Francs recumencet *final*	2x
		returnerunt Franc *final*	2x
tuit li Franc (?cf.tuit li altre) *final*	1x	Escrient Franc *1-4*	1x
mil Francs de France *3-7*	1x	s'enfuient Franc *final*	1x
		chalcent Franc *final*	1x
		enchalcent...Franc *final*	1x
		encalcent Francs *1-4*	1x
NFO	**15x**		

---

cannot tabulate "Carles li dist" (1x below) with "(puis le) dist Carles," because the noun is in a different position in the line.

Franceis: 100x minus 27x oblique, minus 5x vocative, minus 1x singular, minus 3x doubling, minus 6x refrain = **58x**

TO	**NFO**	**FO**	**RFO**	**IFO**
58	22	36	16	20

Total formulae: 15 DF, 36x

Regular formula:	**1 DF, 16x**		
		Dient Franceis *1-4*	16x
IFO	**14 DF, 20x**		
		Franceis descendent *1-4*	4x
		Franceis escriet *1-4*	2x
		e li Franceis i fierent *1-6*	2x
		Franceis n'un talent *3-7*	2x
Franceis barons *1-4*	1x	Franceis curucus e dolent*3-10 bis*	1x, 1x
mil Franceis de France *2-6*	1x	Franceis sunt morz *1-4*	1x
		Morz sunt Franseiz *1-4*	1x
		Franceis escriet *final*	1x, 1x
		Franceis se fierent *5-9*	1x
		Franceis se dementent *final*	1x
NFO	**22x**		
Refrain		Franceis murrunt *1-4*	6x[13]

Guenes 61x, minus 5 vocative minus 2 doubling formulae = **54x**[14]

TO	**NFO**	**FO**	**RFO**	**IFO**
54	12	42	21	21

Total formulae: 12 DF, 42x

Regular formulae:	**1 DF, 21x**		
		Guenes respo(u)nt *1-4*	14x
		...dist Guenes *1-4*[15]	7x
Infrequent formulae:	**10 DF, 21x**		
Guenes li quens *1-4*	5x		
Guenes li fels *1-4*	3x		
...li quens Guenes *1-4* [16]	3x (+1x)		
		Guenes i vint *1-4*	2x
		Ço respunt Guenes *1-4*	2x
		Quant le(co) v(e)it Gu.*1-4*	2x
		Quant Guenes veit *1-4*	1x
		Quant l'oit Guenes *1-4*	1x
		Guenes respundit *final*	1x
		Guenes est fels (? *cf.* li fels) *1-4*	1x
NFO	**12x**		

---

13 This phrase seems to me a deliberate refrain, not a freely used formula, occurring as it does only towards the end of laisses 72, 74, 75, 76, 77, and 78, and tolling the knell of Roland and his company. Hence it cannot be counted as a formula; yet it is not non-formulaic. Therefore I have removed it from the statistics altogether.

14 "Guenelon" in the nominative has a different meter.

15 See note 59.

16 See note 59.

Marsilie(s): 60x plus 1x Marsiliun (v. 222), minus 15x non-nominative = **46x**

TO	**NFO**	**FO**	**RFO**	**IFO**
46	11	35	20	15

Total formulae: 8 DF, 35x

Regular formula:	**1 DF, 20x**		
Li reis Marsilie *1-4*	20x		
Infrequent formulae:	**7 DF, 15x**		
		Ço dist Marsilie(s) *1-4*	5x
dist Marsilies li reis *final*	2x	Quan l'ot Marsilie *1-4*	2x
reis Marsilies li bers *final*	2x		
li reis Marsilie(un) *final*	2x		
		Respunt Marsilie *1-4*	1x
		ço li a dit Marsilie *final*	1x
NFO	**11x**		

Na(e)imes 24x minus 1x vocative, 1x doubling formula = **22x**

TO	**NFO**	**FO**	**RFO**	**IFO**
22	1	21	13	8

Total formulae: 5 DF, 21x

Regular formulae:	**1 DF, 13x**		
Naimes li du(c)x *1-4*	13x		
Infrequent formulae	**4 DF, 8x**		
...dux Neimes *1-4*[17]	4x		
		est Neimes venud *final*	2x
dux Neimes *4-6, final*	1x, 1x		
NFO	**1x**		

Oliver: 69x, minus 13x oblique, minus 7x vocative, minus 9x doubling formulae = **40x**

TO	**NFO**	**FO**	**RFO**	**IFO**
40	13	27	13	14

Localization: 26x in 2-4

Total formulae: 9 DF, 27x

Regular formulae:	**1 DF, 13x**		
		Dist Oliver *1-4*	13x
Infrequent formulae:	**8 DF, 14x**		
e Oliver li proz e li... *1-8* [18]	4x		
li quenz Oliver *final*	3x		
compainz Oliver *final*	2x		
Oliver sis cumpainz *final*	1x	E Oliver chevalchet *1-6* (cf. note 5)	1x
Danz Oliver *1-4*	1x	Oliver li respunt *final*	1x
Oliver li ber *final*	1x		
NFO	**12x**		

---

17 Cf. note 59. "Dux Naimes" in 3-4 is freely preceded by either "Respunt" (3x) or "E dist" (1x), and is therefore part of a speaking formula. If it had been tabulated under 3x and 1x it would have been classified as filling the first hemistich; instead I have tabulated under 4x to recognize its freedom, and continued to classify it as filling the first hemstich.

18 See note 58.

Paien(s):[19] **108x** minus 24x oblique, 18x singular, 7x vocative, 3x doubling = **56x**

TO	**NFO**	**FO**	**RFO**	**IFO**
56	18	38	8	30

Localization: 25x in 1

Total formulae: 15 DF, 38x

Regular formula:	**1 DF, 8x**		
		Dient paien *1-4*	8x
Infrequent formulae:	**14 DF, 30x**		
		Paien s'en fuient *1-4*	5x
		Paien escrient *1-4*	4x
Felun paien *1-4*	3x	N'i ad paien *1-4*[20]	3x
Paien d'Arabe *1-4*	2x	Moerent paien *1-4*	2x
		Paien chevalchent *1-4*	2x
		Paien respundent *1-4*	2x
		Paien sunt morz *1-4*	2x
		s'en fuient paiens *final*	1x
		Paien dient *1-4*	1x
		paien descendent *1-4*	1x
		paien l'entendent *1-4*	1x
		sunt morz paiens *final*	1x
NFO, breaking down into:	**18x**		
paien	15x		
paiens	3x		

Rollant: 187x total, minus 49x oblique minus 13x vocative minus 6x doubling = **119x**

TO	**NFO**	**FO**	**RFO**	**IFO**
119	25	94	61	33

Localization : 70x in 3-4

Total formulae: 24 DF, 94x

Regular formulae:	**4 DF, 61x**		
Li quens Rollant *1-4*	33x		
		Ço di(s)t Rollant *1-4*	11x
		Respo(u)nt Rollant *1-4*	11x
Li quens Rollant *5-8*	6x		
Infrequent formulae:	**20 DF, 33x**		
Ço sent Rollant *1-4*	5x	Quant (l')ot Rollant *1-4*	3x
		Morz est Rollant *1-4*	3x
		Rollant reguardet *1-4*	3x
Rollant, sis (mis) nies *1-4*	2x	Rollant s'en turnet *1-4*	2x
		Quan(t) Rollant veit *1-4*	2x
cumpainz Rollant nom.*5-8*	1x	Rollant respunt *final*	1x
Rollant le barun *final*	1x[1x obl]	Rollant reguardet *final*	1x
Rollant, sis nies *final*	1x	Or veit Rollant *1-4*	1x
Rollant le catanie *final*	1x[1x obl]	ço li respunt Rollant *final*	1x
Rollant li ber *1-4*	1x	Rollant apelet *1-4*	1x,[2x]
le bon vassal Rollant *final*	1x[1x obl]	dist Rollant *5-8*	1x
		Rollant dist *1-4* (sic)	1x
NFO	**25x**		
Vocative	**13x**		
Ami(s) Rollant 5x			
Cumpai(g)n(z) Rollant 3x			
sire Rollant 1x			
Non-formulaic 4x			
Doubling	**6x**		
Oliver e Rollant 4x (inc. 1x Genitive)			
Rollant e Oliver 2x			
Oblique	**49x**		

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[19] 5 instances of "paiens" have nominative plural syntax.

[20] "paien" functions as a plural.

Common Nouns

Bataille nom: 73x minus 43x oblique = **30x**

TO	NFO	FO	RFO	IFO
30	7	23	9	14

Localization: 12x in 2-3

Total formulae: 9 DF, 23x

Regular formula:	**1 DF, 9x**		
		...bataille est *1-4*	9x
Infrequent formulae:	**14x**		
ceste bataille(?) *1-4*	3x		
		ert (fut) la bataille *7-10*	2x
		la bataille serat *6-10*	1x
		bataille i ad *1-4, 7-10*	1x,1x
		bataille i ert *1-4, 5-8, 7-10*	1x,1x,1x
		justee est la bataille *5-10*	1x
		bataille i seit justee *5-10*	1x
		s'il ad bataille *1-4*	1x
NFO	**7x**		

C(h)eval: 52x minus 3x nominative = **49x**

TO	NFO	FO	RFO	FO
49	13	36	21	15

Localization: 16x in 3-4

Total formulae: 11 DF, 36x

Regular formulae:	**2 DF, 21x**		
		cheval brochet *1-4*	14x
		siet el cheval *1-4*	7x
Infrequent formulae:	**9 DF, 15x**		
...cheval curant *5-10*	4x		
... bon cheval *1-4*	2x	brochet le cheval *6-10*	2x
		sur sun cheval (se) pasmet *5-10*	2x
... bon cheval *6-8, 7-9*	1x, 1x	set el ceval *5-8*	1x
		sist sur un ceval *5-9*	1x
		le cheval curre *7-10*	1x
NF	**15x**		

Co(u)mpai(g)n(nz) voc sing: 20x minus 4x epithetic, 1x plural = **15x**

TO	NFO	FO	RFO	IFO
15	4	11	9	2

Localization: 10x in 3-4

Total formulae: 3 DF, 11x

Regular formula:	**1 DF, 9x**
Sire co(u)mpai(g)n(z) *1-4*	9x
Infrequent formula:	**2 DF, 2x**
Sire cumpainz *5-8*	1x
Bel sire, chers cumpainz *1-4*	1x
NFO	**4x**

Cors: 75x minus 6x plural, minus 1x "horns" = **68x**

TO	**NFO**	**FO**	**RFO**	**IFO**
68	28	40	7	33

Localization: 19x in 4

Total formulae: 20 DF, 40x

Regular formula:	**1 DF, 7x**		
		el cors li met(is) *1-4*	7x
Infrequent formulae	**19 DF, 33x**		
par mi le cors li *5-8*	4x		
		gent ad(out) le cors *1-4*	3x
trestut le cors *1-4*	2x	cors ad gaillard *1-4*	2x
enz el cors li *5-8*	2x	cors ad mult gent *1-4*	2x
braz del cors *final*	2x	el cors li met *5-8*	2x
e(se) de mun cors(?) *1-4*	2x	li ad enz el cors mis *final*	2x
		trenchet le cors *1-4*	2x
par mi le cors ferut *1-10, 5-10*	1x,1x	ad grant le c., granz ad le c. *final, 1-4*	1x,1x
par mi le cors...de iiii. espiez *1-10*, (cf. above)	1x	conduit sun cors *1-4*	1x
		jo conduirai mun cors *1-6*	1x
		le cors li trenchet *1-4*	1x
NFO	**28x**		

Erbe: 17x[21]

TO	**NFO**	**FO**	**RFO**	**IFO**
17	3	14	14	0

Localization: 14x in 3-4

Total formulae: 1 DF, 14x

Regular formula:	**1 DF, 14x**
Sur l'herbe verte *1-4*	14x
NFO	**3x**

Escut(z) 33x minus 3 nominative =**30x**

TO	**NFO**	**FO**	**RFO**	**IFO**
30	11	19	12	7

Localization: 15x in 1-2

Total formulae: 6 DF, 19x

Regular formula:	**1 DF, 12x**		
		L'escut li freint 1-4	12x
Infrequent formulae:	**5 DF, 7x**		
		L-escut...li freint *1-2..5-6*	3x
escut bucler (cf. plur) *7-10*	1x	escut li freint *3-6*	1x
sis bons escuz (generic) *1-4*	1x	escut percet (cf. nom) *7-10*	1x
NFO	**11x**		

Hanste: 21x minus 6x nominative = **15x**

TO	**NFO**	**FO**	**RFO**	**IFO**
15	7	8	7	1

Localization: 7x in 4

Total formulae: 2 DF, 8x

Regular formula:	**1 DF, 7x**
Pleine sa hanste *1-4*	7x
Infrequent formula:	**1 DF, 1x**
pleine sa hanste *final*	1x
NFO	**7x**

---

21 "Erbe" was not counted in the statistics, because it has no infrequent formula. I do not think that this fact would have affected the statistics significantly; but I did not include similar nouns in Homer. And if the *Roland*, as it seems not to, contained a large number of such nouns, that too might have mattered.

Mot: 26x minus 1x nominative = **25x**

TO	**NFO**	**FO**	**RFO**	**IFO**
25	6	19	13	6

Localization: 17 in 4

Total formulae: 5 DF, 19x

Regular formula:	**13x**		
A icest (icel) mot *1-4*	13x		
Infrequent formula:	**6x**		
		ki un sul mot respundet *5-10*	2x
		e dist un mot *1-4*	2x
		si li(ur) ad dit un mot, *1-6, 5-10*	1x, 1x
NFO	**6x**		

Oilz: 19x

TO	**NFO**	**FO**	**RFO**	**IFO**
19	6	13	6	7

Localization: 13x in 4

Total formulae: 6 DF, 13x

Regular formula:	**1 DF, 6x**		
Plu(o)re(n)t des oilz *1-4*	6x		
Infrequent formula:	**1 DF, 7x**		
kar a mes(voz) oilz *1-4*	2x		
an(m)sdous les oilz *1-4*	2x		
les oilz ansdous *final*	1x	plurer des oilz *final*	1x
		des oilz ne plurt *final*	1x
NFO	**6x**		

Osberc: 27 minus 2x nominative, minus 1x plural = **24x**[22]

TO	**NFO**	**FO**	**RFO**	**IFO**
24	3	21	7	14

Localization: 11x in 3-4

Total formulae: 6 DF, 21x

Regular formula:	**1 DF, 7x**		
de sun osberc(?) *1-4*	7x		
Infrequent formula:	**5 DF, 14x**		
e l'osberc li de-...*5-9*	5x		
blanc osberc *1-4, 7-8*	2x, 2x	e sun osberc rumput et desmailet *1-10*	2x
		l'osberc li descomfist *5-10*	2x
		l-osberc li rumpt *1-4*	1x
NFO	**3x**		

22 "Osberc" might be excluded from the statistics on the grounds that its regular formula counts the possessive adjective as an epithet; but similar phrases falling in major cola were counted among the 190 nouns in Homer (ᾧ ἐνὶ οἴκῳ, for example). I was persuaded partly by this parallel, and partly because the phrase is matched by a governing noun in the second hemistich, "pans, dubles, ventailles." This gives a total structure which resembles Parry's matching noun-epithet and verbal formulae.

Rei: 43x

TO	NFO	FO	RFO	IFO
43	15	28	16	12

Total formulae: 9 DF, 28x

Localization: 27x in 4

Regular formula:	**1 DF, 16x**		
		...dist (dient) al rei *1-4*	16x
IFO	**8 DF, 12x**		
devant lu(e) rei(?) *1-4*	2x		
un rei leutice(z)(?) *8-10*	2x		
del rei paien *1-4*	2x		
le rei persis(?) *8-10*	2x		
del gentil rei *1-4*	1x		
pur nostre rei(?) *1-4, 7-10*	1x,1x		
cest nostre rei(?) *1-4*	1x		
NFO	**15x**		

Reis: 136x minus 43x epithetic, 9x vocative, 7 plural, 1x oblique = **76x**

TO	NFO	FO	RFO	IFO
76	24	52	17	35

Total formulae: 28 DF, 52x

Localization: 37x in 4

Regular formula:	**1 DF, 17x**		
		.. di(s)t li reis *1-4*	17x
Infrequent formula:	**27 DF, 35x**		
		Li reis cumandet *1-4*	3x
...reis de France *1-4*	2x	Respunt li reis *1-4*	2x
li reis poesteifs *final*	2x	li reis escultet *final*	2x
		si li reis voeult *1-4*	2x
		la siet (fut) li reis ki...ti(e)nt *1-10*	2x
li reis magnes *final*	1x	ço voeult li reis *1-4*	1x
li gentilz reis (cf.voc) *1-4, 5-8*	1x, 1x	fiers est li reis & li reis est f., *1-4 bis*	1x, 1x
		Quant l'ot li reis *1-4*	1x
		Quant veit li reis *1-4*	1x
		Li reis descent *1-4*, inverted *5-8*	1x,1x
		Fust...i li ries, si fust li reis n'i *1-10*	1x, 1x
		Las est li reis *1-4*	1x
		...est le reis ki *1-5*	1x
		Li reis vos mandet, inverted *1-4*	1x, 1x
		alez li reis, li reis alez *final*	1x, 1x
		Li reis li (me) dunet (at) *1-4, 7-10*	1x, 1x
NFO	**24x**		