The Inventors at Work

Chapter Four

The Roncevaux and the Baligant Material

FIGURE 12 ILLUSTRATES the manner in which the two arithmetic patterns manifested in Digby-23 were combined and shows how, on the pattern treating the Roncevaux material down to the point of Roland's death, there was superimposed the 91 pattern embracing the whole of the Oxford version with the Baligant episode included. The reworking needed to accommodate the Baligant material may be compared with the remodeling of a house when a new wing is added. Thus, in the general reconstruction of the facade, the major corridor between the old building and the new—that band in brackets of 91 laisses between the final destruction of the rearguard and the vengeance of Charles—was used as the basis of the new structural unit to replace the 66 bracket. The pattern of the new unit, carried out in imitation of the old, was then fitted, with more success than might be expected, over major points of jointure still retained in the original structure.

It will be recalled that, in the 66 pattern, the set of brackets treating the Absence of Charles at laisse 66 and Turpin's prediction of his return for vengeance and burial at 132 does not continue to the third narrative point, which would occur at laisse 198. The obvious reason for this defect is that, at a point before laisse 198, the continuity of the laisses treating the concluding events of the Roncevaux story was disrupted when they were interspersed among those of the new Baligant material.

For the moment it will be assumed that, if all mention of the battle with Baligant and the taking of Zaragoza are deleted from the Oxford version, what remains will be "Roncevaux material"
Fig. 12. The 66 and 91 patterns.
Fig. 13. Distribution of Roncevaux and Baligant material.
shown in figure 13 in hatched blocks. Thus, the Roncevaux story is seen to continue without interruption down through laisse 184, the last of a group of three parallel laisses where the French rest for the night after having dispersed the army of Marsile. Charles, his heart heavy with grief for the loss of Roland, finally falls into a sleep tormented by two prophetic dreams, which God sends to him by the angel Gabriel. The first, in laisse 185, seems to be a prognostication of Charlemagne's coming battle with Baligant, and as such, will be classified for the moment as Baligant matter. The second dream, in laisse 186, foretells the trial of Ganelon, which appertains to the Roncevaux story. In laisse 187, the scene switches sharply to Marsile, as he nurses his wound in Zaragoza, and Baligant is mentioned for the first time in laisse 188. From here through laisse 202, the narrative treats the preparations of the Saracens for battle with Charles. In laisse 203, the thread of the narrative breaks again, and the scene shifts back to Charlemagne as he awakens on the morning after his dreams. The emperor and the French mount and return to Roncevaux, and from this point through laisse 213, Charles laments the death of Roland, has the French soldiers buried on the field of battle, and has the bodies of Roland, Olivier, and Turpin prepared for burial. In the section between 214 and 266 are related the events of the battle with Baligant and the taking of Zaragoza, and, in the long laisse 267, Charles establishes a garrison at Zaragoza, leaves the city taking along the captive queen Bramimonde, takes Narbonne, and passes on to Bordeaux, where he deposits the horn on the altar of Saint Seurin. Then, crossing the Gironde, he lays to rest the bodies of Roland, Olivier, and Turpin in sarcophagi in Saint Romain, and thence goes on to Aix, where he calls his judges to begin the trial of Ganelon. In laisses 268 and 269, Aude is told of the death of Roland and dies on the spot, and the section from laisse 270 through 289 treats the trial and execution of Ganelon and his relatives. In laisse 290, Bramimonde is baptized and takes a Christian name, and in the final laisse 291, the emperor is called by Gabriel to help King Vivien in the city of
Imphe, which is besieged by pagans. Charles does not wish to go; his life is full of trials. His eyes fill with tears, and he pulls his white beard. And thus ends the epic which Turoldus recounts.

By this distribution, of the total of 291 laisses, 71 treat exclusively Baligant matter, leaving 220 for the material dealing with the Roncevaux story. Of the latter, two laisses treat both Baligant and Roncevaux matter: laisse 267, of which seven lines (3676–82) tell of the garrisoning of Zaragoza and Charlemagne’s departure from the city with Bramimonde, and laisse 291, where one line (3990) refers to Bramimonde. If all of the Baligant matter is extracted, and the remaining laisses are left exactly in the sequence in which they occur in Digby-23, the Roncevaux narrative will progress in logical order.

Thus, the French rest after chasing off the remnants of Marsile’s army and Charles dreams of the trial of Ganelon (186). At dawn, Charles and the French return to Roncevaux where Charles laments Roland, buries the French soldiers, and prepares the heroes for burial (203–13). Night passes and the day dawns clear (line 3675 of laisse 267), the French force their way through Narbonne (line 3683 of laisse 267) and proceed to Bordeaux, Blaye, and thence to Aix. From this point, the story of Aude’s death and the trial continues as in Digby-23, with the exception of the reference to Bramimonde in laisse 290 and line 3990 of laisse 291.

When the matter pertaining to the battle with Baligant is simply deleted from Digby-23, a fairly acceptable version of the aftermath of the Roncevaux disaster remains. There is reasonable ground for assuming, however, that such a version does not represent the exact form of the original version of the 66 pattern and that the Baligant revisionist changed, in a few minor areas, the text of the Olivier revisionist, which he was using as the basis of his new composition.

It is the view of Menéndez-Pidal that the recital in laisse 185 of the dream which seems to predict the battle with Baligant has been revised from an older version dating from a time when
the Baligant material had not been invented (p. 334).² He maintains that the original version would have referred to the rebellion of the Saxons, which was very probably the historical reason for Charlemagne's hasty departure from Spain without taking the city of Zaragoza, and he points out that direct reference is made to this revolt in the lament of laisse 209, where Charles asks who will lead his army against such a power, now that Roland is dead (pp. 199–202).³

It is worthy of note, furthermore, that the Old Norse version of laisses 185 and 186 refers to the dream of 186 as the "third" dream, thus implying that the matter of laisse 186 treats two dreams. Aebischer marks the division at the point comparable to the end of line 2541 of laisse 185 in the Oxford version.⁴ The older form may thus have been that part between lines 2525 and 2541, and the remainder, including reference to Charlemagne's struggle with the lion, which seem to portend his individual battle with Baligant, would comprise the addition of the Baligant revisionist.⁵ For this reason, it is assumed here that laisse 185 with lines 2542–54 deleted was included in the text of the 66 pattern.

Menéndez-Pidal maintains that Aude was created by the revisionist who invented Olivier, because the poet wished to soften the warlike atmosphere of the story with accents of delicate sensibility and human pathos (pp. 366, 367). That the creator of Olivier manifests delicate sensibilities in matters of compagnonnage there is no question. However, so far as the episode of Aude's death is concerned, with all due respect to the profound perspicacity of Professor Menéndez-Pidal, it could just as well be argued here that the particularly romantic quality of her story is more in keeping with that taste of the cultural ambience of which Bramimonde was a product, and which was soon to produce the twelfth-century romance, than with the serious and heroic tone of the sapientia-fortitudo conflict.

Reason on a more functional level for doubting the existence of the Aude episode prior to the Baligant revision is the fact that the two laisses in which her death is related are introduced into the version of Digby-23 without transition and as an abrupt
interruption of another narrative in a manner which is consistently characteristic of the Baligant revisionist. At the end of laisse 267, after the burial of the heroes, it is stated that, when Charles arrives at Aix, he sends messengers to assemble his council of jugeors, and the last line of laisse 267 then states: “Now begins the trial of Ganelon.”

Laisse 268 begins with a typical reprise: Charles has returned from Spain to Aix; he goes up in his palace to his hall and has Aude brought to him. From this point, the remainder of laisse 268 and all of 269 are devoted exclusively to Aude and nowhere mention Ganelon’s trial. It is not until laisse 270 that the thread of the trial story is taken up again: “Charles has returned to Aix. Ganelon, the felon, is in chains in the fortress in front of the palace,” and so forth. Thus it can be seen that the flow of the old narrative has been cut to insert new material in exactly the same manner as that which has so often been observed between laisses 187 and 188, which leaves Charles dreaming and sleeping to switch to Marsile seeking the aid of Baligant, and between 202 and 203, which leaves Baligant calling up the pagans to return to Charles awakening the morning after his dreams. The trait is perhaps most flagrantly evident in the long interruption after laisse 213, where the heroes are prepared for a burial which will not take place until laisse 267, after the battle with Baligant. Thus it would seem that, on the grounds of stylistic traits, it can well be concluded that the two laisses which recount the death of Aude were inserted by the Baligant revisionist. Whether or not he also inserted the three lines (1719–21) of laisse 130, where Olivier mentions her in the horn dispute (the only other mention of Aude in the whole text), is a matter in which stylistic analysis offers no aid, and judgement of this question is held in abeyance.

Finally, Menéndez-Pidal expresses the opinion that the conclusion of the version of the Roland story prior to the Baligant revision can be reconstructed from the versions of other extant manuscripts and should be substituted for the last two laisses of Digby-23, which occur only in the Oxford version (pp. 126–29). Laisse 290 tells of the baptism of Bramimonde, hitherto
Fig. 14. The original 66 pattern.
classified as Baligant material, and laisse 291, after further mention of Bramimonde, tells of the angel’s appeal to Charles to assist King Vivien in his defense of Imphe in the land of Bire. Although Menéndez-Pidal does not give his views in the matter, conceivably, the reconstructed version which he proposes would also occupy two laisses. The first, from manuscripts V4, C, V7, and P, would comprise an address by Charles to his barons immediately after the execution of Ganelon to the effect that he is now satisfied, thanks to the death of the one who caused him the loss of Roland and the twelve peers, and that he will never again see nephew (V4) or the twelve peers (C, V7, P). In the final laisse, Charles would mount to his hall and call his barons (C, V7), take leave of them and offer them presents (T, L), and embrace them tenderly and sigh at the memory of Roland. The barons would return home and Charles would remain alone, sad and dejected.

In table 2 of the appendix is shown the manner in which the laisses which are proposed for the termination of the original story of the 66 pattern compare with those of Digby-23. In figure 14 it can be seen that the total story of the 66 pattern comprised 220 laisses, and it will be noted that the burial of Roland and the heroes now occurs in laisse 198 (Oxford version 267), the missing point in the set of brackets marking the participation of Charlemagne. Thus the king’s theme is completed with the absence of Charles at laisse 66, Turpin’s prediction of his return to avenge and bury at laisse 132, and the burial at laisse 198. It is to be noted further that the final point of this set of brackets falls on a number which, like the other two, is divisible by both 6 and 11; that, with the inclusion of laisse 198, the 66 pattern comprises nine narrative points, which, together with the beginning and the end, give a total of eleven points in all; and that the total of 220 laisses is also divisible by 11. The intervals between the points now fall into the pattern 44:22; 44:22; 44:22, plus a coda of 22 which exactly accommodates the trial of Ganelon and the two reconstructed laisses of the conclusion. When the intervals of 44:22 are combined, the
Fig. 15. The original 66 pattern (reverse).
overall pattern of the poem becomes 66:66:66:22. (See figure 15.)

The Original 66 Pattern

If the series \[66+66+66+22=220\] is divided through by its smallest unit, 22, the result will be \[3+3+3+1=10\]. It will be recalled that, in medieval reasoning, the numbers 10, 100, 1000, and so forth, were mystically the equivalent of unity, probably because, in the decimal system of counting, the next highest numeral above nine represented a return to unity, or a new beginning, with the number one now in the next decimal column to the left. From the evidence offered by the *Alexis* and the *Divine Comedy*, it would seem that it was a custom with poets who used structural arithmetic metaphor to base their patterns on some formula for a tripartite division of unity which would, in their view, express arithmetically the paradox of the unity of the three in one of the Christian Trinity. This paradox must indeed have posed a problem, for, since medieval arithmetic preferred to deal with integers, there was simply no way to make an even three-way division of ten or any of its powers.

The poet of the *Alexis* accomplished the feat rather well by including a count of syllables in his pattern and thereby reducing the fractional difference to a negligible minimum. Thus he divided the one hundred stanzas which related the events of the saint's life on earth into three parts, each comprising \[33\frac{1}{3}\] 5-line stanzas, a formula for unity which in algebraic terms would be \[3\left(33A+\frac{A}{3}\right)=100\], when \(A=1\). Then, by using a ten-syllable line with caesura after the fourth, he contrived to have the soul of Alexis reach his heavenly Lord at the two-thirds point at syllable 34 of stanza 67 (that is, at syllable 3334 of a total of 5,000), which was as nearly as he could come to expressing the concept “two-thirds” in a decimal pattern with the integers at his disposal.10

The formula which Dante used for the *Divine Comedy* was slightly different: From the total of one hundred cantos, he simply isolated one canto for his introduction and divided the
remaining 99 into three equal parts, thus creating a structure
\[1+33+33+33=100,\]
which would be stated algebraically
\[A+3\(3A\) = 100,\]
when \(A = 1\).

The arithmetic reasoning of the poet of the 66 pattern in the
*Roland* was probably as follows: He wished to employ the num­
ber 11 to symbolize the concept “excess,” and he wished also to
base his composition on some arithmetic expression of the tri­
partite unity of the Christian Trinity. For this he chose the
structure \(3+3+3+1=10\), which can be stated algebraically
\(3\(3A\)+A = 10,\)
when \(A = 1\). The story he wanted to tell would
require some two hundred laisses, more or less. If he multiplied
his base formula through by 11, the result would be a structure
in the form \(33+33+33+11=110,\) but this would only provide
about half of the units he needed. Therefore, he multiplied
through again by 2, and so obtained the structure \(66+66+66+
22=220,\) which would accommodate the material very nicely and
allow leeway for jongleurs’ comments and repetitions at im­
portant points. He was doubtlessly very much pleased with the
results he had obtained so far, for he now had a form which
would express symbolically both unity and excess: unity in the
base formula and excess in abundance through multiplication by
the double of 11. Furthermore, in the sections of 66 units, he had
not only a multiple of 11, but also its aggregate. Finally, the
traditional implications of evil in the number 66, which now
turned out to be the aggregate of the number of excess, must
indeed have confirmed his belief in the symbolic meaning of
numbers.

The poet then decided to use the section \(66+66+66=198\) for
the events of the hero’s tragedy through to the moment of burial,
and to reserve the unit 22 for a coda in which justice would be
accomplished. It is to be noted here that the structure which
the poet of the *Roland* chose for the story of his hero parallels
very closely that which the poet of the *Alexis* chose for that of
the saint, where, of the divisions \(33\frac{1}{2}+33\frac{1}{2}+33\frac{1}{2}+25=125,\) the
part \(33\frac{1}{2}+33\frac{1}{2}+33\frac{1}{2}=100\) was reserved for the events of the
life of the saint up through preparation for burial, and the coda
of twenty-five stanzas was devoted to the apotheosis.
Having now obtained three major divisions of 66 laisses for Roland's deeds, death, and burial, the poet then placed at nine points within his composition three thematic sets, comprising three laisses each, spaced at intervals of 66 laisses, which would stress the three major factors of the hero's tragedy: Démesure, Betrayal, and the King's Absence. The points of one set were already determined by the major divisions, and, since the burial would have to occur at laisse 198, and would also have to be performed by the king, this set was assigned to the king's participation: Absence at 66, Prediction of Return for Burial at 132, and Burial at 198. Then, since laisse 110 was both mystically the equivalent of eleven and the halfway point of the total composition as well, it would be appropriate for a set of brackets to fit into this point. However, while the end points of such a set could be made to fall on the Betrayal and the Death of Roland, at laisses 44 and 176, there was, in the area of laisse 110, no outstanding event which would be suitable for the theme. In this place he would have to insert a jongleur's comment, with some portentous prediction, and so he created laisse 110, where the death of Roland was foretold by a storm and eclipse over the whole of that France which the poet knew—France at the end of the Carolingian dynasty. It is to be noted that, within the total of 220 laisses, the Betrayal set, which is the basic set of the poem and the essence of Roland's story, is absolutely symmetrical having its midpoint at the half with an equal distribution of sections of 66 and 44 on either side forming the pattern 44 + 66 + 66 + 44 = 220.

The poet now had one set of brackets which fell on points divisible by six and eleven, and another set on points divisible by eleven. It would be suitable to make the third set fit into points divisible by six. Since many such points were available, the poet's decision to start the set with laisse 18 was probably determined simply by the order of the narrative. In this manner the Démesure set was created, with Olivier's Prediction of Démesure at 18, the horn dispute at 84, and Olivier's death at 150.

The task which remained was simply one of telling the story
Fig. 16. Parallel laisses.
and filling out the material so that the narrative would fit properly on the brackets. Filling was no problem, for it could always be done by using parallel or similar laisses with different assonance, as the jongleurs were accustomed to do, both as a means of being sure that the wandering attention of their audience would not miss an important point in the story, and also simply as a demonstration of their rhyming dexterity and ability to make variations on a theme. The inventor of the 66 pattern, who doubtlessly could recite on demand many versions of the story he wished to revise, would, when he started his composition, have had at his disposal a number of such laisses inherited from his predecessors; and, since he was himself an excellent poet, he could easily create more. By their judicious placement, like building blocks around the armature of his arithmetic structure, he could achieve a variety of artistic effects and accomplish many poetic ends, such as smoothing transitions, heightening the high points of the action, slowing the narrative, and adding lyric tone to the pathetic passages. Indeed, it is primarily the arrangement of the parallel laisses which accounts for the effect of patterned texture so often remarked in the Oxford Roland. In figure 16, showing their distribution in the text, especially to be noted is the high incidence of their occurrence in the Roncevaux story as compared with that in the Baligant addition.

The 91 Pattern

When the mathematical structure of the 91 pattern is compared with that of the 66 pattern, which served as its model, it becomes evident that the pattern employed to reconstruct the older edifice manifests none of the arithmetic elegance of the original. The revisionist who added the Baligant episode and invented the 91 pattern obviously chose the number 13 for its capacity to signify Charlemagne in his mythical conception; but, as it will be recalled, the primary symbolic meaning of the number was inspired by the analogy of Charles and the twelve peers with Christ and the twelve apostles. This analogy, which must have been current at the end of the eleventh century and which
probably stems from an oral version of the chanson, seems to have originated in popular superstition, since there is no indication that it could have been fostered in ecclesiastical tradition. The unit 91 was probably selected, in imitation of the 66 pattern, because it was the aggregate of 13 and the product of 13 times 7, but in many respects it was an unfortunate choice.

The overall structure of the pattern works out to $18 + 91 + 91 + 91 = 291$, a series which cannot be reduced to any underlying base structure such as that symbolizing the unity of Christian Trinity, since neither the number 91 nor its factors bears any arithmetic relation to the total of 291 laisses or the group of 18 laisses by which the three groups of 91 laisses are preceded. In addition, none of the points on which the brackets fall are divisible by the factors.

Perhaps the greatest defect of the 91 pattern, however, lies in the fact that 291 laisses are simply not sufficient for the requirements of the narrative. As can be seen from the abrupt manner with which the revisionist inserts his new material, there is no room for the necessary transitional laisses, and, furthermore, the framework is too limited to permit the inclusion of parallel or similar laisses with which the poet could have accented his story had he had the talent or inclination to do so. Finally, the exigencies of the pattern seem to have forced the poet to crowd too much narrative material into the individual laisses. This trait becomes increasingly noticeable toward the end of the poem, particularly in the important laisse 267 telling of the burial of the heroes, which as laisse 198 of the 66 pattern, had occupied a dominant position at the terminal point before the coda. In his effort to preserve this laisse as a narrative point in the new pattern, so that it made the set Démesure (85), Death of Roland (176), and Burial (267), the poet was constrained to include in it the quite unrelated material treating the garrison of Zaragoza and Charlemagne's departure with Bramimonde, but apparently found no room to explain what was done with the bodies of the three heroes while Charles was fighting the battle with Baligant. The general effect is similar to that of the motto THINK lettered by a sign painter who forgot to leave room for the K, and the
audience is left with the unpleasant feeling that the author had to bring the story to a hasty conclusion because he had neither the time nor the space to do it justice. In summary, then, it must be said that the 91 pattern of the Baligant revision is, from a mathematical point of view, simply not interesting, and, from a poetic point of view, inadequate for the material.

The Genius of Digby-23

It thus becomes apparent that the architectonic form for which the Oxford Roland is famous owes its effect almost exclusively to what remains of the 66 pattern. The real "genius" of Digby-23 was not Turolus—if Turolus it was who invented Baligant—but the poet or poets, who, a century earlier, had invented Olivier and placed the story in the frame of a unity symbolizing the Christian Trinity, which, when raised by the number of Roland's excessive fortitude, resounded in the tinnuli rhythmii of a Cantilena Rollandi. The poet who created the 66 pattern was, as were the poet of the Alexis and Dante after him, a master of the ars poetica of structural arithmetic metaphor. If the "ringing rhythms" of his masterpiece are still heard today, it is because, in conferring numbered form on the microcosm which was his poem, he wished to imitate God's ordering of the great macrocosm, secure in the belief that the antiphonal vibrations of the numbers he chose would find accord with the numbers of that great silent harmony of time, motion, heavens, the stars, and all sorts of revolutions preexistent in the mind of the world-creating God.

1. Jules Horrent (La Chanson de Roland dans la littérature française et espagnole au moyen âge, pp. 105 ff. and 157 ff.) maintains that all Roland matter in Digby-23 not appertaining exclusively to the battle with Baligant and the taking of Zaragoza formed a part of the "original" Chanson de Roland of the early eleventh century. He classifies the Aude episode as a part of the earlier version (pp. 134–38).
2. For convenience of reference, laisse 185 is given here in full:

2525—Karles se dort cum hume travaillet.
Seint Gabriel li ad Deus enveiet:
L'empereür li cumandet a gaurder.
Li angles est tute noit a sun chef.
Par avisium li ad anunciét

2530—D'une bataille ki encuntre lui ert:
Seneñance l'en demustrat mult gref.
Carles guardat amunt envers le ciel,
Veit les tuneires e les venz e les giels
E les orez, les merveillus tempez.

2535—E fous e flambes i est apareillez:
Isnelement sur tute sa gent chet.
Ardent cez hanstes de fraisne e de pumer
E cez escuz jesqu'as bucles d'or mier,
Fruissent cez hanstes de cez trenchanz espiez,

2540—Cruissent osbercs e cez helmes d'acer;
En grant dulor i veit ses chevalers.
Urs e leuparz les voelent puis manger,
Serpenz e guivres, dragun e averser;
Grifuns i ad, plus de trente millers:

2545—N'en i ad cel a Franceis ne s'agiet.
E Franceis crient: “Carlemagne, aidez!”
Le reis en ad e dulur e pitet;
Aler i volt, mais il ad desturber:
Devers un gualt uns granz leons li vient,

2550—Mult par ert pesmes e orguillus e fiers,
Sun cors meïmes i asalt e requert
E prenent sei a braz ambesdous por loiter;
Mais ço ne set liqueus abat ne quels chiet.
Li emperere n'est mie esveillet.

3. Lines 2921-27:

Encuntre mei revelerunt li Seisne
E Hungre e Bugre e tante gent averse,
Romain, Puillain e tuit icil de Palerne
E cil d'Affrike e cil de Califerne,
Puis entrerunt mes peines e mes suïfraites.
Ki guierat mes oz a tel poeste,
Quant cil est morz ki tuz jurz nos cadelet?


5. The Old Norse poet must have known two versions, the earlier, and the one with the Baligant addition, and was thus led to conclude that the addition was a second dream.
6. Lines 3698–704:
Cume il est en sun paleis halçur,  
Par ses messages mandet ses jugeors,  
Baivers e Saisnes, Loherencs e Frisuns;  
Alemans mandet, si mandet Borguignuns  
E Peitevins e Normans e Bretuns,  
De cels de France des plus saives qui sunt.  
Dès ore cumencet le plait de Guenelun.

7. Lines 3705–8:
Li empereres est repairet d'Espaigne  
E vient a Ais, al meilleur sied de France;  
Muntet el palais, est venut en la sale.  
As li Alde venue, une bele damisele.

8. Lines 3734–36:
Li emperere est repairet ad Ais.  
Guenes li fels, en cœines de fer,  
En la citet est devant le paleis.

9. It has been suggested in chapter 3, that the character Aude was de­veloped in the “enfance” material of a primitive version of the *Girard de Vienne* epic. The Baligant revisionist would thus have borrowed her from the stories of the youth of Olivier and Roland which would have been circulat­ing by the end of the eleventh century.


11. See note 25 of chapter 2, above.