

## HORNS AND TRUMPETS IN BYZANTIUM: IMAGES AND TEXTS

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More than thirty years ago Werner Bachmann announced the preparation of a volume of *Musikgeschichte in Bildern* devoted to the Byzantine instrumentarium.<sup>1</sup> Bachmann mentioned having accumulated more than three hundred images, but the volume never appeared. In the meantime, discussion of the resurgence of the use of trumpets in the medieval West, whether as the survival of Roman military practice or as a result of the encounter with Islam during the Crusades, has continued, with only occasional reference to the possible role of Byzantium.<sup>2</sup> For the latter, however, textual evidence only has generally been cited.<sup>3</sup> A principal purpose of this article, therefore, is to present some of the visual evidence available; we will then reconsider some of the textual material.

### Images

Visual evidence for Byzantine trumpets and horns must inevitably be sought in illuminated manuscripts that date from the ninth through the fourteenth century. No archaeological evidence has been reported, and only minimal evidence is available from such sources as ivory panels.<sup>4</sup> With the exception of the twelfth-century copy of the Chronicle of John Skylitzes in Madrid, the principal source of images of trumpets and horns will be found in illustrations of Old Testament texts such as the Book of Psalms.<sup>5</sup> The New Testament's Book of Revelation, illustrated manuscripts of which, from the eighth century on, show how *tuba* was visualized in the Latin West, did not become a canonical text in Byzantium until the fourteenth century.<sup>6</sup>

The Old Testament text on which the illustrations we shall consider was based was the Septuagint, the Greek translation prepared around the second century BCE in Alexandria, and we must briefly consider its vocabulary. Its language was the Koine, the common Greek used throughout the Hellenistic Mediterranean.<sup>7</sup> By this time the classical Greek word for trumpet, *salpinx*, had come to designate both trumpets and horns. While the *hatsotsrah* of the Hebrew text—the “trumpet made of hammered silver” (Numbers 10:1)—is uniformly rendered in the Septuagint as *salpinx*, *shofar*—“ram’s horn” (Joshua 6:1)—is translated both by *salpinx* and *keratine*, meaning “(made of) horn.”<sup>8</sup> The indeterminate meaning of *salpinx* appears clearly in the Septuagint’s version of Hebrew Psalm 98:6, which in the original mentions both *shofar* and *hatsotsrah*: in the Septuagint’s Psalm 97:6 the *shofar* has become *salpinx keratine*, while Numbers 10:1 is drawn upon to render *hatsotsrah* as “hammered” *salpinx*. It should therefore come as no surprise that the “trumpets” of the Battle of Jericho—*shofrot* in the Hebrew and *salpinges* in the Greek—should be represented in Byzantine manuscripts both as straight trumpets and as curved horns (Figures 1-3).

Figure 1 is taken from a Paris copy of the Homilies of Gregory of Nazianzen (879-883), the most closely datable ninth-century Byzantine manuscript.<sup>9</sup> Destined for the Emperor Basil I, the manuscript was probably written and illustrated under the direction of the Patriarch Photius.<sup>10</sup> It contains forty-five full-page illuminations comprising some 200 individual scenes, only one of which, the Fall of Jericho, contains representations of trumpets or horns. This, however, demonstrates in exemplary fashion the Roman heritage of Byzantium. The seven priests of Joshua 6 are shown in full military costume holding Roman military *tubae*, trumpets having long cylindrical tubes and small bells.<sup>11</sup> Later representations of the Fall of Jericho are found in the so-called Octateuchs (Pentateuch, Joshua, Judges, Ruth), and the “Joshua Scroll.”<sup>12</sup> In these, both small trumpets (Figure 2) and small horns (Figure 3) are represented.<sup>13</sup>

The most abundant source of trumpets and horns, however, is provided by illustrated Books of Psalms, in general the most common of Byzantine illustrated manuscripts.<sup>14</sup> The most famous early Psalter, the ninth-century Khludov Psalter in Moscow, contains six such images, five of which also appear in the Theodore Psalter in London.<sup>15</sup> In the Khludov Psalter the *salpinx* of Psalm 80:4, “Blow the trumpet of the new moon,” is represented as a huge horn (Figure 4).<sup>16</sup> Horns also appear in the frontispiece of the Psalter (Figure 5), which shows David, the presumed author of the Psalms, with a horn player on the upper right and a drummer on the upper left; and in the illustration of Psalm 105, which shows the Worship of the Golden Calf, alluded to in the Psalm (Figure 6).<sup>17</sup> Trumpets appear twice in personifications of winds: in the illustration to Psalm 1:4, where the badly damaged image shows a straight conical tube (we show instead the corresponding image of the Theodore Psalter, Figure 7, where a slight flare is indicated); and at Psalm 134, where four winds are shown with short, conical trumpets with an indication of flares (Figure 8).<sup>18</sup> A rather puzzling trumpet appears in the illustration to Psalm 57, vv. 5-6; the wicked are “like the deaf asp that stops her ears / which will not hear the voice of the charmer.” Perhaps to emphasize the deafness of the snake, the snake charmer blows at it with a large conical trumpet (Figure 9).<sup>19</sup> As already mentioned, five of the six Khludov illustrations also appear, only slightly varied, in the Theodore Psalter. The London manuscript does not have a frontispiece, but it adds an illustration to Psalm 150:3 (Figure 10): “Praise him with the sound of trumpet”; and here the *salpinx* of the text is shown as a trumpet.<sup>20</sup> That the instrument appears side-blown is presumably a matter of artistic convention, resulting from the attempt to show the trumpet at full length and to present a full-face image of the trumpeter; a similar phenomenon can be seen in the representation of the hornist in the Khludov frontispiece (Figure 5).

The images we have seen so far prompt two observations: first, the indeterminacy of *salpinx*, which can take the form of both trumpets and horns; and, secondly, the presence in these manuscripts of horns and trumpets in approximately equal proportion. This is in contrast with contemporary Latin practice, where the *tubae* of the Apocalypse are overwhelmingly represented as horns.<sup>21</sup>

Two eleventh-century drawings can serve as illustrations of the relationship between the Byzantine instrumentarium and that of its neighbors. Figure 11 shows a trumpeter from the earliest illustrated manuscript of *Barlaam and Joasaph*, an edifying Greek romance of ultimately oriental origin.<sup>22</sup> The instrument has a cylindrical section followed by a conical flare. The most significant details, however, are provided by what have been seen as two strengthening rings. Such details also appear in one of the earliest images of trumpets in Arabic manuscripts: the instruments of the mounted trumpeters in one of the illustrations of a Paris copy of the *Maqamat* of al-Hariri, produced in Baghdad in 1237 (Figure 12).<sup>23</sup> Taken together, Figures 11 and 12 strongly support the assumption that early Arab military trumpets were based on Byzantine models.

Another manuscript in Paris, Bibliothèque Nationale cod. gr. 74, provides an equally suggestive drawing. The richly illuminated Gospels contain two of the earliest representations of the Last Judgment in Byzantine manuscripts.<sup>24</sup> In one of these, the angel sounding the trumpet to raise the dead holds a well-drawn instrument of the type of the Roman military *tuba* (Figure 13).<sup>25</sup> Images of this type could easily have served as models for the famous Last Judgment trumpets of about 1080 at Sant'Angelo in Formis near Capua, painted perhaps just a few years later than the Gospels in Paris.<sup>26</sup> The Sant'Angelo frescoes are now considered the work of local Italian painters, but the decoration of the church was carried out under the sponsorship of Abbot Desiderius of Monte Cassino, who in the works he directed made extensive use of Byzantine sources and craftsmen.<sup>27</sup>

The images we have seen so far suggest a high degree of traditionalism in Byzantine representations of trumpets and horns, and in fact there will be no important change in the various ways in which trumpets are drawn throughout Byzantine history. The example of the representation of drums, however, shows that Byzantine painters could indeed reflect a significant change in the instrumentarium when this occurred. The frontispiece of the Khludov Psalter (Figure 5) shows one of David's musicians as a drummer striking an hourglass drum, the instrument taking its name from its shape. Later, at the head of Psalm 38, the musician Idithun is represented with another such drum (Figure 15).<sup>28</sup> Hourglass drums also appear in the image of two *tumpanistrioi* (Psalm 67:26) in another ninth-century psalter, Pantokrator Monastery cod. 61 on Mount Athos.<sup>29</sup> After the ninth century, however, such drums no longer are found in Byzantine manuscripts. Instead, from about the year 1000 on, we find cylindrical drums, generally struck with crooked ("crozier") sticks. Such a drummer illustrates a poem on the Life of David in the Theodore Psalter of 1066.<sup>30</sup> Similar drums appear in the frontispiece of the Bristol Psalter, dated to the early part of the eleventh century, and in the psalter, Vat. gr. 752 (Figure 16), the latter dated 1059 and showing a splendid drummer in military costume.<sup>31</sup> Hourglass drums had appeared in seventh-century Persian court scenes; the appearance of cylindrical drums in Byzantine manuscripts is probably related to the adoption in the eleventh century of drums as a regular part of the Byzantine military instrumentarium.<sup>32</sup>

Byzantine influence was still strong in southern Italy and Sicily in the twelfth century, when this area was under Norman rule.<sup>33</sup> Between 1163 and 1165 a new mosaic floor was installed in the Cathedral of Otranto at the southern tip of the peninsula, sponsored by

King William I of Sicily. It contains a number of figures blowing short straight trumpets with flared bells; Figure 17 shows one of these.<sup>34</sup> Similar instruments appear at about the same time in a miniature of the “Madrid Skylitzes” (Figure 18), the only illustrated Greek chronicle to have survived.<sup>35</sup> John Skylitzes, writing in the second half of the eleventh century, was a Constantinopolitan officer and palace official whose chronicle covers the years from 811 to 1057. The copy in Madrid was probably an *ad hoc* production, put together in Sicily about the twelfth century and reflecting Byzantine, Romanesque, and even Gothic and Arabic influences.<sup>36</sup> It contains images of every kind of trumpet we have seen so far. Figure 18 shows the entry of Emperor Nikephoros II Phokas into Constantinople in 963; the group of musicians receiving him at the gate of the city is led by three trumpeters.<sup>37</sup> Earlier, the manuscript shows the Emperor Michael I Rhangabe (811–813) crowning his son (Figure 19).<sup>38</sup> Raised on a shield with a pseudo-Arabic inscription, the emperor and his son are acclaimed by eight trumpeters with straight, conical instruments without bells.

Cavalry battles appear throughout the Chronicle, and many of these show a mounted trumpeter with a short trumpet; usually a cylindrical section merges with a conical one (Figure 20).<sup>39</sup> In one case, however, the trumpeter has an instrument whose cylindrical and conical sections are separated by a pommel (Figure 21).<sup>40</sup> This is possibly the earliest example of a new trumpet which by the year 1200 had spread both to the Atlantic coast of the Spanish peninsula in the West and to Islamic Southern Anatolia in the East.<sup>41</sup> By 1250 this “pommel trumpet” appeared north of the Alps, but it never appeared in Byzantine sources. Figure 22 shows the Anglo-Saxon King Offa escorted by two trumpeters in a manuscript produced by the Benedictine monk Matthew Paris at St. Albans in about 1250.<sup>42</sup> In contrast to this, the two trumpeters escorting a king in a late-fourteenth-century copy of the Romance of Barlaam and Joasaph still carry the traditional Byzantine straight trumpets, and similar trumpets appear in the Triumph of Joseph in the fourteenth-century Bulgarian TomićPsalter (Figures 23, 24).<sup>43</sup>

We may now attempt a summary. The evidence provided by manuscript illumination suggests that Roman trumpets provided the model for Byzantine practice. The continuous use of trumpets, or at least of their images, provided models for both Arab trumpets and the trumpets seen in southern Italy.<sup>44</sup> In the twelfth century, a new trumpet, characterized by one or more pommels, appeared in the Mediterranean. This new trumpet spread rapidly throughout Europe and the Islamic East, but did not appear in Byzantium.

### Texts

If Byzantine illuminated manuscripts provide images of trumpets and horns—and we may assume that such images, even though often or even largely symbolic, bore some relationship to the actual experience of both artist and viewer—Byzantine writings give indications of their actual use. These texts date from the sixth century onward, while the earliest illustrated manuscripts date from the ninth century. By that time, the two common terms for military wind instruments are *salpinx* and *boukinon*, the latter derived from the Latin *bucina*.

Unfortunately, as we shall shortly see, *salpinx* and *boukinon* both can refer to trumpets as well as horns, making it difficult to relate the instruments mentioned in the texts to the instruments shown in the illuminated manuscripts.

Baines has pointed out that the second-century BCE Greek historian Polybius describes Italian pigherders calling their animals by sounding a *bukane*.<sup>45</sup> But in an earlier chapter Polybius describes Corsican herdsmen using a *salpinx*, probably also a horn, and at the Battle of Zama (202 BCE) that ended the Second Punic War, *salpinges* and *bukanai* “sounded shrilly from all sides.”<sup>46</sup> In discussing the vocabulary of the Septuagint we already pointed out that in the Hellenistic Koine *salpinx* could designate both trumpets and horns; but a passage in the *Jewish Antiquities* of Josephus (first century CE) shows that *bukane*, in addition to referring to horns, could also be used for trumpets.<sup>47</sup> Josephus describes the *hatsotsrah* of Numbers 10:1 as a kind of *bukane* made of silver, consisting of a tube (*syrinx*!) made of silver, slightly thicker than an *aulos* and with a *salpinx*-like bell-shaped extremity. Here Josephus, whose work was well-known to later Byzantine writers, seems to provide a florilegium of much of the Greek aerophone vocabulary.

Turning now to Byzantine sources, it must be remembered that the people we call “Byzantines” called themselves Romans: Constantinople was the New Rome, and the Byzantine army inherited much of the tradition and vocabulary of its earlier Roman predecessor. In his *De re militari* (c. 400 CE) the Roman official Vegetius described the use of three different instruments for the various types of signals: *tuba*, *bucina*, and *cornu*.<sup>48</sup> By the time of the Emperor Justinian (527-565), however, this part of the tradition had been lost. We learn this from the advice of Procopius to the general Belisarius at the siege of Auximius (near modern Ancona) in 539.<sup>49</sup> The problem was how to recall small detachments of troops that were in danger of falling into an ambush. We can let Procopius, who was Belisarius’ secretary, speak for himself:

The men, General, who blew the trumpets (*salpinxin*) in the Roman army of ancient times knew two different strains, one of which seemed unmistakably to urge the soldiers on and impel them to battle, while the other used to call the men who were fighting back to the camp, whenever this seemed to the general to be for the best. . . . But since at the present time such skill has become obsolete through ignorance and it is impossible to express both commands by one *salpinx*, do you adopt the following course hereafter. With the cavalry *salpinges* urge on the soldiers to continue fighting with the enemy, but with those of the infantry call the men back to retreat. For it is impossible for them to fail to recognize the sound of either one, for in the one case the sound comes forth from leather [*bursa*; also skin, hide] and very thin wood, and in the other from rather thick brass [*chalkos*, also copper, bronze].<sup>50</sup>

Several aspects of this passage should be noted. First, the use of the classical term *salpinx* prompts Procopius to give the most detailed description of military wind instruments in Byzantine writing. At the same time, the direction to use two different instruments is also common to later military treatises. Finally, it is the louder, “brass” instrument that is used to sound the retreat. As we shall see, almost any kind of signal can be used to start a movement of troops or a battle, but with Byzantine strategy largely defensive, the use of wind instruments to withdraw troops is repeatedly singled out.<sup>51</sup>

The two-instrument pattern appears already in the earliest and most important of Byzantine military treatises, the *Strategikon of Mauricius* of c. 600.<sup>52</sup> Here we are faced with the highly latinized vocabulary of the early Byzantine army. The command words are Latin. To order the troops to advance, the commander shouts the Latin *move*; the signal can also be given by the motion of a pennant, by a *boukinon*, or a drum (*taurea*). The signal to halt is given by *stal*, by banging shields, a movement of hands, or by a *touba*.<sup>53</sup> While it is tempting to equate *boukinon* and *touba* with the cavalry and infantry *salpingses* of Procopius respectively, the instructions in the chapter of the *Strategikon* cited here deal with cavalry tactics, and *boukinon* and *touba* reappear in the final chapter, an addition discussing infantry tactics.<sup>54</sup> We may note here the progressive Hellenization of the Latin *buc(c)ina*: the earlier, feminine *bukane* has now acquired the Greek neutral ending *-on*, and *boukinon* is well on the way of becoming the standard name of any military wind instrument.<sup>55</sup> The Latin term *tuba*, however, still survives unchanged in Greek spelling. Its common use is indicated by what may be called the “pidgin Latin” *toubator*, modeled on *boukinator* but replacing the proper Latin *tubicin*.

By some three hundred years after the composition of the *Strategikon*, however, the word *touba* had fallen out of common use. About 905 the Emperor Leo VI (“Leo the Wise”) prepared a revised version of the *Strategikon*, the *Taktika*.<sup>56</sup> He quotes the passage concerning the use of *boukinon* and *touba*, but on the first occasion he explains that “*touba* is now called a *boukinon*,” while later it is called more specifically “a small *boukinon*,”<sup>57</sup> a description that calls into question the identification of *touba* as a (Roman) trumpet and *boukinon* as horn or bugle. In a later passage, the *boukinator* is assumed to be provided with both large and small *boukina*.<sup>58</sup> Clearly *boukinon* had become by this time the common designation for any military wind instrument; the classical *salpinx* appears in the *Taktika* only in the rhetorical preface, where Leo praises its ability to rouse the spirit of the army.

From the middle of the tenth century onward, Byzantine writers use fairly indiscriminately both *salpinx* and *boukinon*. The *Alexiad* of Anna Comnena (Komnene; 1083-c. 1153/54), a panegyric of her father Alexios I and dealing largely with his military exploits, provides a good example.<sup>59</sup> The highly educated princess refers repeatedly to *salpingses*, but on one occasion slips from her Atticist style and mentions *bukina*.<sup>60</sup> *Salpinx* and *bukinon* [*sic*] appear together on this occasion: the acclamation of the emperor by his troops at the siege of Nicaea.<sup>61</sup>

The *Alexiad* also provides a glimpse of contemporary Western practice, at least as relayed to Anna by her informants: referring to a battle between the German Emperor Henry IV

and Rudolf of Swabia, she mentions the Emperor's *keratine salpinx*, explicitly distinguishing the despised Franks' animal horns from the Byzantine army's instruments.<sup>62</sup>

Between 1204 and 1261 Constantinople was under Latin rule. The last significant text concerning aerophones belongs to the following period, which ended with the fall of Constantinople to the Turks in 1456. The treatise *De Officiis* described the duties of the various functionaries, including musicians, surrounding the emperor on various occasions.<sup>63</sup> When the emperor mounts his horse in the morning, drums (*anakarades*) are struck, *salpinges* are sounded, and *boukinatores* sound their silver instruments. "The *salpinges* which are sounded for this purpose are not like other *salpinges*, but of a different form. The sound of these instruments signifies that if someone among the people has a request to make or a complaint concerning an injustice, he can, when hearing it, run up and present his demand."<sup>64</sup> A different ensemble appears with the emperor on the occasion of "Feasts of the Lord" (Christmas, Epiphany, etc.). Here we have players of *salpinges*, *bukinai*, *anakarades* and of pipes or shawms, *souroulistai*. "But only these: they are not joined by any of the small instruments."<sup>65</sup> It would seem that we have here a distinction corresponding to the *alta* and *bassa* ensembles of the West. More importantly, however, this is the first appearance in our texts of trumpets and horns in a purely ceremonial connection, though the Coronation miniature of the Madrid Skylitzes suggests that the practice could have been established much earlier (Figure 19). Nevertheless, the only instrument mentioned on such occasions in the tenth-century *De Ceremoniis* is the organ.<sup>66</sup>

### Text and Image

Both texts and images suggest the uninterrupted use of trumpets and horns throughout Byzantine history. To a large extent, however, these two kinds of sources must be regarded as separate witnesses. At any given time, Byzantine texts tend to employ two names for "brass instruments": cavalry *salpinx* and infantry *salpinx* in Procopius, *touba* and *boukinon* in the *Strategikon*, *salpinx* and *bukanon* in the *Alexiad*. On the other hand, images of trumpets in particular show a considerable variety—long and short, cylindrical and conical, with and without bell or flare. It is likely that at least some of this variety is grounded in reality; the example of the cylindrical drums shows Byzantine artists responding to the actual appearance of instruments. In this situation establishing a one-to-one correspondence between the instruments mentioned in the text we have cited and the images seen in the illuminated manuscripts remains a highly questionable enterprise. Even so, a last point can be made: pommel trumpets, which by the end of the twelfth century have appeared in both Latin and Arabic images, never appear in Byzantine sources. While this is an argument from silence, it is highly unlikely that Byzantium was the immediate source of these new trumpets; what seems to be indicated is a renewed critical examination of the visual record of trumpets and horns in the Western early and high Middle Ages.



## NOTES

<sup>1</sup>Werner Bachmann, "Das byzantinische Instrumentarium," *Anfänge der slavischen Musik* (Bratislava: Verlag der slowakischen Akademie der Wissenschaften, 1966), Slowakische Akademie der Wissenschaften, Institute für Musikwissenschaft, Symposia I, pp. 125-46.

<sup>2</sup>Anthony Baines, *Brass Instruments: Their History and Development* (London: Faber and Faber, 1976; reprint, Faber Paperback), pp. 72-75; Don L. Smithers, "A New Look at the Historical, Linguistic and Taxonomic Bases for the Evolution of Lip-Blown Instruments from Classical Antiquity until the End of the Middle Ages," *Historical Brass Society Journal* 1 (1989): 3-64, here 38-40; Peter Downey, "If Music Comes from Many Horns, then the Sound is Sweeter': Trumpets and Horns in Early Medieval Ireland," *Historic Brass Society Journal* 9 (1997): 130-74, here 166; Keith Polk, "Brass instruments in Art Music in the Middle Ages," *The Cambridge Companion to Brass Instruments*, ed. Trevor Herbert and John Wallace (Cambridge: Cambridge University Press, 1997), pp. 38-50, 289-91, here 38-40.

<sup>3</sup>Two important early texts are cited by Baines, *Brass Instruments*, pp. 68-69; see also Sabine Zak, *Musik als "Ehr und Zier"* (Neuss: Verlag Dr. Paffgen, 1979), pp. 41-42, and Smithers, "A New Look," 57-59. An important image of a trumpeter was published by Joachim Braun, "Musical Instruments in Byzantine Illuminated Manuscripts," *Early Music* 8 (1980): 312-28, here 321; see fig.11 below.

<sup>4</sup>See note 25 below.

<sup>5</sup>John Lowden, *Early Christian & Byzantine Art* (London: Phaidon Press Limited, 1997), provides an introductory overview of Byzantine manuscript illumination.

<sup>6</sup>See *Oxford Dictionary of Byzantium*, ed. Alexander Kazhdan et al., 3 vols. (New York and Oxford: Oxford University Press, 1991), s.v. "Apocalypse".

<sup>7</sup>The Septuagint will be cited according to *Septuaginta*, ed. Alfred Rahlfs, editio minor (Stuttgart: Deutsche Bibelgesellschaft, 1979). On Koine see Robert Browning, *Medieval and Modern Greek* (Cambridge: Cambridge University Press, 2<sup>nd</sup> ed., 1983; reprint, 1989), pp. 19ff.

<sup>8</sup>Sol Baruch Finesinger, "Musical Instruments in O.T." *Hebrew Union College Annual* 3 (1926):21-76, here 56-63.

<sup>9</sup>Paris, Bibliothèque Nationale, cod. gr. 510 fol. 424v; Henri Omont, *Manuscrits des plus anciens manuscrits grecs de la Bibliothèque Nationale du VI<sup>e</sup> au XIV<sup>e</sup> siècle* (Paris: H. Champion, 1929), plate LV; Leslie Brubaker, *Vision and Meaning in Ninth-century Byzantium: Image as Exegesis in the Homilies of Gregory of Nazianzus*. Cambridge Studies in Palaeography and Codicology 6 (Cambridge: Cambridge University Press, 1999), fig. 41.

<sup>10</sup>Brubaker, *Vision*, pp. 5-7, 412-14.

<sup>11</sup>For some of the implications of these details see *ibid.*, pp. 198-99.

<sup>12</sup>John Lowden, *The Octateuchs. A Study in Byzantine Manuscript Illumination* (University Park, PA: Pennsylvania State University Press, 1992); Kurt Weitzmann and Massimo Barnabo with Rita Tarasconi, *The Byzantine Octateuchs*, 2 vols; *The Illustrations of the Septuagint*, vol. II (Princeton: Department of Art and Archaeology, Princeton University in association with the Princeton University Press, 1999).

<sup>13</sup>Istanbul, Topkapi Saray Library, Codex G.I.8., fol.480v; Weitzmann and Barnabo, vol. 2, fig. 1189; Mount Athos, Vatopedi Monastery, Codex 603, fol. 353r; Weitzmann and Barnabo, vol. 2, fig. 1194; Paul Huber, *Bild und Botschaft* (Zurich: Atlantis Verlag, 1973), no. 77 (color).

<sup>14</sup>John Lowden, "Observations on Illustrated Byzantine Psalters," *Art Bulletin* 70 (1988): 241-350.

<sup>15</sup>Moscow, State Historical Museum, Codex 129 (Khludov Psalter), ff. 1v, 2r, 57r, 81v, 108v, 133r;



Marfa Vlacheslavovna Shchepkina, *Miniatury Khludovskoi psaltyri* (Moscow: Isskustovo, 1977), color reproduction; see also Kathleen Corrigan, *Visual Polemics in the Ninth-century Byzantine Psalters* (Cambridge: Cambridge University Press, Cambridge, 1992); *The Glory of Byzantium: Art and Culture in the Middle Byzantine Era, A.D. 843-1262*, ed. Helen C. Evans and William D. Wixom, Catalogue of Exhibition (New York, Metropolitan Museum of Art, distributed by Harry Abrams, Inc., New York, 1997), no. 52, p. 87-88. London, British Library, Ms. Add. 19352 (Theodore Psalter), ff. 1v, 72r, 198r, 143r, 174r, 188r; Sirarpie Der Nersessian, *L'Illustration des Psautiers grecs du Moyen Age II: Londres, Add. 19.352 [sic]* (Bibliothèque des Cahiers Archéologiques V, Paris: Editions Kleinsieck, 1970), figs. 2, 116, 179, 230, 274, 294; *Glory of Byzantium*, no. 53, pp. 98-99.

<sup>16</sup> Shchepkina, *Miniatury*, fol. 81v.

<sup>17</sup> *Ibid.*, fol. 1v, 108v.

<sup>18</sup> Der Nersessian, *Psautiers*, fig. 2; Schchepkina *Miniatury*, f. 133r. In Psalm 1, the wind scatters the wicked (in the Greek, 'ungodly') like chaff from the face of the earth; in Psalm 134, the Lord "brings winds out of his treasure."

<sup>19</sup> Shchepkina, *Miniatury*, fol. 57r.

<sup>20</sup> Der Nersessian, *Psautiers*, fig. 294.

<sup>21</sup> The illustration to Revelation 1:10 on fol. 3v of the ninth-century north Italian Trier Psalter has been repeatedly cited to demonstrate the survival of straight trumpets in the Latin Middle Ages (Herbert Heyde, *Trompete und Trompetenblasen im europäischen Mittelalter*, Inauguraldissertation, Karl-Marx-Universität (typescript, 1968), Abbildung 2; Tilman Seebass, *Musikdarstellung und Psalterillustration im frühen Mittelalter*, 2 vols. (Berne: Francke-Verlag, 1973), vol. 2, fig. 34; Baines, *History of Brass Instruments*, p. 71, fig. 10a). Examination of the manuscript, however, shows that the straight trumpet of the image on fol. 3v is followed by seven images showing the seven "Trumpet Angels" of the Apocalypse all carrying curved horns: *Trierer Apokalypse* (Stadtbibliothek Trier, Codex 31); Faksimile Ausgabe (Graz: Akademische Druck- u. Verlagsanstalt, 1974; *Codices Selecti XLVIII*), fol. 24r et seq. The straight aerephones appearing in Irish/Insular sources and documented by Buckley and Downey represent a separate tradition: Ann Buckley, "Music-related Imagery on Early Christian Insular Sculpture: Identification, Contest, Function," *Imago Musicae* 7 (1991): 135-99, here 177-85; Downey, "If Music Comes from Many Horns."

<sup>22</sup> Braun, "Musical Instruments in Byzantine Illuminated Manuscripts," p. 321, fig. 5a. This illustrates the Apologue of the King's Brother and the Trumpet of Death, St. John Damascene, *Barlaam and Joasaph*, ed. and transl. G. R. Woodward and H. Mattingly (Cambridge, MA: Harvard University Press, Loeb Classical Library, 1967, repr. 1997). For later illustrated manuscripts of the romance see Sirarpie Der Nersessian, *L'Illustration du roman de Barlaam et Joasaph* (Paris: E. de Bonnard, 1937).

<sup>23</sup> Richard Ettinghausen, *Arab Painting* (New York: Rizzoli International Publications, Inc., 1977; first edition Geneva, Editions d'Art Albert Skira S.A., 1962), p. 118; Edward Tarr, *The Trumpet*, transl. S.E. Plank and Edward Tarr (Portland, OR: Amadeus Press, 1988), color plate (unnumbered). Of some dozen surviving illustrated manuscripts of the *Maqamat*, Paris fonds arabe cod. 5847 is unique in the representation of the trumpeters. By the time this manuscript was produced (1237), a new type of trumpet ("pommel trumpet") had already appeared in Islamic Southern Anatolia, a region closer to the Mediterranean; see below, note 41.

<sup>24</sup> See the following note.

<sup>25</sup> Paris, Bibliothèque Nationale, Cod. gr. 74, fol. 51v. (Henri Omont, *Evangelies avec peintures byzantines du XI siècle* (Paris, n.d.); Beat Brenk, *Tradition und Neuerung in der christlichen Kunst des ersten Jahrtausend: Studien zur Geschichte des Weltgerichtsbildes*, Wiener Byzantinistische Studien vol. 3 (Vienna, Institut für Byzantinistik der Universität Wien, 1966), Abbildung 24. There is a color reproduction in Lowden, *Early Christian & Byzantine Art*, p. 302, fig. 176. Note, however, the tenth-

century ivory panel in the Victoria and Albert Museum in London where the angel raising the dead uses a realistically sculpted small horn (Brenk, *Tradition und Neuerung*, pp. 84-87; Abbildung 23).

<sup>26</sup>Otto Demus, *Romanesque Mural Painting*, Photographs by Max Hirmer, transl. Mary Whitall (New York: Harry Abrams, Inc., 1970), plate 19 (entire fresco); Tarr, *Trumpet*, color plate (unnumbered) of a single trumpeting angel. Tarr's photograph shows details of the bell omitted in the line drawing of Baines, fig. 10d.

<sup>27</sup>Demus, *Romanesque Mural Painting*, p. 294; Charles Reginald Dodwell, *The Pictorial Arts of the West, 800-1200* (New Haven and London: Yale University Press, Pelican History of Art, 1993), pp. 166-68.

<sup>28</sup>Shchepkina, *Miniature*, fol. 57v.

<sup>29</sup>Suzy Dufrenne, *L'illustration des Psautiers grecs du Moyen Age [I]: Pantocrator 61, Paris grec 20*, *British Museum* [now British Library] 40731 (Bibliothèque des Cahiers Archéologiques I, Paris: Editions Kleinsieck, 1966); Première Partie, Psautier du Mont-Athos, Pantocrator n° 61, fol. 85r.

<sup>30</sup>Fol. 191r; Der Nersessian, *Psautiers*, fig. 299.

<sup>31</sup>British Library, Ms. Add. 40731 (Bristol Psalter); Dufrenne, *Psautiers*, Troisième Partie, Psautier dit de Bristol, fol. 7v. Vatican, Biblioteca Apostolica Vaticana Cod. gr. 752, fol. 449v; Bachmann, "Das byzantinische Instrumentarium," p. 132, Abbildung 1; reproduced in color in Seebass, *Musikdarstellung und Psalterillustration*, vol. 2, frontispiece; *Glory of Byzantium*, no. 142, p. 206. Vat. gr. 752 is dated 1059.

<sup>32</sup>Alfred Büchler, "Leo the Deacon, Nikephoros II Phokas and Byzantine Martial Music," *Abstracts of Papers, Twenty-second Byzantine Studies Conference*, (Chapel Hill: University of North Carolina), pp. 48-49. See also Büchler, "Music both High and Low: Tancred of Lecce Enters Palermo, 1190," *Imago Musicae* 9-12 (1992-95): 92-122, here 104-07 and figs. 16, 18, 19.

<sup>33</sup>For a well-illustrated introduction see John Julius Norwich, *The Kingdom of the Sun, 1130-1194* (New York: Harper & Row, 1970).

<sup>34</sup>Walter Haug, *Das Mosaik von Otranto: Darstellung, Deutung und Bilddokumentation* (Wiesbaden: Dr. Ludwig Reichert Verlag, 1977), fig. 17.

<sup>35</sup>Sebastian Cirac Estopañan, *Skylitzes Matritensis*, 2 vols. (Barcelona; Primera Catedra de Filologia Greca. Facultad de F.y.C. de la Universidad de Barcelona. Seccion de Filologia Griega y Bizantinista del C.S. de I.C., 1966); André Grabar and Manoussas Manoussacas, *L'illustration du manuscrit de Skylitzes de la Bibliothèque Nationale de Madrid* (Venice: Bibliothèque de l'Institut Hellénique d'Etudes Byzantines et Post-Byzantines de Venise, no. 10, 1979).

<sup>36</sup>*Oxford Dictionary of Byzantium*, vol. 3, p. 1914, s.v. "Skylitzes, John"; Ihor Sevcenko, "The Madrid Manuscript of the Chronicle of Skylitzes in the light of its new dating," *Byzanz und der Westen: Studien zur Kunst des Europäischen Mittelalters*, ed. Irmgard Hutter, Österreichische Akademie der Wissenschaften, Philosophisch-Historische Klasse, Sitzungsberichte 432 (Vienna: Verlag der Österreichische Akademie der Wissenschaften, 1984), pp. 117-39; Christine Havice, "Making the Madrid Skylitzes: Miniatures for Byzantine History in a Norman Workshop," *Abstracts of Papers, Twenty-fourth Byzantine Studies Conference* (College Park, MD: University of Maryland, 1999), pp. 64-65.

<sup>37</sup>Madrid Skylitzes, fol. 145rb; Cirac Estopañan, *Skylitzes Matritensis*, no. 375; Grabar and Manoussacas, *L'illustration du manuscrit de Skylitzes*, plate XXX and fig. 147; Alfred Büchler, "Music both High and Low," p. 105, fig. 15; *Glory of Byzantium*, p. 14 (color).

<sup>38</sup>Madrid Skylitzes, fol. 10v; Cirac Estopañan, *Skylitzes Matritensis*, no. 8; Grabar and Manoussacas, *L'illustration du manuscrit de Skylitzes*, plate I (color). A group of three similar trumpets appears on the boat carrying the rebel Thomas, fol. 29v; Cirac Estopañan, *Skylitzes Matritensis*, no. 63; Grabar and Manoussacas, *L'illustration du manuscrit de Skylitzes*, fig. 18.

<sup>39</sup>Madrid Skylitzes, fol. 135r; Cirac Estopañan, *Skylitzes Matritensis*, no. 339; Grabar and Manous-

sacas, *L'illustration du manuscrit de Skylitzes*, plate XXVIII and fig. 165.

<sup>40</sup>Madrid Skylitzes, fol. 217r; Cirac Estopañan, *Skylitzes Matritensis*, no. 515; Grabar and Manoussacas, *L'illustration du manuscrit de Skylitzes*, fig. 357; Büchler, "Music both high and low," p. 100, fig. 8.

<sup>41</sup>Pommel trumpets appear about 1188 at Santiago de Compostela (Spain); Lorrão (Portugal) in 1189, and in Islamic Southern Anatolia by 1206; see Büchler, "Music both High and Low," pp. 99-102, figs. 9, 10, 11.

<sup>42</sup>Dublin, Trinity College Library, Ms. 177; Suzanne Lewis, *The Art of Matthew Paris in the "Chronica Majora"*, California Studies in the History of Art 21 (Berkeley: University of California Press, 1987), 380-87; Büchler, "Music both High and Low," p. 98, fig. 7.

<sup>43</sup>Paris, Bibliothèque Nationale, cod. gr. 1128, fol. 25v; Der Nersessian, "*Barlaam et Joasaph*," plate LIII; Moscow State Historical Museum, Codex 2752 (Tomič Psalter), fol. 179r; see also the Acclamation of Christ, *ibid.*, fol. 246r, with two pairs of long straight trumpets without pommels; Marfa Vlacheslavona Shchepkina, *Bolgarskaia Mininatura XIV Veka: Isslodveni Psaltyri Tomicha* (Moscow: Isskustovo, 1963), plates XVIII (no. 48), XL (no. 63).

<sup>44</sup>For a discussion of this problem with regard to various classes of instruments see Seebass, *Musikdarstellung*, vol. 1, *passim*.

<sup>45</sup>Baines, *History of Brass Instruments*, p. 47; Polybius, *The Histories*, XII.2.3-4 (ed. and transl. W. R. Paton, 6 vols.; London: William Heinemann, Loeb Classical Library, 1925; vol. 4, pp. 308-313).

<sup>46</sup>*Histories* XII.2.4 (Loeb Edition vol. 4, pp. 309-313); *ibid.*, XV.11.12 (Loeb Edition, vol. 4, pp. 490-91).

<sup>47</sup>Josephus, *Jewish Antiquities* III, 6; [works] 9 vols., transl. and ed. H. St. J. Thackeray and Ralph Marcus, Loeb Classical Library (Cambridge: Harvard University Press, 1950), vol. 4, pp. 458-61. The works of Josephus were well known to Byzantine readers; the lexicon known as *Souda* (also *Suda* and *Suida*) cites the passage quoted here to define *bukane*; *Svidae Lexicon*, ed. Ada Adler (Leipzig: B. G. Teubner, 1935), part 4, p. 500.

<sup>48</sup>*Vegetii Epitoma Rei Militaris* (Leipzig, 2<sup>nd</sup> ed., 1886). *Vegetius: Epitome of Military Science*, transl. N. P. Milner, Translated Texts for Historians, vol. 16 (Liverpool University Press, 2<sup>nd</sup> ed., 1996), with good notes and introduction; Book II.22, pp. 56-57.

<sup>49</sup>Baines, *History of Brass Instruments*, p. 68; Procopius, *History of the Wars*, VI.23; Loeb Classical Library, 7 vols., transl. H. B. Dewing (Cambridge: Harvard University Press, 1954), vol. 4, pp. 66-77.

<sup>50</sup>*Ibid.*, p. 73.

<sup>51</sup>Cf. *Three Byzantine Military Treatises*, ed. and transl. George T. Dennis, Corpus Fontium Historiae Byzantinae, vol. 25 (Washington, DC: Dumbarton Oaks Research Library and Collection, 1985), pp. 208 (*Skirmishing*, not long after 969), 280 (*Campaign Organization and Tactics*, c. 990).

<sup>52</sup>*Das Strategikon des Maurikios*, ed. George T. Dennis, German transl. Ernst Gamillscheg, Corpus Fontium Historiae Byzantinae, vol. 17 (Vienna: Verlag der Österreichischen Akademie der Wissenschaften, 1981); *Maurice's Strategikon, Handbook of Military Strategy*, transl. George T. Dennis (Philadelphia: University of Pennsylvania Press, 1984).

<sup>53</sup>*Strategikon des Maurikios* III, 5; pp. 154-55; Baines, *History of Brass Instruments*, pp. 68-69.

<sup>54</sup>*Oxford Dictionary of Byzantium*, vol. 3, s.v. *Strategikon of Maurice*.

<sup>55</sup>Cf. Browning, *Medieval and Modern Greek*, p. 41.

<sup>56</sup>*Leonis imperatoris Tactica, Patrologiae cursus completus. Series Graeca*, ed. J. P. Migne, vol. 107 (Paris, 1863), cols. 671-1094; *idem*, ed. Rudolf Vári, 2 vols. (*Sylloge tacticorum Graecorum*, vol. 3) (Budapest: Hungarian Academy of Sciences, 1917-22).

<sup>57</sup>*Taktika*, ed. Migne, vol. 107, cols. 742, 754; *idem*, ed. Vari, vol. 1, pp. 151, 177.

<sup>58</sup>*Taktika*, ed. Migne, vol. 107, col. 798; *idem*, ed. Vari, vol. 1, pp. 196-97.

<sup>59</sup>*L'Alexiade*, ed. Bernard Leib, 4 vols. (Paris: Société des éditions "Les Belles Lettres," 1937-1976);

*The Alexiad of Anna Comnena*, transl. E. R. A. Sewter (Harmondsworth, Middlesex: Penguin Books 1969).

<sup>60</sup> Leib edition, vol. 3, p. 12 (twice), 3; Book XI, II.3, 4, 5.

<sup>61</sup> *Ibid.*, (Book XI, III.5).

<sup>62</sup> *Ibid.*, vol. 1, p. 50 (Book I, XII.7); Sewter translation, p. 64. Rudolf appears here as “Landulphus.” The battle took place in 1080.

<sup>63</sup> Pseudo-Kodinos, *Traité des Offices*, ed. and transl. Jean Verpeaux (Paris: Editions du Centre National de la Recherche Scientifique, 1966).

<sup>64</sup> *Ibid.*, p. 172 (translation after Verpeaux).

<sup>65</sup> *Ibid.*, p. 197.

<sup>66</sup> Constantine VII Porphyrogenetos, *Le Livre des Cérémonies*, 2 vols., ed. and transl. Albert Vogt (Paris: Société d'Édition “Les Belles Lettres,” 1935), vol. 2, pp. 22, 96, etc.



**Figure 1A**

Fall of Jericho. Paris: Bibliothèque Nationale, cod. gr. 510 (Homilies of Gregory of Nazianzen), fol. 424v (detail) (879-883)



**Figure 1B**

Fall of Jericho. Paris: Bibliothèque Nationale, cod. gr. 510 (Homilies of Gregory of Nazianzen), fol. 424v (detail) (879-883)



**Figure 2**

Fall of Jericho. Istanbul: Topkapi Saray Library, Codex G.I.8  
(Octateuch) fol. 480v. (c. 1125-1150)





**Figure 3**

Fall of Jericho. Mount Athos, Vatopedi Monastery, Codex 602  
(Octateuch), fol. 353r (c. 1275-1300)



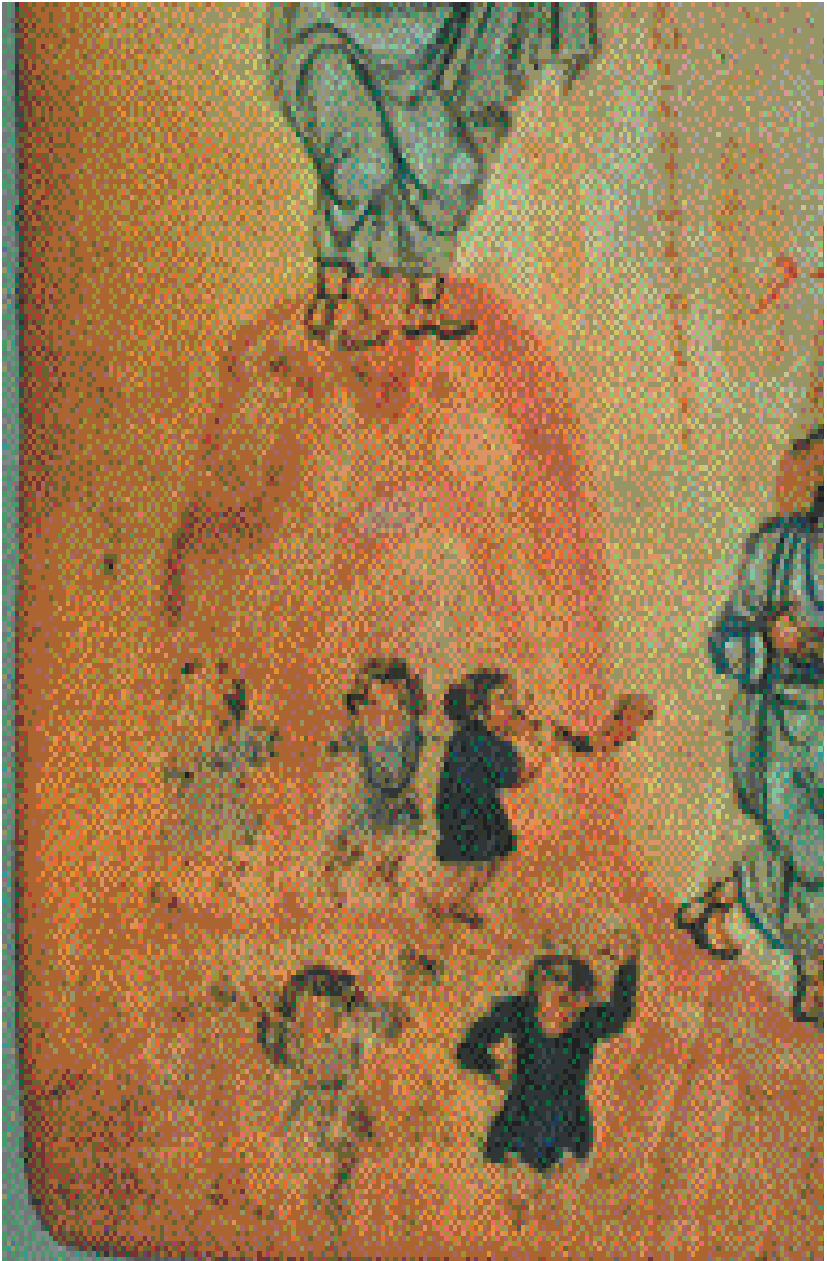
**Figure 4**

The trumpet of the new moon. Moscow, State Historical Museum, Codex 129  
(Khudov Psalter), fol. 81v (ninth century)



**Figure 5**

David and his musicians. Moscow, State Historical Museum, Codex 129 (Khludov Psalter), fol. 1v (ninth century) (detail)



**Figure 6**

Worship of the Golden Calf. Moscow, State Historical Museum Codex 129  
(Khludov Psalter), fol. 108v (ninth century) (detail)



**Figure 7**

Personification of Wind. London, British Library Ms. Add.19352  
(Theodore Psalter), fol. 1v (1066) (detail)



**Figure 8**

The Four Winds. Moscow, State Historical Museum, Codex 129  
(Khludov Psalter), fol. 133r (ninth century)



**Figure 9**

Snake Charmer. Moscow, State Historical Museum Codex 129  
(Khloodov Psalter) fol. 56r (ninth century)





**Figure 10**  
Man blowing trumpet. London, British Library Ms. Add.190352  
(Theodore Psalter), fol. 188r (1066)



**Figure 11**

Trumpet of Death. Jerusalem, Greek Patriarchate, Codex Hagios Stavros 42  
(Barlaam and Joasaph) fol. 33r (eleventh century)



**Figure 12**

Color party. Paris, Bibliothèque Nationale, fonds arabe cod. 5847  
(Maqamat of al-Hariri) fol. 19r (1237)



**Figure 13**

Last Judgment. Paris, Bibliotheque Nationale, cod.gr.74  
(Gospels), fol. 51v (c. 1050-1075) (detail)



**Figure 14**  
Last Judgment. Sant'Angelo in Formis (c. 1080) (detail) (fresco)



**Figure 15**

Idithun as drummer. Moscow, State Historical Museum, Codex 129  
(Khlodov Psalter) fol. 37v (ninth century) (detail)



**Figure 16**

Drummer. Vatican, Biblioteca Apostolica Vaticana, cod.gr. 752 (1059) fol. 449v (detail)





**Figure 17**

Trumpeing figure. Otranto Cathedral, floor mosaic (1163-1165) (detail)



**Figure 18**

Reception of Nikephoros II Phokas at Constantinople. Madrid, Biblioteca Nacional, Codex Vitr.26-2 (Chronicle of Skylitzes) fol. 145r (mid-twelfth century)



**Figure 19**

Emperor Michael I Rhangabe crowning his son. Madrid, Biblioteca Nacional, cod.Vitr. 26-2 (Chronicle of Skylitzes) fol. 10v (mid-twelfth century)



**Figure 20**

Cavalry battle. Madrid, Biblioteca Nacional, Codex Vitr.26-2  
(Chronicle of Skylitzes), fol. 135r (mid-twelfth century) (detail)

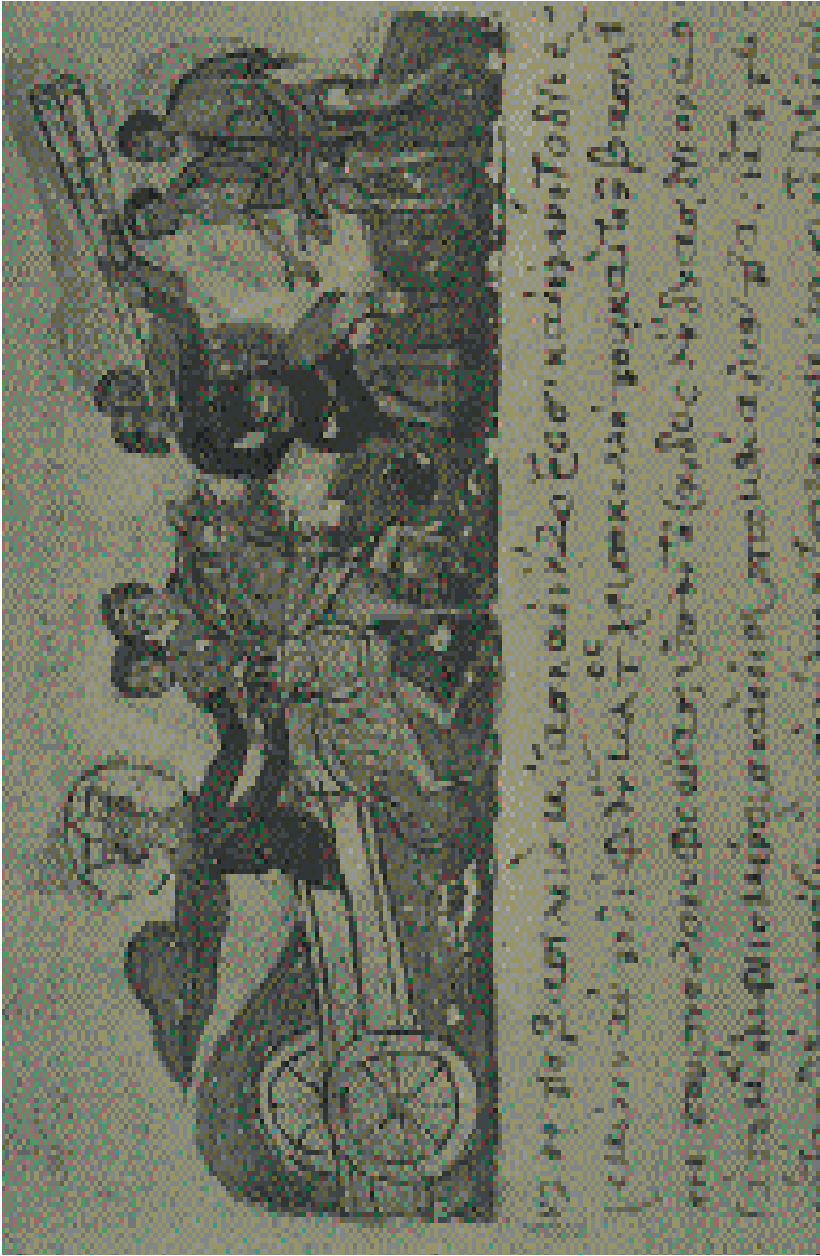


**Figure 21**

Cavalry battle. Madrid, Biblioteca Nacional, Codex Vitr.26-2  
(Chronicle of Skylitzes), fol. 217r (mid-twelfth century) (detail)



**Figure 22**  
King Offa. Dublin, Trinity College Library Ms. 177  
(Matthew Paris, *Vie de Saint Aubain*), fol. 55v (c. 1250)



**Figure 23**

A King meets two monks. Paris, Bibliothèque Nationale, cod.gr.1128  
 (Barlaam and Joasaph), fol. 25v (fourteenth century)





**Figure 24**

The Triumph of Joseph. Moscow, State Historical Museum, Codex 2752  
(Tomič Psalter), fol. 170r.

