

# An Archaeology of the Senses: Perception and Cultural Expression in Ancient Mesoamerica

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*The ancient Maya and other Mesoamerican peoples showed an intense interest in invoking the senses, especially hearing, sight, and smell. The senses were flagged by graphic devices of synaesthetic or cross-sensory intent; writing and speech scrolls triggered sound, sightlines the acts and consequences of seeing, and flowery ornament indicated both scent and soul essence. As conceived anciently, the senses were projective and procreative, involving the notion of unity and shared essence in material and incorporeal realms. Among the Maya, spaces could be injected with moral and hierarchical valuation through visual fields known as y-ichnal. The inner mind extended to encompass outer worlds, in strong parallel to concepts of monism. From such evidence arises the possibility of reconstructing the phenomenology of ancient Mesoamericans.*

My task . . . is, by the power of the written word to make you hear, to make you feel — it is, before all, to make you see. That — and no more, and it is everything. Joseph Conrad (1959, 14)

Sight, sound, touch, hearing, and smell are not ordinarily the concern of archaeologists, since the senses do not leave vestiges that can readily be accessed. Far more approachable are the ways in which art and writing encode or activate the senses. Such signs and devices reveal ancient categories and beliefs about the interaction of body and the external world. This article focuses on three of the senses, smell, hearing, and sight, as these were perceived by Mesoamerican peoples. The senses were linked in a near-synaesthetic fashion, stimulus in one modality — sight — triggering perception in another — hearing or smell.<sup>1</sup> By means of graphic devices such as speech, scent, and sight scrolls, the Maya and other Mesoamericans communicated the presence, nature, and semantic content of sight, smell, and hearing, to an extent unparalleled in most other parts of the ancient world. Moreover, the binocular and peripheral vision that comes naturally to humans was, for the Maya at least, given a moral valuation that informed their views of space as an interactional field.

Buildings were configured according to sensory properties that can only be understood through culturally bound ideas about sight and its creative and ratifying qualities.

## The nature of smell, sight and hearing

Smell, sight and hearing can be studied from a purely physiological perspective. With smell, the olfactory epithelium receives molecules, exciting neurons that transmit electrical impulses to the brain (Takagi 1978, 233). In sight, the retina receives images that are transmitted as electrical signals through the medium of receptor cones and nerves. From there they travel to the striate and extrastriate cortices, where neural representations attach meaning to the signals (Goldstein 1999, 97). Perception now takes place. Light transforms itself into 'sight', spectra into 'colours', binocular clues into 'depth', and so on. Similarly, the physical stimulus of changes in air pressure results in the bending of cilia in the inner ear. These motions generate electrical signals that pass along auditory nerve fibres to the temporal lobe of the cortex (Goldstein 1999, 325). The result is 'sound', or the actual experience of acoustic signals. Various sectors of the brain process such visual and auditory

flags through the formulation and testing of cognitive hypotheses (Gregory 1997, 10): that is, from an infinity of possibilities, what exactly is the object being seen, what is the nature of the sound being heard? Such mind-generated assertions about reality are 'representations' that do more than simply show pictures: they also annex background information that gives meaning to the perceived object or sound (Gregory 1997, 8). These meanings are most tenaciously and indelibly held when emotions, or memories of bodily reactions, adhere to representations of the mind.

Such meanings are what interest us here. The senses can be categorized and understood within particular cultural and historical idioms. Using an analogy from linguistics, we might call this the realm of the 'meta-senses', a web of secondary reflections and graphic renderings of what the senses are and what they do. Just as perception 'selects' from an infinity of sensation, so do people invariably select and narrowly establish what the senses might be — after all, this is how they can readily be described, even though the sensations themselves are ineffable. Defined partly in terms of human, physical capabilities, the meta-senses inevitably involve local ideas, as determined by tradition and practice. Changes in ideas about the senses are, as in eighteenth- and nineteenth-century European concepts of visuality, 'inseparable from a massive reorganization of knowledge and social practices that modified in myriad ways the productive, cognitive, and desiring capacities of the human subject' (Crary 1990, 3). A few scholars, such as Wartofsky, have gone so far as to see human vision as largely a cultural artefact based on historical changes in representation (e.g. Wartofsky 1981). Nonetheless, this may belittle the actual physical bases of sensation (Jay 1993, 5). Perception can never be isolated totally from the physiological equipment and biological universals that make it possible.

As in any culture, Western beliefs are shaped by history. Sight, for example, was not always regarded as a unidirectional flow from external world to retinal receptors (Gonzalez-Crussi 1989, 100–103). In Greece, at about 550 BC, light and intelligence were thought to emanate from the eye, although this notion was later rejected by Aristotle, who located such stimuli firmly in the shapes of the external world: the substance of light, likened to heat, could vibrate physically from 'empty space' (Aristotle 1964; Sennett 1994, 43). Even Aristotle, however, could not suppress the 'emanating eye' from the public imagination, for it appeared — and continues to appear —

in folk society as the *oculus fascinus*, or 'evil eye' (Gordon 1937; Hocart 1938; Gifford 1958; Maloney 1976; Dundes 1981; Gonzalez-Crussi 1989, 101). This gaze could inflict disease and pain with a glance (Maloney 1976; Di Stasi 1981; Siebers 1983), an idea that may have stemmed from the reflective properties of the eyeball (Jay 1993, ff.26; one eighteenth-century experiment tested this through the presumably unpleasant experience of immersing a cat in water: Smith 1986, 380). Francis Bacon described the 'envious eye' as 'an ejaculation (emission) or irradiation' from the eyeballs (Bacon 1985, 83; Gonzalez-Crussi 1989, 102).<sup>2</sup> For him, this involved 'the power and act of imagination, intensive upon other bodies than the body of the imaginant' (Bacon 1985, 83), and may well have suited his more general philosophical objective of restoring human dominion over the universe after the Fall (Collinson 1987, 45). In this conceptual framework it would not seem unusual for Goethe to state much later that '[i]f the eye were not sunny, how could we perceive light? If God's own strength lived not in us, how could we delight in Divine things?' (Arnheim 1996, 81).<sup>3</sup>

Hearing, too, had certain associations: it could calm or excite the emotions, cure derangement, and prompt, as in the case of the divine voice heard by Saint Augustine in a child's call, a process of spiritual self-renovation (Gonzalez-Crussi 1989, 38–40). Again, these beliefs have in common the idea that perception is semantically and emotionally loaded. Something other than, or in addition to, sound waves and light and scent, assails our sensory apparatus. In the late 1500s the learned could even hope to perfect a 'perspective lute' that linked colours and musical tones in synaesthetic union, perhaps as part of an underlying reality that resounded with occult themes prevalent at the time (Evans 1973, 190). More recently in Europe, cross-sensory perceptions were taken for granted, sight being associated inherently with touch. This logic is readily explainable: distant views had the potential for touch if one could only draw closer (Crary 1990, 19, 60).

Generally, meta-sensory views tend to adopt the notion that acts of emanation, whether of sight, smell, or sound, are inseparable from perception and its semantic interpretation. What is understood in scientific terms as a chain of separable processes becomes, in much of pre-modern thought, a sudden epiphany that bridges external worlds and internal discernment. This is the so-called 'communion-oriented notion' of sight that predominated in the pre-Socratic thought of ancient Greece and later in medieval descriptions of beatific and saintly visions

(Jay 1993, 39, ff.33). Maloney notes that such beliefs, particularly with respect to the malevolent force of sight, occur throughout Europe, the Middle East, India, northern and eastern Africa, and Mesoamerica; for reasons that remain obscure, they seem generally absent in Siberia, Australia, and much of North and South America (Maloney 1976, xii–xiii; see also Gifford 1958, who provides exhaustive evidence from the European and Near Eastern traditions). Our suggestion is that, broadly conceived, the reciprocal communion of external and internal worlds characterized perceptual theories in ancient Mesoamerica.

In sight, power and affective terror could be involved, especially as prompted by the gaze of rulers, but there

could also be creative, positive associations. These models were expressed through codes in art and writing, and might reflect a monistic view that blurred insubstantial essences and united them with the material world (Burkhart 1989; Monaghan 1995, 137). What will always remain elusive, however, are individual acts of perception, forever lost, or the role of ‘observing subject(s)’, long dead (Crary 1990, 5). The sensations of the past cannot be retrieved, only their encoding in imperishable media.

### Mesoamerican representations of sight, smell, and hearing

To examine the Mesoamerican evidence, we must introduce a term, or, more precisely, a modified application of a term used in perceptual psychology. As discussed before, this is ‘synaesthesia’, meaning the release of one sensation through another, or, in technical language, a ‘cross-modality experience’, the perception of sounds that also precipitate colours (Marks 1984, 445; Goldstein 1999, 343–4). Physiologically, synaesthesia probably occurs because two parts of the brain area are implicated in certain sensations (Paulesu *et al.* 1995). The synaesthesia we stress is different: the ‘cross-modality’ occurs in graphic media, so that something seen by the eye as an object or sign conveys parallel sensations or, more precisely,

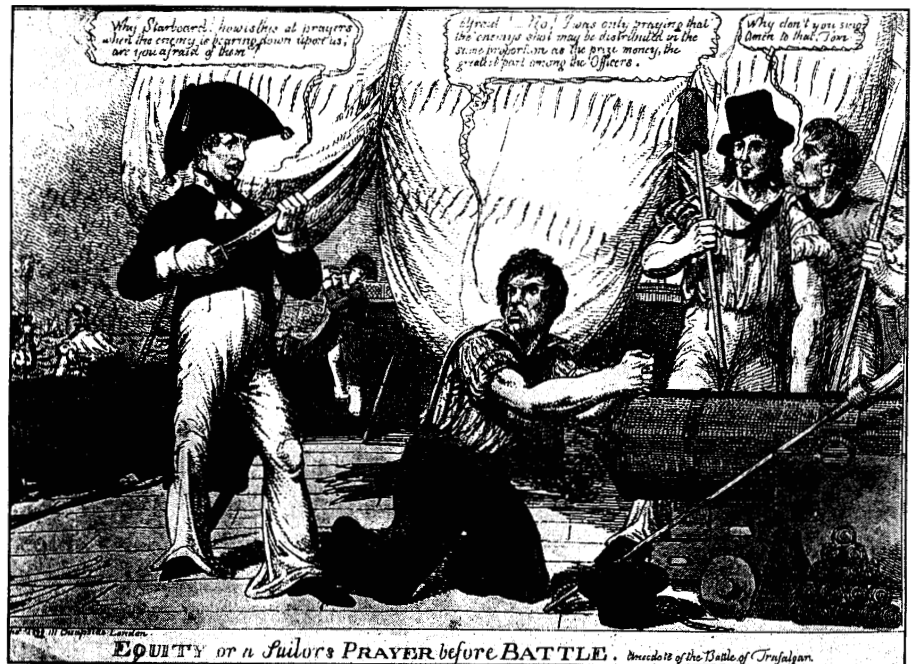
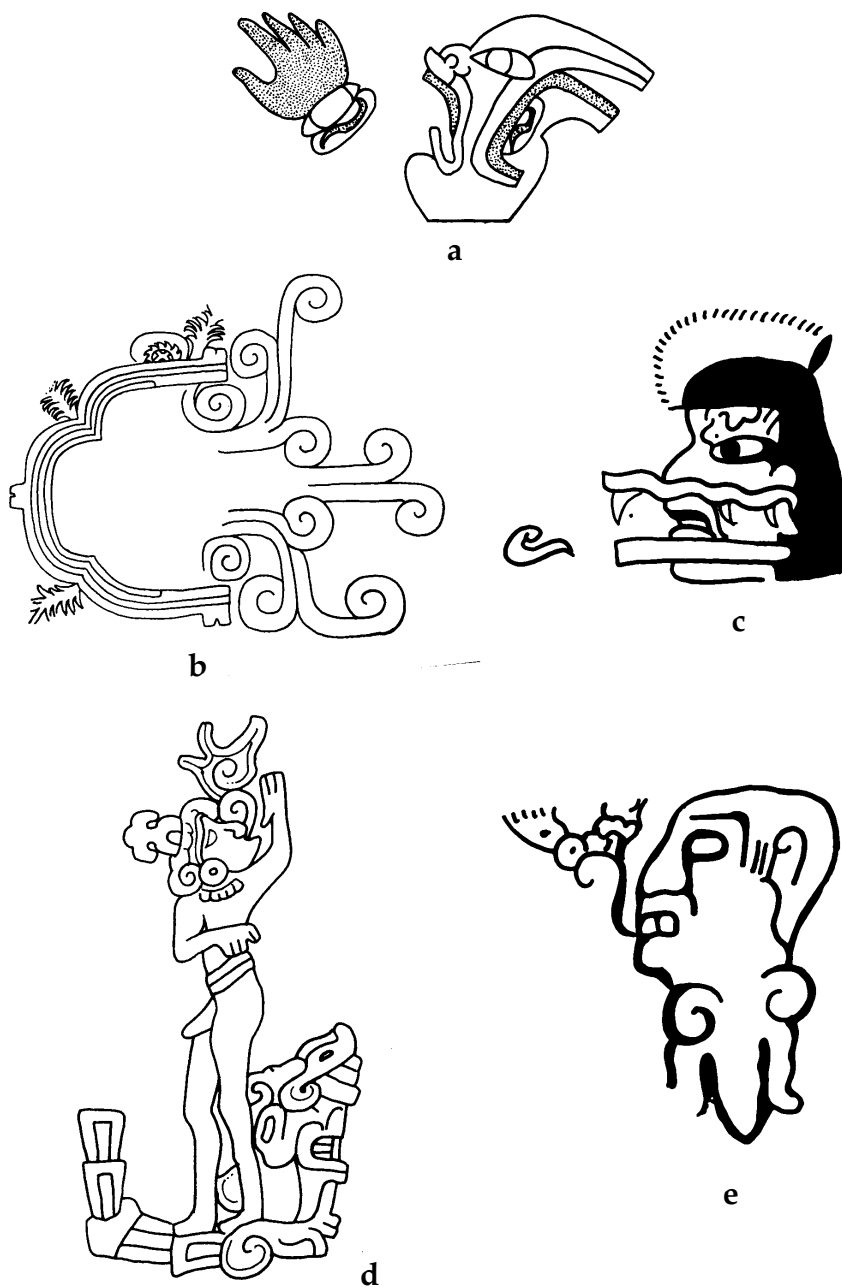


Figure 1. A seaman at Trafalgar, with speech ‘balloons’. (Lavery 1989, 130.)

such signs signal the *presence* of those sensations that ordinarily can only be received by the ear or nose. The synaesthesia is culturally coded, not neurologically triggered. The cunning here is that, like cartoon bubbles (which in a European context seem to have come into existence by at least the medieval period and probably much earlier), signs and graphemes make visible that which is invisible (Jay 1993, 60) (Fig. 1).<sup>4</sup> The modality of sight gleans signs that are intended to carry meaning, sound, and scent.

In ancient Mesoamerica, the principal means of synaesthetic communication was writing. There is persuasive evidence that most script, regardless of geographical zone, was intended to be read aloud (Monaghan 1990; Houston 1994; King 1994), a point reinforced by the occasional appearance of first- or second-person references and quotative particles in Classic Maya script (Houston & Stuart 1993). This was no less true of the ancient Mediterranean, where Eric Havelock and others identified the ubiquity of ‘recitation literacy’, involving oral delivery and public performance (Houston 1994, 30). What this means is that Mesoamerican writing was not so much an inert or passive record, but a device thought to ‘speak’ or ‘sing’ through vocal readings or performance. As a form of communication, writing was inseparably bonded to the language that it recorded. The view that script was an abstract, isolable text was most likely unthinkable, since, to quote Sennett on ancient





**Figure 2.** Representations concerning the senses in Formative Mesoamerica: a) incised ceramic vessel, Tlapacoya (after Parsons 1980, 41); b) zoomorphic cave expelling breath, detail of Chalcatzingo Monument 1 (after Gay 1972, fig. 2a); c) Olmec figure with speech scroll, Oxtotitlan Cave (after Grove 1970, fig. 19); d) figure with speech scroll standing atop crocodilian, roll-out drawing of Stela 9, Kaminaljuyu; e) severed head with speech scroll, Mound J, Monte Alban (image inverted for comparison, after Scott 1978, J-112).

Greek writing, the 'reader would have thought he heard the voices of real people speaking even on the page, and to revise a written text was like interrupting someone talking' (Sennett 1994, 43). When look-

ing at inscriptions in the plaza of a Mesoamerican city, indigenous spectators probably responded as cultural adepts in synaesthetic decoding, operating in both visual and auditory modes.

Mesoamerican peoples also had the means to record sight, in what might be described as a meta-sensory manner.<sup>5</sup> That is, the act of 'seeing' truly absorbed them, at least to judge from the available evidence. In contrast, the processes of 'hearing' and 'smell', as opposed to their results, interested them far less. Great subtleties may exist here. As we shall see, Mesoamerican peoples regarded sound, odour, and sight in highly concrete ways, as tangible yet invisible phenomena. For the Mesoamerican mind, the substance of sight, odour, and sound was neither empty nor ethereal; rather, it invested vitality and meaning in the spaces it traversed and occupied.

Our sources on Mesoamerican thoughts about the senses are richest for the early colonial period. From the Nahuatl-speaking peoples of central Mexico, we learn that all the senses were equated with the act of knowledgeable perception, leading in turn to judgment. That is, the act of direct perception, higher-order cognition, and the decisions that result from them were indistinguishable. Rather like the *oculus fascinus*, the eye illuminated and directed, serving in Nahuatl belief as 'our total leader' (López Austin 1988, I, 176–7), in itself a suggestion of an underlying hierarchy of the senses. (The cross-cultural preeminence of sight may have a physical basis, since it commandeers far more nerve endings than does the cochlear apparatus of the ear: Jay 1993, 6; sight also extends farther than hearing, gathering more information than is possible through the other senses: Hall 1982, 43). The focus on the sensory organs had another dimension. Each organ, the pupil, the lips, the tongue, the fingers, the ears, apparently possessed an individual

consciousness. To an unspecified extent, they were believed to have their own capacity for 'decision, will, and creative action' (López Austin 1988, I, 176). How these were organized into a gestalt remains uncertain, if, in fact, a gestalt or unity was even present in conceptual terms. For López Austin, the overall housing for sensory and vitalistic centres was a body that reflected the universe and in turn projected its functions on the universal whole (López Austin 1988, I, 180).

The earliest hints of Mesoamerican concern with the senses appear in a set of three icons linked repeatedly in the Olmec period, a time of close conceptual community that corresponds roughly to the later years of the Early Formative and much of the Middle Formative (c. 900–500 BC). A vessel from Tlapacoya, Mexico, links the head of a particular deity with a human hand, an eye with lids, and an ear (Fig. 2a). The opacity of much Olmec iconography makes this complex of signs difficult to interpret, but there is a good chance that it embodies the senses of touch, sight, and hearing (David Joralemon pers. comm. 1995).

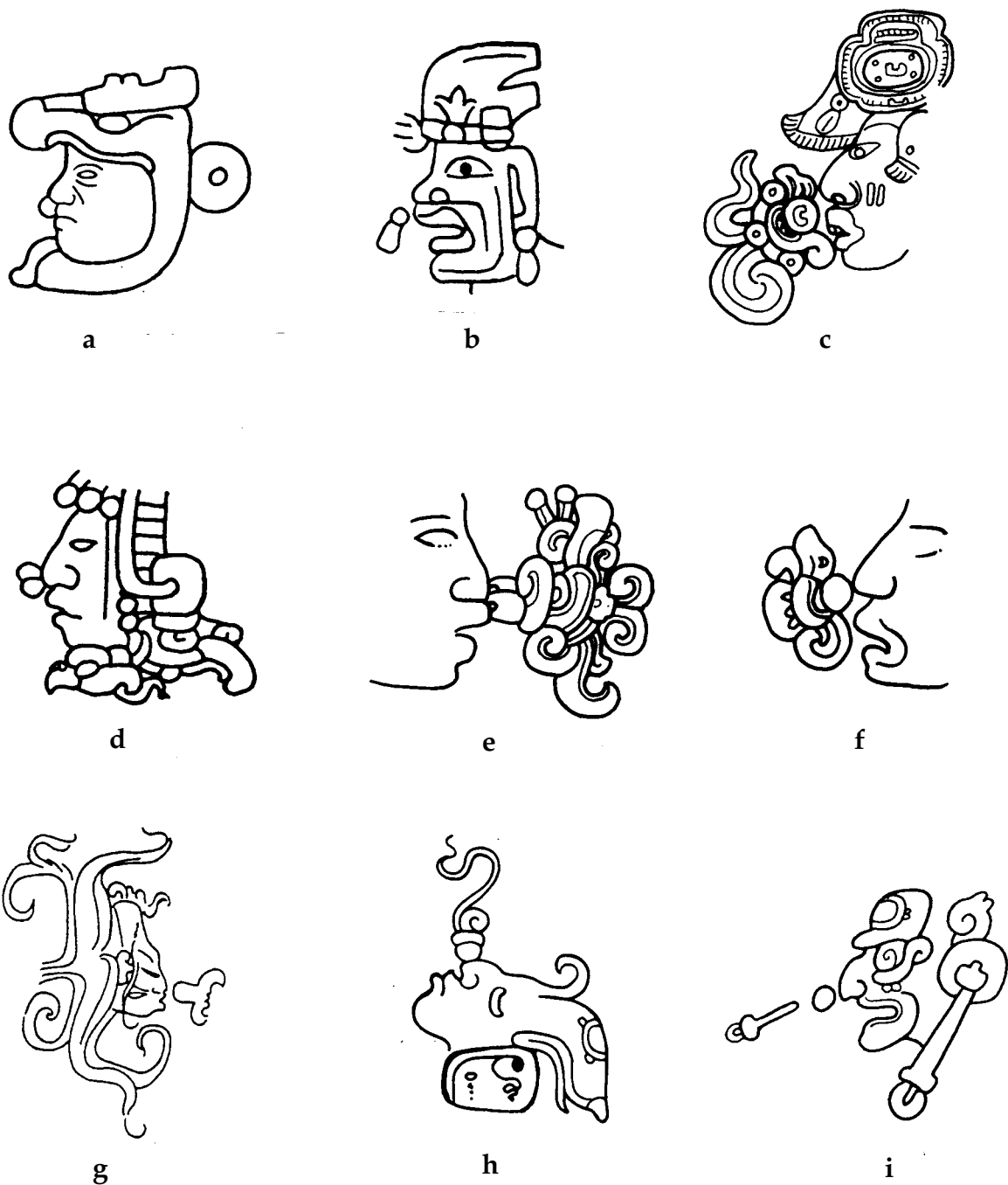
During both the Middle and Late Formative periods (c. 900 to 100 BC), signs came into existence that represent bodily exhalations, including breath and speech (Fig. 2b–e). The most developed example appears on Chalcatzingo Monument 1, a Middle Formative Olmec carving portraying an elaborate series of scrolls issuing from the mouth of a zoomorphic cave (Fig. 2b). The entire scene contains cloud motifs, falling rain, and growing maize, indicating that these mouth scrolls are probably not sound but breath-like emanations of water-filled clouds or mist (see Gay 1972, fig. 11). Along with breath, a scroll coming from the mouth serves as a basic Mesoamerican convention for denoting speech or song. The first unambiguous example appears in a Middle Formative Olmec mural from Oxtotitlan Cave, Guerrero, which portrays a speech scroll with an individual wearing a serpent mask (Fig. 2c). In the Maya region, the earliest known speech scroll appears on Kaminaljuyu Stela 9, a monument from highland Guatemala probably dating to c. 500 BC (Parsons 1986, 16). The figure stands upon a cayman with an upturned, segmented tail, quite probably the earliest documented depiction of the earth cayman (a model of the terrestrial world) in ancient Mesoamerica. The head of the man is raised in supplication, and his nakedness suggests that we are looking at a captive (Fig. 2d). (A similar convention occurs on the recently discovered Monument 65 from the same site: Parsons 1986, fig. 149.) The mouth emits

cloud or smoke-like speech volutes. What attracts our interest is that speech, an invisible force, is rendered as though it were visible and substantial, much in the manner of smoke, or as clouds pregnant with rain.

### Smell

Smell figured strongly in ancient Mesoamerican thought, and was closely joined to notions of courtly life. Among the Aztecs, fragrant flowers spread 'gladness and joy'; lords surrounded themselves with flowers, and would give blossoms to their subordinates along with other presents (Durán 1971, 238; Berdan & Anawalt 1997, 228–9). A well-known image in Classic Maya art shows a nobleman sniffing a bouquet (Reents-Budet 1994, 52). On another vessel an anthropomorphic hummingbird sits near baskets filled, not with tasty human food, such as tamales, but bundled flowers, wrapped neatly into garlands or into small bouquets that could be grasped by the hand (Culbert 1993, fig. 84). A few buildings associated with accession, such as House E at Palenque, display numerous flowery emblems, and the building was probably considered in synaesthetic fashion to exude a heady, exquisite aroma (see Greene Robertson 1985, fig. 29). Flowery designs occur on many Late Classic vessels, lending pleasant associations and sensual richness to the daily courtly life of the Classic Maya elite (e.g. Robicsek & Hales 1981, 206–9; Reents-Budet 1994, 17–19, 61, 83, 159). Even the jade ornaments of the lords resembled to a striking degree the delicate botanical structures of flowers (Stuart 1992).

Along with speech scrolls, bead or flower-like signs for breath also appear in Formative Olmec and Maya art (Fig. 3). Among the Maya and in Central Mexico, this convention continues to the Late Postclassic period (AD 1250–1521), a temporal span of some 2000 years (Figs. 3h–i; 7b–d). Rather than issuing as a stream from the mouth, the breath element commonly hovers before the nose. In many instances, this device is a bead, and, in the *Codex Dresden*, the old god Itzamna displays an earspool bead identical to the breath sign before his face (Fig. 3i). The long jade bead assemblages commonly appearing in the nostrils of serpents, caymans and other creatures are surely not allusions to Classic period zoomorphic fashion, but rather constitute physical representations of precious breath. Most of these beads are of floral form. At times, the bead or floral tokens seem to mark some refined quality of royal and godly breath or some reflection of status. For



**Figure 3.** 'Nosebeads' or exhalations, from Olmec to Late Classic Maya: a) Olmec figure with nose beads, detail of Stela 19, La Venta; b) Olmec figure with breath element, detail of incised jade pendant (after Benson & de la Fuente 1996, no. 98); c) Late Preclassic Maya deity with breath element, detail of Diker Bowl (after Coe 1973, 26–7); d) Maya ruler with pair of nose beads, detail of Leiden Plaque (after Schele & Miller 1986, pl. 33b); e) Early Classic woman with nose beads and serpent scroll, El Zapote Stela 5; f) face with serpent breath bead, detail of Early Classic Carved bone; g) maize god with floral breath element, detail of Late Classic incised vessel (Taube 1985, fig. 4a); h) decapitated maize god with breath element, Codex Dresden p. 34a. i) Itzamna with breath beads, Codex Dresden p. 9b.

Monument 65 from Kaminaljuyu (mentioned above), only the three presiding rulers display this element

before their faces, in striking contrast to the abject prisoners who flank their thrones (see Parsons 1986,

fig. 149). In both Olmec and Maya art, the bead can be in the nostrils, and it appears that Early Classic Maya elite often wore a pair of beads strung through the pierced septum (Fig. 3a, d–f). Even in these physical instances, the nasal elements allude to breath, and thus can be portrayed with profile serpent faces and scrolls. Here the swirls and serpent faces both imply the material presence of breath and the ephemeral and supernatural quality of the jewellery.

An ancient burial practice in the Alta Verapaz provides striking support for the identification of beads with breath. According to the sixteenth-century Dominican, Fray Bartolomé de las Casas, the northern Pokom Maya captured the breath soul of a dead ruler in a stone jewel, probably jade:

When it appears then that some lord is dying, they had ready a precious stone which they placed at his mouth when he appeared to expire, in which they believe that they took the spirit, and on expiring, they very lightly rubbed his face with it. It takes the breath, soul or spirit; to make the ceremony and keep the said stone, was a principal office, and no one had it but a person of the most principal of the pueblo or of the house of the king . . . (translation in Miles 1957, 749).

In Mesoamerica, the living soul is widely identified with breath, and at death both expire (see Thompson 1950, 73; López Austin 1988, 232–6; Furst 1995, 160–72). William Hanks (1990, 86) describes this concept among the contemporary Yucatec Maya: ‘One’s breath and animacy are one’s *-iik’*, “wind” . . .’. In one Aztec chant recorded by Sahagún, the supernatural origin of a child is described by the acts of breathing and drilling, much as if the child were fashioned as a precious jewel (López Austin 1988, 208). Jill Furst (1995, 42–7, 54–5) notes that the Aztec closely related the breath soul to the heart, which was encapsulated in a precious green stone placed in the mouth of the corpse at cremation. As in the case of the Pokom burial rite, the bead remaining after bodily incineration probably contained the breath soul of the deceased.

It will be recalled that Classic Maya jade beads are commonly in floral form, and along with jade, the breath soul is expressed by flowers, sources of sweet fragrance. The placement of the breath element before the nose rather than the mouth alludes to the olfactory quality of the breath-soul, sweet air in contrast to the stench of death and decay. In Quiche, *uxilab* signifies ‘breath, soul, smell’ (Edmonson 1965, 139). David Stuart (1992) notes that the long, upwardly spiralling form commonly portrayed projecting from the nasal area is a floral sta-

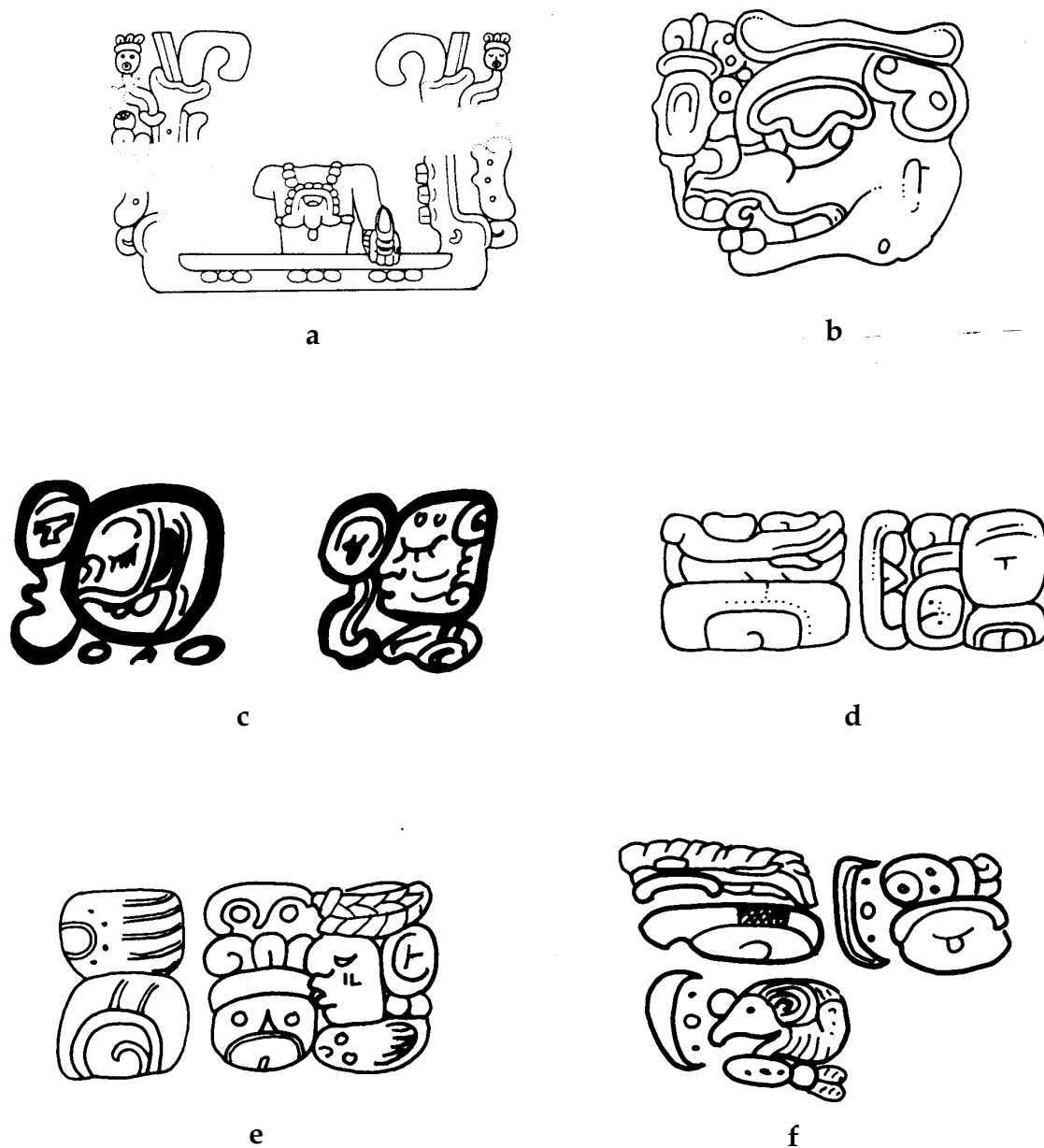
men, rendering the entire face as a flower (e.g. the Classic Maya Tikal Stela 16). Clearly enough, the perfume emitted from this floral face is breath.

Classic Maya texts provide strong support for the identification of the breath soul with flowers. Epigraphic research by Stephen Houston and David Stuart reveals that one common death expression refers to the expiration (*k’a’ay*) of a floral form incorporating the glyph for white, or *sak*, as well as the stylized form of the Ahau day sign (Fig. 4e–g). In Classic Maya art and writing, the Ahau glyph commonly appears on flowers (Fig. 5f–g), and in Central Mexico the equivalent day name is Flower. In view of the *sak* sign, the flower glyph appearing in these death expressions may refer to the fragrant white plumeria (*Plumeria alba*), known as *sak nikte’* in Yucatec (Barrera Vásquez 1980, 712).<sup>6</sup> In Maya thought, the plumeria and other flowers are identified with wind, the means by which scent is carried. One colonial Yucatec source links the day name *Ik*, meaning ‘wind’, or *ik’*, to winds and the plumeria (Thompson 1950, 73).

The *ik’* sign, denoting ‘wind’, typically occurs with the floral sign in the death expression, leading Tatiana Proskouriakoff (1963, 163) originally to surmise that it concerns the termination of breath and, by extension, life. David Stuart (cited in Freidel *et al.* 1993, 440) notes that for early colonial Tzotzil, there is the expression *ch’ay ik’*, referring to the death of an individual. One Late Classic death expression containing the phrase *k’a’-ay-i/ u-* ‘white flower’- *ik’-u-tis*, ‘it finishes, his flower breath, his flatulence’, contrasts two body exhalations, one sweet-smelling and oral, the other foul and anal (David Stuart pers. comm. 1994) (Fig. 4g).

The scribal palace known as the House of the Bacabs at Copan portrays profile centipede heads emitting the white Ahau flower sign as breath from their nostrils (Fig. 4a). A Late Classic Maya shell plaque portrays a skull expelling the floral breath soul out of the mouth (Fig. 4b). Skeletal or corpse heads in Classic texts sometimes show the same exhalation, although here with *ik’* wind signs rather than the white flower element (Fig. 4c–d). A probable Late Formative carving from Monte Alban may portray an earlier Zapotec version of the breath scroll coming from a lifeless severed head, here with the breath marked with flowers and beads (Fig. 2e).

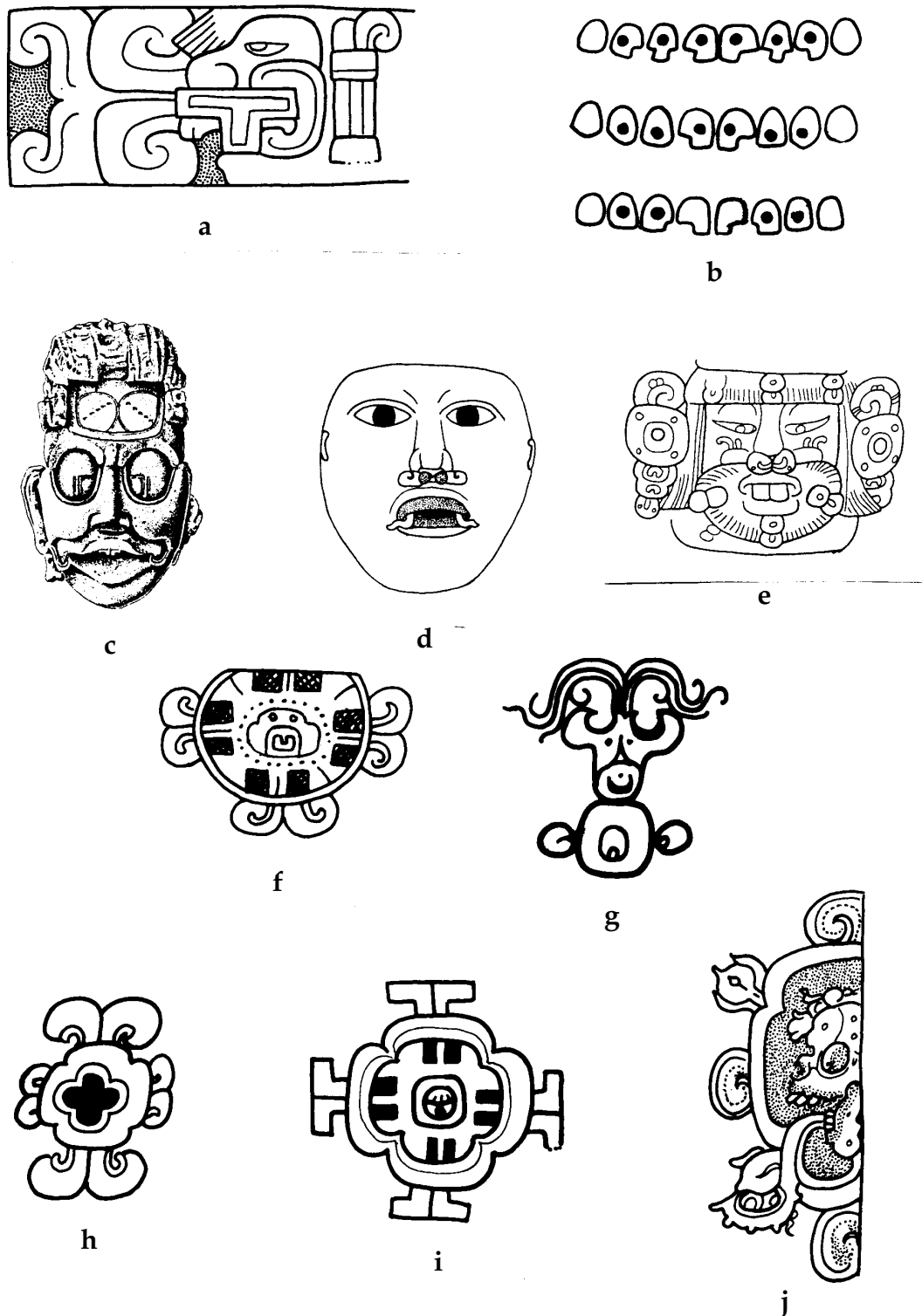
The *ik’* sign — so intimately tied to scent as well as wind — is of considerable antiquity in the Maya area. The first known explicit example of this device appears on a Late Preclassic monument from Kamin-aljuyu (Fig. 5a). The scene portrays a profile deity



**Figure 4.** The floral ahau sign and other breath elements appearing in Classic Maya death expressions: a) scribe within centipede maw with floral ahau expelled as breath (Fash 1989, fig. 41); b) shell carving of skull exhaling floral breath element; c) glyphs showing wind-sign exhalations (Reents-Budet 1994, figs. 4.17 & 4.26); d) death expression, Yaxchilan Lintel 27 (Graham & von Euw 1977, 59); e) death expression (Schele & Mathews 1979, nos. 397–8); f) death-related couplet on incised alabaster bowl (Kerr 1994, 594).

**Figure 5.** (on right) Signs denoting wind, breath, and aroma in ancient Maya art: a) deity expelling breath from mouth in form of ik' sign, detail of Late Preclassic Kaminaljuyu monument, Museo Popol Vuh; b) Classic Maya teeth with inlaid jade and teeth cut in form of ik' sign (after Romero 1958, figs. 18–19); c) Late Classic sun god with ik' sign teeth and volutes at corners of mouth (Thompson 1970, fig. 9); d) schematic drawing of Early Classic jade mosaic mask, Calakmul: note spiral nasal elements and forms curling out of corners of mouth (after Schmidt et al. 1998, no. 141); e) Early Classic maize god with spiral nasal elements (Taube 1992b, fig. 20h); f) Early Classic flower with aroma elements in form of paired spirals (after Hellmuth 1988, fig. 4.2); g) Late Classic jade and floral sign with aromatic





**Figure 5.** (cont.)

scrolls, detail of Creation Tablet, Palenque (after Porter 1994, fig. 3); h) quatrefoil flower with aromatic scrolls, detail of Late Classic vase (after Reents-Budet 1994, 17); i) quatrefoil flower with pairs of aromatic signs forming ik' signs, House E, Palenque (after Greene Robertson 1985, fig. 42); j) skull in quatrefoil cave sign marked with floral and water elements, detail of Late Classic vase (after Coe 1975, no. 14).

face with a prominent *ik'* sign as the mouth, along with an exuberant exhalation (Fig. 5a). Parallel breath volutes issue out of the mouth, quite like the series of breath scrolls appearing on Chalcatzingo Monument 1 (Fig. 2b). One of the most striking traits of Late Classic Río Bec and Chenes-style temples are the great serpent doorways with inverted *ik'* signs as the mouth (Gendrop 1983, fig. 67h, j–m). In Maya art, the *ik'* sign frequently appears inverted, with no apparent change in meaning. Gendrop (1983, 98) compares these Late Classic serpent doorways to Chalcatzingo Monument 1, the Olmec zoomorphic cave with the prominent breath scrolls (Fig. 2b). There is also the Aztec temple dedicated to the wind god Ehecatl Quetzalcoatl, whose round temple was in the form of a giant serpent mask (Pollock 1936, 6–9). Maya elite also frequently displayed the *ik'* element within the mouth, here in the form of upper incisors cut to represent the wind sign in silhouette (Fig. 5b). Along with the *ik'*-shaped incisors, Maya elite teeth are also commonly inlaid with jade. Utterances emitted from such mouths were probably imbued with qualities of preciousness and purity. It is likely that the jewelled nose bars and labret worn by nobles of Late Postclassic Central Mexico are material references to lordly breath and speech (Houston & Cummins 1998).

The Classic Maya Sun God frequently displays incisors in the form of the *ik'* sign, which is appropriate considering the basic Mesoamerican identification of the sun with flowers (Fig. 5c, 19d). For the ancient Maya, the solar *k'in* sign is simply a four-petalled flower (Thompson 1950, 142). In Classic Maya art, flowers are commonly related to the *ik'* sign and wind. The west façade of House E at Palenque not only displays an elaborate series of hovering flowers but also three prominent *ik'* sign windows (Greene Robertson 1985, fig. 29). Mention has been made of the frequent use of flowers to represent breath (Fig. 3g–i). The aroma of flowers is often represented by a symmetrical pair of outwardly turning elements (Figs. 5f–i, 8a). The same convention also appears hovering over the mouths of alcoholic vessels, here alluding to the pungent, fermented beverages contained within (e.g. *Codex Madrid*, p. 50a; de Smet 1985, pls. 5, 18, 21). Images in Early Classic Maya art reveal that the aforementioned pair of nose beads commonly appearing in Early Classic Maya art represent the same device, and refer to precious and perfumed floral breath (Fig. 5d, e). For one Early Classic jade mask from Calakmul, the outwardly spiralling breath elements appear as white shell flanking a pair of red nose beads (Fig. 5d). The

mask also portrays sinuous, white shell elements curling from the corners of the mouth. Frequently found in the mouth of the sun deity and other Maya gods, these elements are probably also a form of the aromatic signs issuing from flowers, in this case referring to the fragrant breath (Figs. 5c,d & 17c,d). In Late Classic Maya art, the sweet scent of flowers can appear sinuous and ethereal, much like speech scrolls or smoke (Fig. 5g–h). The pairs of emanations can also be stiff, however, resembling 'L'-shaped elements placed back to back (Fig. 5i). What this version creates is the form found on filed Classic Maya incisors and the *ik'* sign. In addition, profile representations of flowers typically evoke the shape of the *ik'* wind symbol (Figs. 3g & 5g).

The identification of wind and the breath soul with jade jewels and flowers may explain some of the more striking characteristics of elite Maya burial practices. Mention has been made of the placement of jade beads in the mouth, a custom commonly documented by excavations of Maya burials (Ruz Lluillier 1965, 459). But what of the jade mosaic masks and masses of jade frequently found in Maya elite burials? It is quite possible that these served to capture and store the breath soul of deceased rulers. In addition, hovering jewels and flowers appear in the tomb murals of Tikal Burial 48 and Río Azul Tomb 1 as well as on the sarcophagus lid of Pakal at Palenque (Coe 1990, fig. 175; Hall 1989, fig. 37; Schele & Miller 1986, pl. 111). A Postclassic Mixtec representation of the floral tomb symbolism appears on page 14 of the *Codex Bodley* (Fig. 6a). In this scene, the bundled remains of the famous king, Lord 8 Deer, is in a tomb chamber marked with flowers. The flowers display the same symmetrical pairs of fragrance volutes found in ancient Maya floral representations (Fig. 5f–i). In the *Codex Bodley*, the floral emanations also occur as the personal name of particular Mixtec noble woman (Fig. 6b–c). In view of the prominent, fragrant scrolls, she might best be named Lady 1 Grass Aromatic Flower.

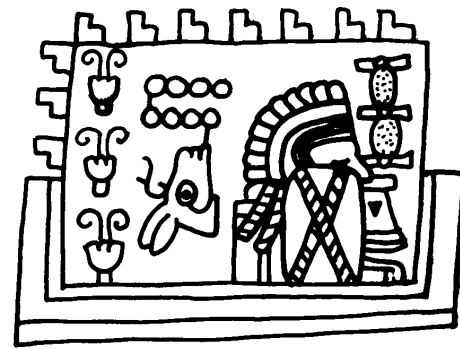
The floral devices appearing in Mesoamerican tombs are not simply to counter the filth and stench of death but also ensure the vitality of the deceased king. Fuentes y Guzmán describes the funeral preparations of the royal corpse among the southern Pokom Maya:

they bathed it and purified it with decoctions of aromatic herbs and flowers . . . They dress him afterwards in rich and figured clothes, in the style that he wore in life, with the same insignia which he wore reigning (translation in Miles 1957, 749).

In these funeral preparations, the sweet-smelling

flowers and other plants both negate the reality of death and reinforce the continued presence of the king. Fuentes y Guzmán notes that following burial, the dead king was offered copal and flowers. Throughout Mesoamerica, the dead are 'fed' with fragrance, whether it be in the form of incense, flowers, or the aroma of cooked food. For both ancient and contemporary Maya, 'incense burners are the kitchen hearths of the gods and ancestors' (Taube 1998, 446). At times, Maya censers are depicted in the form of flowers, much as if the pungent incense was the floral perfume of the burning urn (e.g. Taube 1998, fig. 10a–b). In addition, one kind of censer lid from Early Classic highland Guatemala features a central smoke funnel in the form of an open, petalled flower (Berlo 1984, pls. 222–6). Among the Aztec, the souls of dead warriors became birds and butterflies that would suck the nectar of flowers (Sahagún 1950–82, bk. 3, 49). Just as the breath soul is identified with sweet smells in life, the dead consume the perfume of flowers and other fragrances as their food.

In Maya art, flowers usually display a quatrefoil rim, and thereby resemble the four-lobed Mesoamerican quatrefoil cave sign, first known at Middle Formative Chalcatzingo, but continuing into early Colonial times, as on plate 1 of the *Codex Xolotl* (Figs. 2b, 3c & 5f,h). In Classic Maya art, the quatrefoil cave frequently displays flowers at the corners, strikingly like the plants growing on the exterior of the Olmec Chalcatzingo cave (Figs. 2b & 5j). The similarity may be partly based on the natural phenomena of 'breathing' caves; much as wind emerging from such a cave, flowers exude aroma. The symmetrical spirals of breath exhaled by the Chalcatzingo Monument 1 cave are mirrored by the Classic and Postclassic representations of flowers emitting outwardly spiraling volutes of fragrance. The similarity of Classic Maya quatrefoil flowers to caves or passageways may, however, be based on a more profound belief, that of a denoting a supernatural Flower World paradise, a concept well-documented among Uto-Aztecan speaking peoples of Mesoamerica and the Greater Southwest (Hill 1992; Hays-Gilpin & Hill 1999). In Early Classic Teotihuacán, effigy censer lids portray the metamorphosis of dead warriors into fiery butterflies, here surrounded by flowers and brilliant mirrors (Taube in press). The identification of deceased Classic Maya nobles with flowers and the sun god indicates that a similar concept was probably present among the ancient Maya as well. The floating flowers and jewels found in Maya tombs may allude to this supernatural floral realm. At Late



a



b

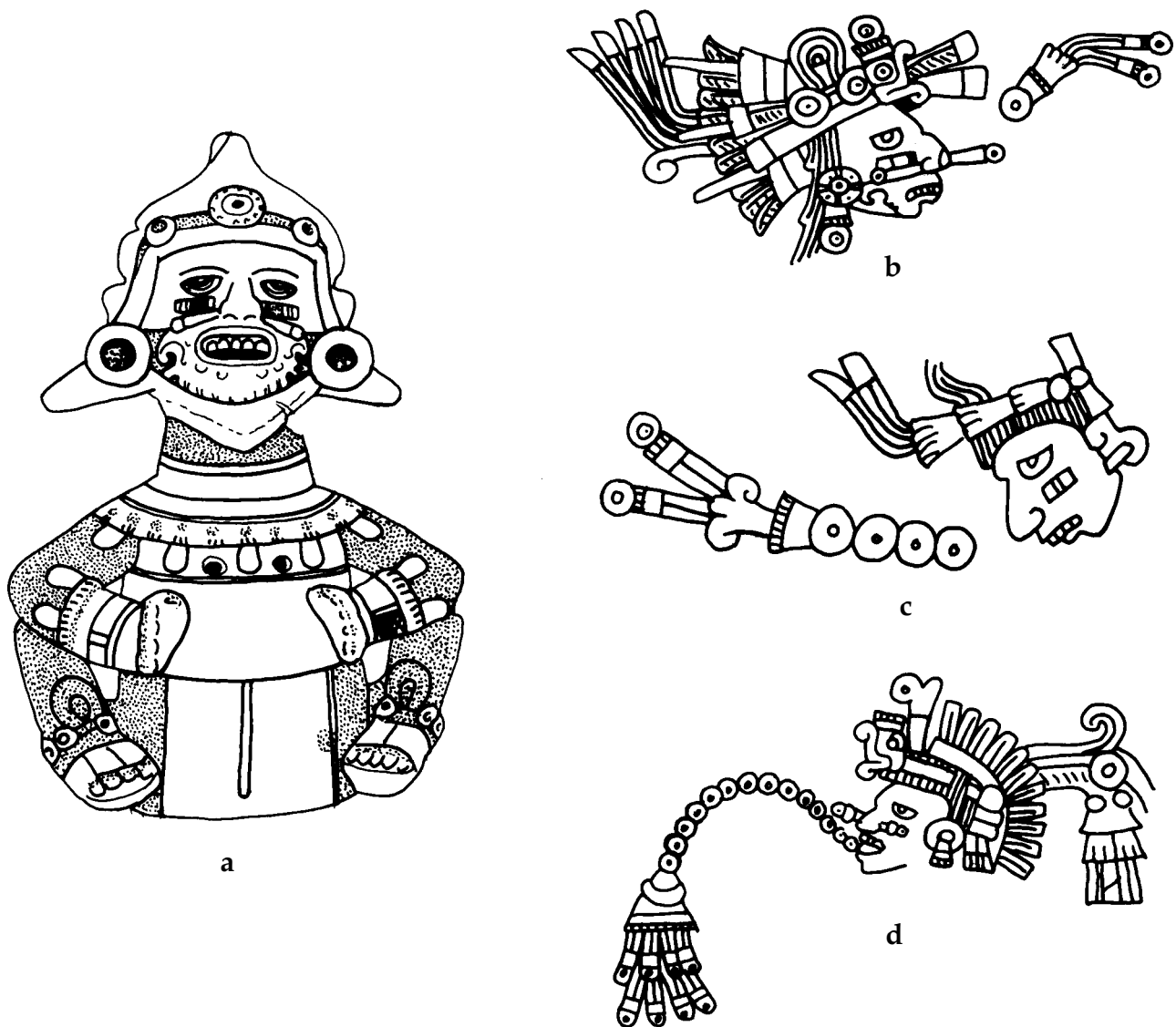


c

**Figure 6.** Mixtec representations of aromatic flowers in the *Codex Bodley*: a) mortuary bundle of Lord 8 Deer in crypt marked with fragrant flowers, *Codex Bodley*, p. 14; b, c) Lady 1 Grass Aromatic Flower, *Codex Bodley*, pp. 11–12.

Classic Palenque, these elements are found not only on the Sarcophagus Lid of Pakal, but also on the Tablets of the Cross, Foliated Cross, and the Sun (see Greene Robertson 1991). In these scenes, king Chan Bahlum stands with his dead father, Pakal, in a transcendental realm of flowers, precious birds, and jewels.

Classic and Postclassic effigy censers of honoured ancestors and gods reveal that copal or other smoke could represent breath and perhaps even the speech of supernatural beings. Thus the effigy lid placed atop the 'live' burning urn commonly has an aperture passing from the interior through the open mouth (e.g. Culbert 1993, fig. 14). Smoke issuing from the effigy censer mouth is a pungent exhalation from the supernatural being. For one of the aforementioned floral censer lids from highland Guatemala, a face occupies the centre of the flower, with the smoke issuing as fragrant breath (see Berlo 1984,



**Figure 7.** Late Postclassic representations of Xochipilli: a) polychrome xantil from Teotitlan del Camino, Oaxaca (after Bowditch 1904, pl. XLII); b) Xochipilli as patron of day Ozomatli, Codex Borgia, p. 13; c) fishing youth with flower and jade breath element, Codex Borgia, p. 13; d) Xochipilli as patron of day Ozomatli, Codex Vaticanus B, p. 32.

pl. 224). In the Teotitlan del Camino region of northern Oaxaca, Late Postclassic censer lids known as *xantiles* commonly portray Xochipilli, the 'flower prince' god of music and palace folk (Fig. 7a). The large and elaborate necklace worn by the figure illustrated here is in the form of the flower, causing his head to be the stamen, and the smoke 'breath' the aroma of the flower. In the *Codex Borgia*, an identical form of Xochipilli, complete with the same butterfly mouth, appears as the patron of the day Ozomatli, or Monkey (Fig. 7b). The precious breath issuing from his mouth is in the form of a floral jade assem-

blage, precisely the same breath element noted in Olmec and Maya art (Fig. 3). The Ozomatli scene also features a fishing youth with a breath element in the form of a long strand of jade tipped by a flower (Fig. 7c). The corresponding Ozomatli scene in the *Vaticanus B* portrays a similar floral strand of jade beads issuing from the mouth of Xochipilli (Fig. 7d).

One youthful Maya god appears to be the personification of the breath soul. Appearing as the head variant of the number three and patron of the month Mac, he is also the deity known as God H in the Postclassic codices (Taube 1992b, 56–60). In both Clas-

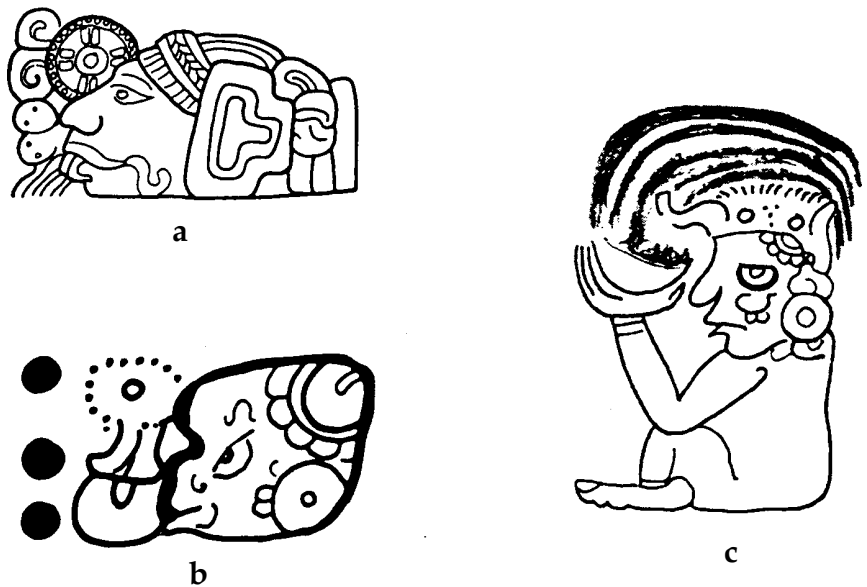


sic inscriptions and in the Post-Classic codices, he commonly has a prominent *ik'* wind sign on his cheek and a flower or bead on his brow (Fig. 8). The Late Pre-classic Diker Bowl portrays a young god with a prominent flower headdress and a bead atop his brow, making it quite possible that this is an early form of the same being (Fig. 3c). His occurrence as the personification of the number 'three' recalls the fact that, in some Mayan languages, including Yucatec and Mopan, forms of the term for 'three', *ox*, also signify 'breath'. Whereas the term for three is *ox* in Quiche, *uxilab* signifies 'breath, soul, smell' (Edmonson 1965, 83, 139), an explicit link between the breath soul and the sense of smell. In one Late Classic example of the white flower death expression, this god substitutes directly for the *ik'* sign (Fig. 4e).

Noting the strong identification of God H with flowers, Andrea Stone (n.d.) compares this being to Xochipilli, the aforementioned Aztec god of music and dance. Just as the Maya god expresses fragrant scent, he also signifies 'sweet music'. Page 67 of the *Codex Madrid* portrays God H striking a drum and shaking a rattle, and on *Codex Dresden* page 34c his name glyph appears in a text concerning Chaak playing a drum atop a mountain. As with wind, breath and aroma, music is also ethereal and incorporeal; possibly for this reason, Classic Maya musical instruments often display *ik'* wind signs (see Fash 1989, fig. 48; Schele & Mathews 1998, pl. 11). One Early Classic incised vessel features a complex scene filled with floating flowers and music, here represented by two pairs of tasselled rattles and a drum marked by a prominent *ik'* sign (see Hellmuth 1988, fig. 4.1). Moreover, the thin jade belt celts of Classic Maya royal costume are frequently marked with *ik'* signs (e.g. Caracol Stelae 5, 6). The tinkling sounds created by the clusters of belt celts evoke the breath soul not only by the *ik'* wind signs, but by the material itself, precious jade.

### Sound

Elsewhere we have discussed the nature of sound and speech in Mesoamerica, particularly with re-



**Figure 8.** Classic and Postclassic forms of God H, a Maya form of Xochipilli: a) God H as patron of month Mak: note aromatic flower and *ik'* sign, detail of Early Classic monument (from Taube 1992b, fig. 28e); b) name glyph of God H with jewelled flower and coefficient of three, *Codex Dresden*, p. 26f.; c) God H with flowered headdress and *ik'* sign on cheek, *Codex Madrid*, p. 25.

spect to the perceived heat of lordly utterances (Houston & Cummins 1998). Speech is the oratorical privilege of the lord and appears to underpin his titles: Nahuatl *tlahtoāni* comes from a word meaning 'to speak, to issue proclamations and commands' (Karttunen 1983, 266); *ajaw*, 'lord' in most Mayan languages, may derive from *\*aj-aw*, 'he of the shout, shouter' (Houston & Stuart 1996, 295); and in Colonial Tzotzil, a Mayan language, *k'opoj*, 'speak', is the same as 'become a lord' (Laughlin 1988, II, 569). Lordly speech is hot and solar, a trope that stems from the sun-like associations of rulers (Houston & Cummins 1998). This also means, presumably, that such sounds could be felt as well as heard. In the Maya area, where powerful lightning storms commonly occur, the reverberations of thunder percuss wildly, a quality that can be readily heard from such instruments as trumpets and drums. In Yucatec, the verb *'ú'uyik* signifies not only 'hearing', but all other senses apart from sight (Hanks 1990, 88). Speech scrolls ensure that, through graphic means, sound can be seen as something concrete and imperishable, in deliberate subversion of the intrinsically ephemeral nature of speech.

In Mesoamerica, speech occurs in varying settings, including myths of creation and human origin.<sup>7</sup> In some texts, such as the mythogenic *Codex Vindobonensis* of Mixtec provenance (52 obverse),



**Figure 9.** Representations of wind and speech scrolls in ancient Mesoamerica: a) Aztec representation of tree-destroying winds, Codex Telleriano-Remensis, fol. 46v; b) figure with dotted speech scrolls, Codex Historia Tolteca-Chichimeca, p. 2; c) Mixtec figure with dotted speech scroll, Codex Bodley, p. 28; d) Late Classic Maya warrior with dotted speech scroll, detail of Late Classic Maya vessel (after Kerr 1992, 421); e) seated figure with speech scroll, from Late Classic Maya vessel (after Kerr 1990, 297); f) dedicatory glyph with *ik'* breath element, Late Classic Maya vase (after Reents-Budet 1994, fig. 4.22).

speech marks an attribute of humanity at the beginning of time: such orations relate to the founding and making of all things (Anders *et al.* 1992, 81). Speech also figures prominently in the creation account of the Quiche Maya *Popol Vuh*, in which genesis results from a dialogue between the creator deities (Tedlock 1996, 65). In addition, the multiple attempts at creating people were to ensure that gods be nourished through human speech and prayer (Tedlock 1996, 69). In the Aztec *Codex Boturini*, the patron god Huitzilopochtli speaks from an oracular cave when the Aztec leave their primordial home of Aztlán (Boone 1991, 125).

There seems little doubt that speech is likened to both breath and wind in the central Mexican sources: devastating gusts, not linked to lips but shattering a tree, occur in the *Codex Telleriano-Remensis* as tokens of 'great winds breaking the trees' (Fig. 9a). The same, spotted scrolls emanate from human lips in the *Historia Tolteca-Chichimeca*, a manuscript of early post-Conquest date (Fig. 9b). Speech scrolls formed of lines of dots also appear in Late Postclassic Mixtec codices, including the *Codex Bodley* as well as in Late Classic Maya vessel scenes (Fig. 9c). Moreover, Late Classic Maya vessel scenes often portray speech scrolls as a series of dots in a single curving line, quite probably also an allusion to breath and wind (Figs. 9d, 13a). In colonial Yucatec, *yik'al* signifies 'breath', *yik'al kuxtal*, 'vital spirits', and *yik'al t'an* 'wind or sound from one who speaks', all these terms deriving from the root *ik'*, or 'wind' (Barrera Vásquez 1980, 977). The connection between the *ik'* sign and speech scrolls is made explicit on a pot showing a palace retainer in the act of talking (Fig. 9e). Note the resemblance between the first glyph and a sign for speech in a dedication verb on a Maya pot (cf. Fig. 9e–f).

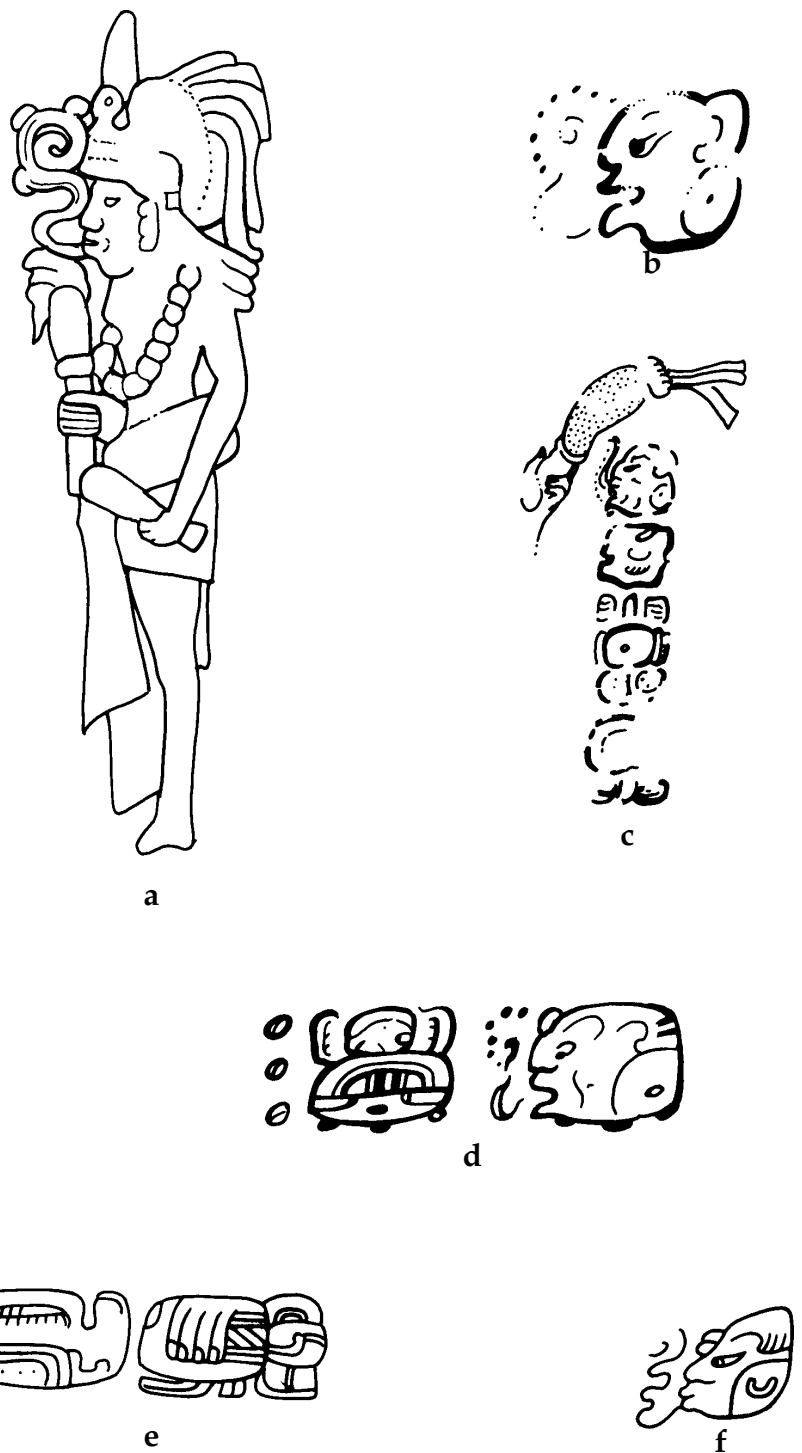
The speech scrolls of Mesoamerica can communicate the content and property of vocalizations. In the art of ancient Teotihuacán (c. AD 250–650), large and elaborate sound scrolls are frequently qualified with series of elements

lining the sides or in the volutes. Among the more common signs are flowers, the breath soul in ancient Mesoamerica (see Miller 1973, 99–101, 134–5, 170). Precious jewels, another metaphor for the breath soul, also appear in Teotihuacan speech or song scrolls (e.g. Miller 1973, fig. 317). The beaded elements commonly lining Teotihuacan, Zapotec and Maya speech or song volutes are probably also references to schematic flowers or beads (Figs. 10a, 12b & 13c). One Early Classic Maya monument, Lacanha Stela 1, portrays a Teotihuacan-style figure with speech not rendered as a volute, but rather as series of strung beads issuing from the mouth (Proskouriakoff 1950, fig. 44b). The later Aztec also related oral expression to both flowers and jade. León Portilla (1963, 75) notes that the Aztec phrase *in xóchitl in cuícatl*, or ‘flower and song’, denoted poetry. These poems are filled with allusions to flowers and precious jewels:

And now I sing! So let there be flowers! So let there be songs! I drill my songs as though they were jades. I smelt them as gold. I mount these songs of mine as though they were jades. (Bierhorst 1985, 207)

There is also frequent mention of birds, and according to Bierhorst (1985, 19) such texts conjured the souls of dead warriors residing in their floral solar paradise. Burkhardt (1992, 89) describes this celestial paradise as a garden filled with brilliance and beauty:

The garden is a shimmering place filled with divine fire; the light of the sun reflects from the petals of flowers and the iridescent feathers of birds; human beings — the souls of the dead or the ritually transformed living — are themselves flowers, birds, and shimmering gems.



**Figure 10.** Classic Maya signs for song: a) Maya musician with beaded song scroll, Late Classic carved shell; b) singer glyph, Bonampak Murals, Room 1; c) Late Classic ceramic vessel text with singer glyph (after de Smet 1985, pl. 16a); d) Ruler B as a singer, ceramic text from Burial 196, Tikal (after Culbert 1993, fig. 184); e) phonetic rendering of ‘singer’, Early Classic conch trumpet (Schele & Miller 1986, 309); f) logographic sign designating singer, Early Classic conch trumpet (Schele & Miller 1986, 309).

As has already been noted, the concept of a floral paradise was not restricted to Central Mexico and the Greater Southwest, but was probably also present among the Classic Maya.

The Aztec *Florentine Codex* provides explicit evidence that royal oratory was identified with a spirit in the form of precious jewels:

only as precious things do the spirit, the words of our lords come forth. For they are the words of rulers; for they are considered as precious green stones, as round, reed-like precious turquoises. (Sahagún 1950–82, bk. 6, 99)

The term used for this spiritual force, *ihiotztin*, is the *ihiotl* breath spirit discussed by López Austin (1988, 1, 232–35). Although López Austin (1988) stresses the negative aspect of breath or wind expelled at death, the *Florentine Codex* passage indicates that the *ihiotl* has a precious nature consistent with the widespread identification of breath with jade and flowers.

It is conceivable that the flowery and precious attributes of the breath soul and the afterlife are acutely linked to rulers and gods, the figures most commonly appearing in elite art. According to Tlaxcalan belief, whereas the souls of nobles and lords became precious stones, clouds, and birds of rich plumage, those of commoners were transformed into lowly creatures reeking of urine (Mendieta 1980, 970). Burkhart (1992, 84) notes that in early colonial Aztec thought, angels were regarded as ‘nobles’, or *pipiltin*. The celestial flowery paradise savoured by Aztec warrior souls was not the common fate of the dead, who travelled to the dingy, foul-smelling underworld realm of Mictlan (Sullivan 1997, 177–8). Similarly, the colonial Yucatec Maya referred to the underworld death god as *kisin*, a term derived from the word for ‘flatulence’, or *kis* (Barrera Vásquez 1980, 321). Whereas breath could be expressed through flowers and jade, the Classic Maya denoted foul emanations with elements of death and the underworld. One Late Classic vessel portrays a noxious, skeletal insect with breath marked with the Akbal sign for darkness, and another portrays the death god with a stench scroll marked with eyeballs (Coe 1973, 99, 134). Although it remains to be seen whether there was a widespread, basic qualitative difference between the souls of commoners and kings in ancient Mesoamerica, it does appear that regal speech was often compared to finer qualities of the breath soul, attributes expressed by flowers and jade.

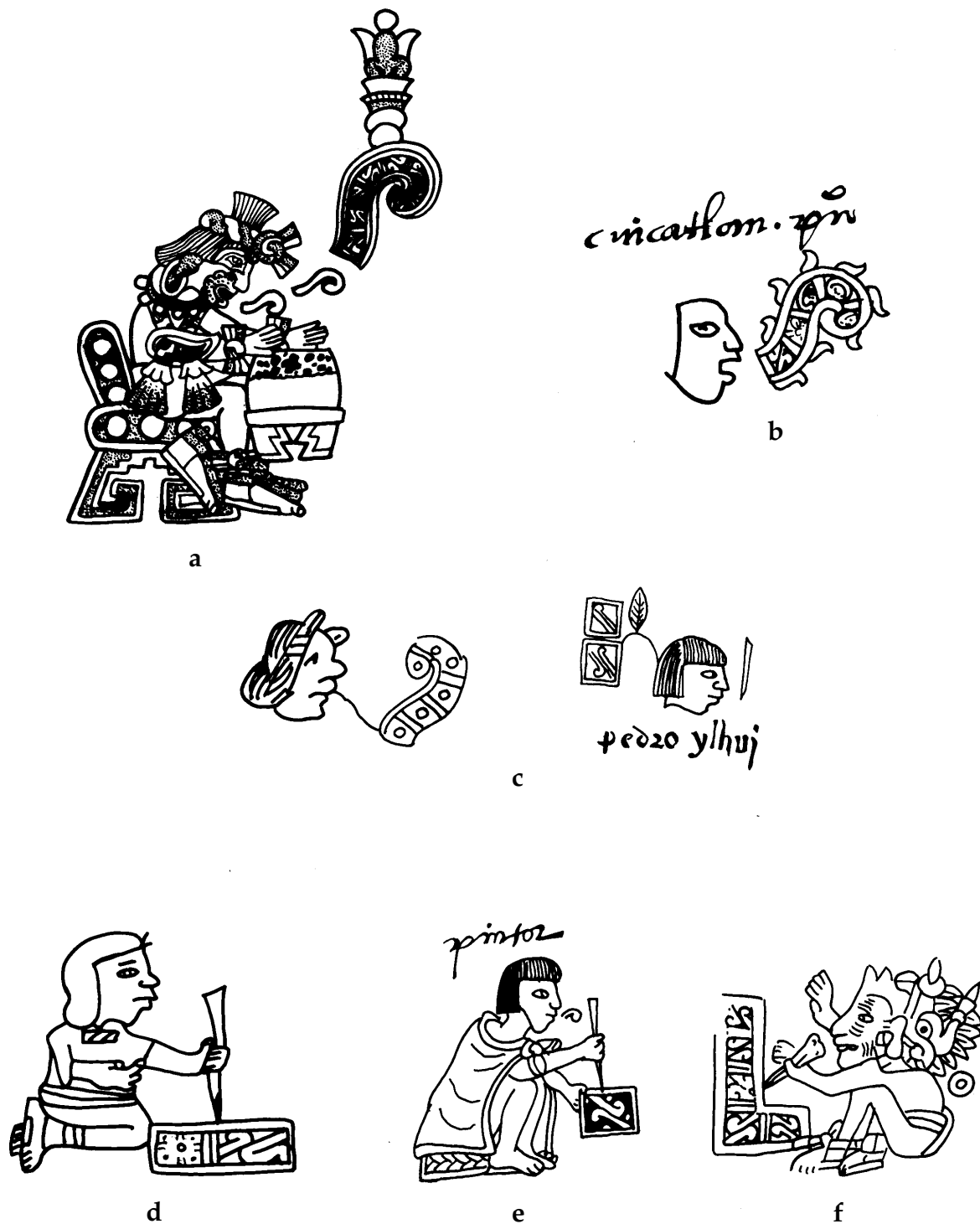
Just as speech was closely related to flowers and jade, so too was hearing. The large earspool assemblages represented in Classic Maya art are typically flowers with projecting stamens. In addition,

jade examples of Maya earspools are often carefully carved in the form of open, petalled flowers (Schmidt *et al.* 1998, nos. 141, 146, 155, 157, 159–60). The jade flower earspools expressed the refined and omniscient nature of elite hearing, or perhaps served to symbolically enrich or purify the sounds penetrating the regal head. An explicit linkage of ‘hearing’ to earspools occurs on a jade example from the tomb of Pakal at Palenque: **u-b’u-ji-ya**, *ub’-j-i:y*, ‘it was heard’ says its text (Houston & Cummins 1998). The long chains of earspools worn in elite Maya costume, such as those hanging from the headdress of the lord Stormy Sky on Tikal Stela 31, probably underline the unique hearing capabilities of kings. In Classic Maya courtly life, speech was transmitted and hearing received through flowers and jade.

In Classic Maya art and writing, there was, not surprisingly, a strong distinction between mere sound and songs of beauty and praise. One Late Classic shell carving portrays a musician grasping a pair of rattles while singing, the sound delineated by a long, beaded scroll swirling out of his mouth (Fig. 10a). Speech scrolls *per se* occur on a distinctive word-sign or ‘logograph’ consisting of a youthful head, mouth open, exuding a speech scroll that ends in a flower. Contextually, as at Bonampak, Mexico, and on a ceramic vessel, this word-sign functions as a title that accompanies musicians, often those shaking rattles (Fig. 10b–c). A clue to its reading may be found in its subfixed sign, **ma**, and in a fully phonetic version from the Early Classic period that appears to describe the owner of a conch trumpet: both hieroglyphic spellings indicate that the reading is **K’AYO:M-ma** or **k’a-yo-ma**, ‘singer’ (Fig. 10d–e; note also the logographic alternate, Fig. 10f). At Bonampak this is a title of subsidiary figures at court, but an interesting detail emerges from an example at Tikal (Fig. 10d). This title clearly refers to a Late Classic ruler of the city, suggesting that singing counted as an important accomplishment of royalty.<sup>8</sup>

Among the Aztec, sound scrolls designating song could be marked with a complex motif formed of a contiguous series of rectangles containing paired scrolls and other decorative elements (Fig. 11a–b). In the *Codex Borbonicus*, the music god Xochipilli emits a large and elaborate form of this scroll, here marked with a prominent jewelled flower sign (Fig. 11a). The same element appears in the *Codex Mendoza* toponym for Cuicatlan, or ‘place of song’. In the *Códice de Santa María Asunción*, a schematic form of this song scroll appears several times for the surname *ciuacuicatl*, or ‘female song’ (Fig. 11c). Aside from song volutes, the ornamented rectangles motif also appears in rep-





**Figure 11.** Aztec representations of sky band and song scrolls: a) Xochipilli with elaborate song scroll marked with jewelled flower, Codex Borbonicus, p. 4; b) celestial song scroll marking Cuicatlan, or 'place of song', Codex Mendoza, p. 43r; c) sign for surname 'singing woman', Códice de Santa María Ansunción, p. 51v; d) sky band accompanying name Pedro Ylhuj, Humboldt Fragment VIII; e) woman painter, Codex Teleriano-Remensis, p. 30r, painter, Codex Mendoza, p. 70r; f) old man of creator couple as a sculptor, petroglyph from Coatlán, Morelos (after Guilliem Arroyo 1998, 50).

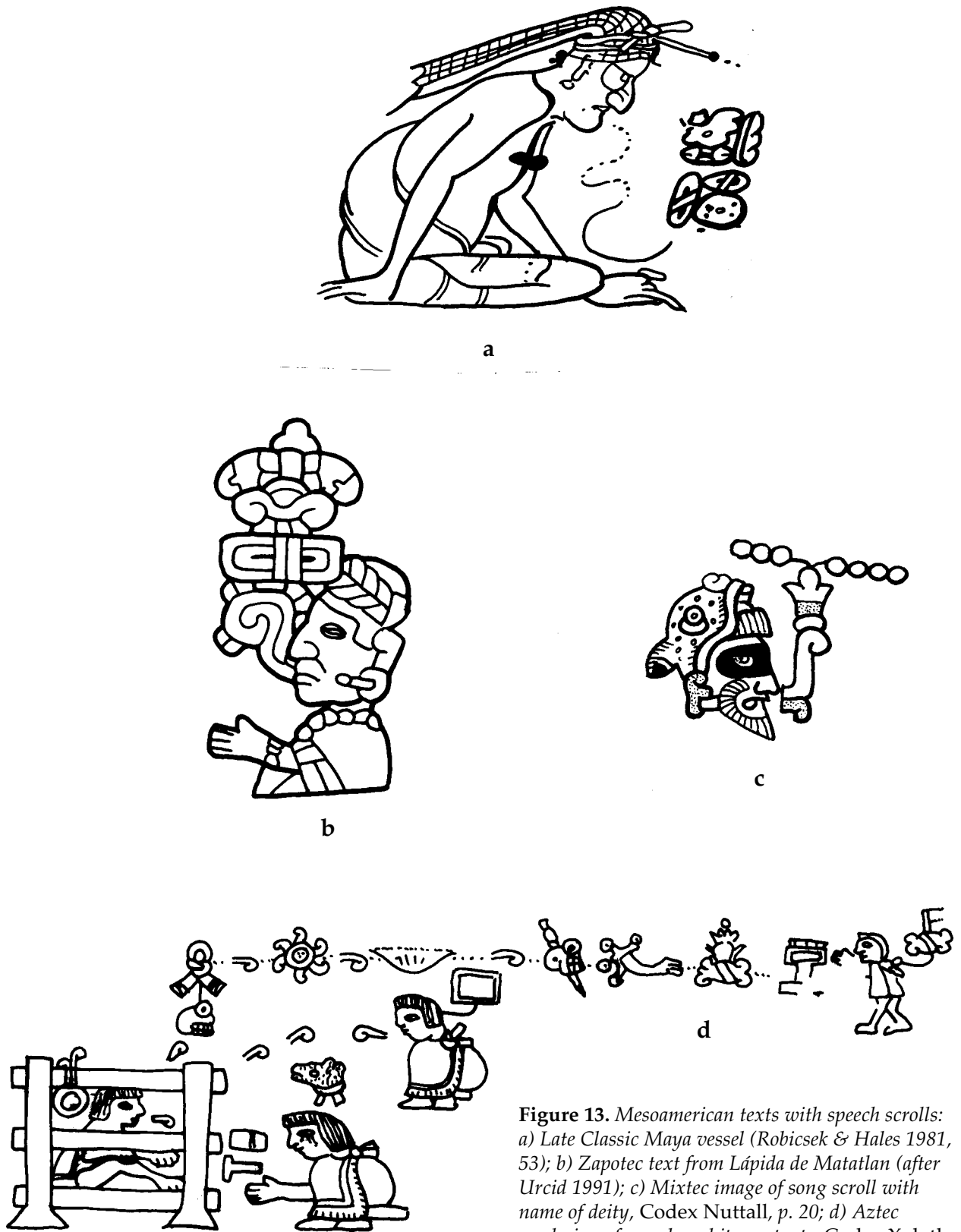


**Figure 12.** Teotihuacan glyphs appearing with sound scrolls: a–c) dancing figures from Tepantitla compound, Teotihuacan; d) mirror back with personal names and speech scroll (Benson & Joralemon 1980, 36).

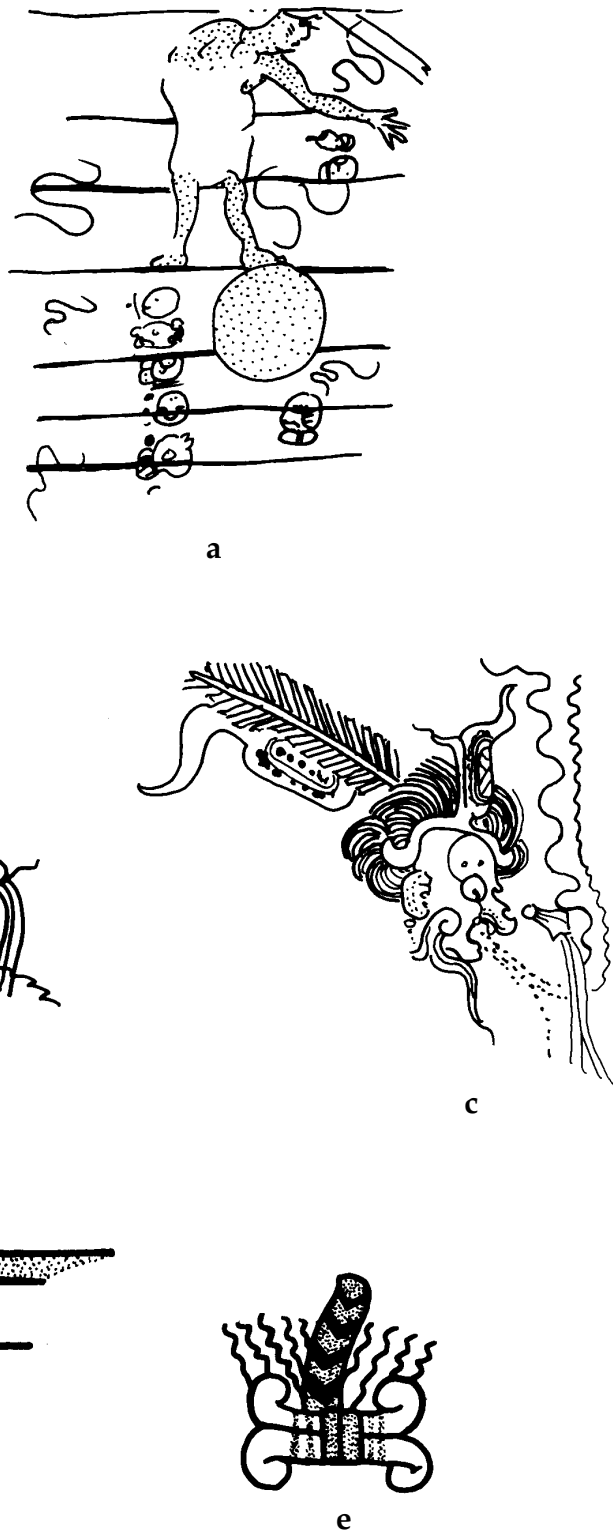
representations of scribes and sculptors (Fig. 11e–g). It has been recognized that in terms of both form and the specific elements within the sign, this motif is strikingly similar to Maya sky bands (Seler 1904a, Nicholson 1955; see also, Fig. 18a–b). Seler (1904a, 207–8) established that one of the most prominent elements in the Aztec band, a pair of diagonal scrolls, also appears in a sixteenth-century Aztec census for the name Pedro Ylhuj (Fig. 11d). According to Seler, the sign stands for *ilhuitl*, meaning ‘day’ or ‘festival’, but this gives little explanation for its occurrences and similarity to the Maya sky band. It is far more likely that the sign refers to *ilhuicatl*, the Aztec term for ‘sky’ (see Karttunen 1983, 104). This Aztec skyband indicates that in Postclassic Central Mexico, artistically produced works — whether they be songs, paintings or sculpture — were considered to have celestial qualities, probably relating them both to creation and to the Flower World.

Aside from bearing flowers and other qualifying elements, speech scrolls can also contain hieroglyphic texts. Murals from the Tepantitla compound at Teotihuacan reproduce not only speech scrolls, but adjectival, hieroglyphic descriptions of what is being said. In one place, a ‘knot-bird’ game is mentioned, elsewhere a ‘kick-resounding-bone’ game, and even a ‘centipede’ game, here accompanied by a line of linked figures (Fig. 12a–c). A Teotihuacan-style mirror back displays a relatively long hiero-

glyphic text ending with a speech scroll, quite probably serving as a quotative particle for the previous portion of the text (Fig. 12d). The affixing of texts to speech scrolls is not limited to Teotihuacan. Javier Urcid (1991) notes that speech scrolls with hieroglyphic signs also appear on Zapotec monuments (Fig. 13b). Late Classic Maya vessel scenes contain abundant examples of speech scrolls connected to often quite lengthy hieroglyphic texts, like the curving line connecting to the texts of modern cartoon bubbles (Figs. 1 & 13b–c). It is notable that these Maya texts are often in the first person, suggesting an immediacy to the speech event. The convention of placing texts with speech scrolls continued in Postclassic Mesoamerica. John Pohl (pers. comm.) notes an instance in the *Codex Nuttall*, where one figure emits a sound scroll containing the date 7 Flower (Fig. 13d). In this case, the day name Flower is strikingly similar to the aforementioned jewelled flower on an Aztec Xochipilli song scroll (Fig. 11a). This is by no means coincidental, as the god 7 Flower is none other than the Mixtec equivalent of Xochipilli, the god of music (Furst 1978, 164). In other words, the Mixtec sound scroll can be song, personified by the god name 7 Flower. Some of the most complex instances of texts linked to speech scrolls occur in the *Codex Xolotl*, an early colonial manuscript from the vicinity of Texcoco, in the eastern Valley of Mexico. In one scene, a speech scroll text of a pris-



**Figure 13.** Mesoamerican texts with speech scrolls: a) Late Classic Maya vessel (Robicsek & Hales 1981, 53); b) Zapotec text from Lápidas de Matatlan (after Urcid 1991); c) Mixtec image of song scroll with name of deity, Codex Nuttall, p. 20; d) Aztec rendering of speech and its contents, Codex Xolotl, pl. 8.



**Figure 14.** Symbols for echoes and vibrant sounds: a) Late Classic Maya ballcourt scene (Reents-Budet 1994, 266); b–c) Chaak roaring (Kerr 1990, 221, 285); d) Mixtec rain and lightning god, Codex Selden, p. 14; e) Mixtec hieroglyph with sound symbols flanking 'war chevron', Codex Selden, p. 7.

oner contains no less that ten glyphic signs (Fig. 13e).

Speech scrolls are relatively common in Classic Maya art. In one image, set in a ballcourt, the artist showed echo effects in architectural spaces through the expedient of stray speech scrolls detached from human lips (Fig. 14a). The convoluted, tightly bent, and modulated quality of these scrolls may denote echoing intensity of sound. Pure, resonant sound occurs as thunderous reverberations from the mouth of the rain and lightning god, Chaak, or from other deities (Fig. 14b–c, note the similarity to birth clefts, referred to below; see also the lightning god *K'awi:l* in Reents-Budet 1994, 107). The undulating or jagged lines seem to denote powerful, rumbling sound. A similar convention occurs in Mixtec codices. The face of the Mixtec rain and lightning god emits meandering lines as a probable reference to thunder (Fig. 14d). The same motif often appears with the chevron band, the Mixtec war sign, probably to denote the din of battle (Fig. 14e).

Speech scrolls, although often faint and easily undetected, loop about in whip-lash motions in Late Classic Maya art. This may indicate the modulated tone or oscillating volume expected in rhetoric. Truly the glyphs talk: in most cases the speech scrolls loop from open mouths to glyphic captions. One vessel scene specifies the reciprocal etiquette of such speech, so that those holding or giving objects speak while those receiving do not (Kerr 1997, 754). The analytic im-



plications of an emphasis on spaces filled with speech are that archaeologists need to pay more attention to the acoustics of buildings, especially palaces. For example, most visitors to Maya sites comment anecdotally on whisper effects or the astonishing distances that sound can travel over plazas, and up or down, staircases. Nonetheless, to date, there has been little systematic study of such properties, raising the possibility that Mayanists need to be introduced to collaborative research with acoustical engineers. It is improbable that the Maya were unaware of such qualities and that, as master builders, they failed to manipulate the interplay of sound and speech. Moreover, such 'spaces' were not hollow or vacant, as we might understand them from an occidental perspective, but were substantively, if intermittently, filled with rhetoric and song.

### Sight

Sight was just as commonly represented in Mesoamerican sources. In the *Codex Mendoza*, an early Colonial account of Aztec conquest and tribute, a priest gazes at stars shown as a celestial canopy of eyeballs; but his gaze, too, consists of a projected eyeball connected to his orbits by a dotted line (Fig. 15a). Elsewhere in the *Codex Mendoza* such dots indicate connections between elements that are not contiguous, and also convey movement of persons and objects. It is likely that the eyeball and dotted line denote distant gazing, such as at stars or events removed from the immediate area of an individual. Lines of dots also appear in the *Codex Xolotl*, where they are used to connect a series of eyeballs pointed towards another scene, with long speech scrolls, or with footprints to denote distant travel (Fig. 13d & 15c). In one telling scene, one of a pair of figures within a ball court observes four travelling individuals, while his companion is shown below leaving the ball court to greet the approaching group (Fig. 15c). The speech shared between them concerns the name of the gazing figure back at the ball court. The first glimpse of the Spaniards' caravels in 1518 occasioned a scene in the *Codex en Cruz*, where a native traveller or merchant looks at the bearded conquistadors in their moon-shaped boat on the water (Fig. 15b). As in the case of the *Codex Xolotl*, the repeated eyeballs probably denote distance; the Aztec figure was undoubtedly observing a ship at sea, not on nearby land.

The Classic Maya showed eyeballs as well, often with grim attention to anatomical details. Extruded eyeballs, still dangling the optical stalk, issue

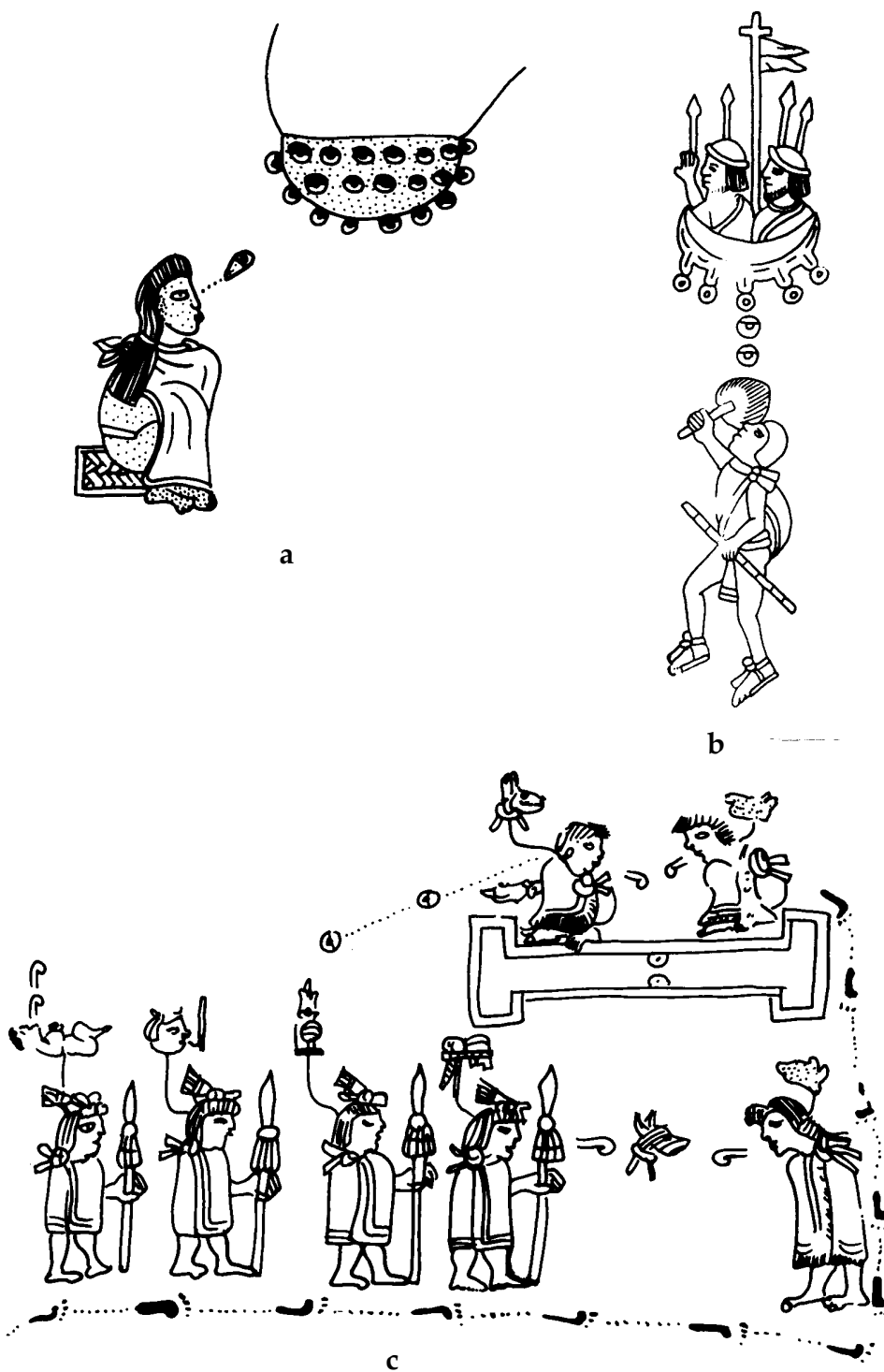
from the orbits of animals and supernaturals (Fig. 16). A lintel from the Puuc site of Sayil portrays a supernatural being calmly holding its extruded eyes in both hands (Fig. 16a). Until the stalk is severed, the eye can still receive optical input, a property the Maya seem to have been aware of, since the animals are often engaged in other activities. A more important feature of eyesight in Classic thought, however, concerns the projective nature of sight. One scene, showing a new-born, recumbent Maize God, contains a hieroglyphic caption, *a-si-ya/i-chi* or *a-si:y?-ich*, 'he who is born from liquid or secretion' (David Stuart pers. comm., with emendations by Houston) (Fig. 17a). Below is a disembodied head emitting vegetal motifs, and from its eye issues the V-shaped cleft associated with birth in Mesoamerica. Precisely the same icon lies underneath the feet of a Maya lord on an unprovenanced stela from the Usumacinta drainage of Guatemala and Mexico (Anonymous 1998, fig. 215) (Fig. 17b). This may demonstrate either that the 'secretion-birth' scene refers to an actual place name, or that the lord on the stela was being likened to the Maize God, a common conceit in Classic Maya art; alternatively, such images show that the ruler was locally born (see Calakmul Structure IV-B lintel, with a lord above a cleft place name with mythological associations: Carrasco 1996, 50).

What is crucial here is that the eye is *procreative*. It not only receives images from the outer world, but positively affects and changes that world through the power of sight — in short, it behaves as an 'emanating eye' that establishes communion between internal will and external result. For example, among the Yucatec Maya, ethnography tells us that sight had an 'agentive quality' through 'wilful act(s)', a property notably missing from the act of hearing (Hanks 1990, 89), although scent and projective sound would seem to possess this quality (signs much like birth clefts occur on glyphs for drums, and such also flow from flowers and the mouths of gods [see above]). The Quiche *Popol Vuh* describes the first people of the present creation to be all-seeing, and consequently all-knowing:

And as they looked, their knowledge became intense. Their sight passed through trees, through rocks, through lakes, through seas, through mountains, through plains. (Tedlock 1996, 147)

Fearful of this godly power, the creator deities diminished their vision: 'They were blinded as the face of the mirror is breathed upon' (Tedlock 1996, 148).

The *Popol Vuh* account of the first people stresses

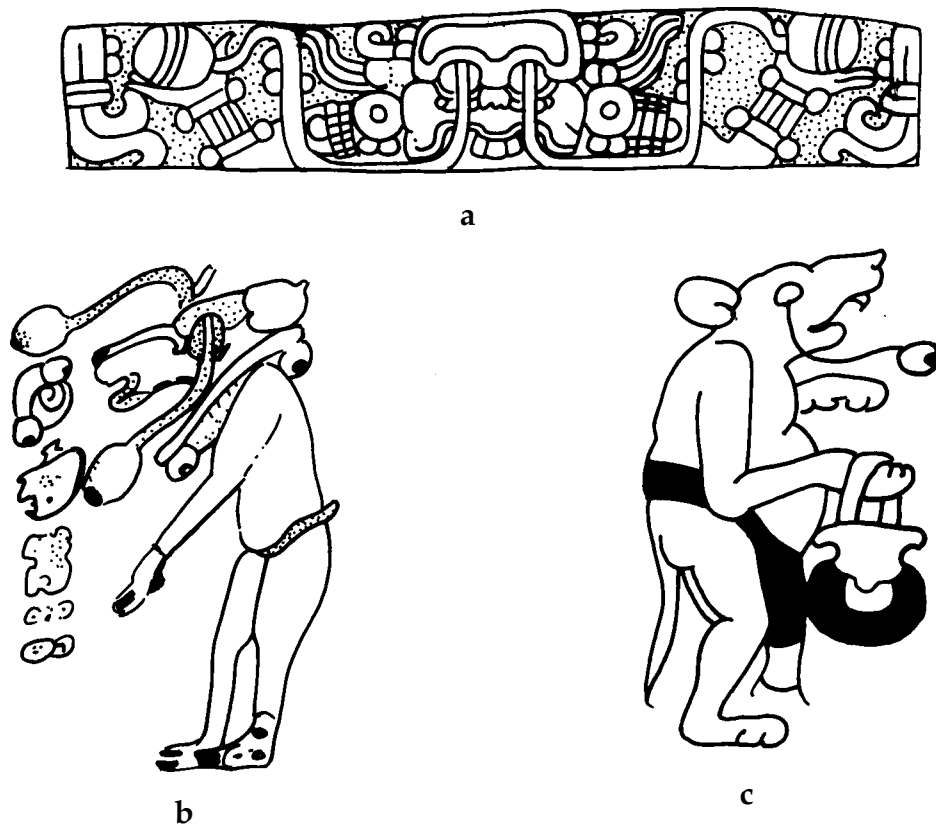


**Figure 15.** Aztec conventions for representing long-distance sight: a) sighting of stars, Codex Mendoza, 63r; b) first sighting of Spaniards in boat by Aztec messenger (Codex en Cruz); c) sighting of visitors, Codex Xolotl, pl. 9.

the penetrating power of sight. In ancient Mesoamerican thought, vision was so related to light that

In Postclassic Mesoamerica, both Venus and stars were often rendered as eyes, in many cases rimmed

eyeballs were used as signs of reflective brilliance. Saunders (1988) notes that at night, the eyes of jaguars shine with a mirror-like brightness, and in this regard it should be noted that three of the four original humans in the *Popol Vuh* are named 'jaguar': Jaguar Quitze, Jaguar Night, and Dark Jaguar (Tedlock 1996, 147). The sun, the most elemental and powerful source of radiant light, is widely identified with eyes in Mesoamerica. The ancient Maya term for the jaguar sun god, K'inich Ajaw, means either sun-faced or sun-eyed lord, and there are instances where solar *k'in* signs appear in place of eyes (e.g. Altar of Stela D, Copan). In the *Codex Dresden* eclipse pages, projecting eyeballs portray solar rays (Fig. 18a–b). In one instance, a pair of eyes serve as butt ends of barbed darts (Fig. 18b). This corresponds to a common Aztec means of representing the current sun Nahui Ollin, or 4 Motion, in which a pointed barb projects above a central eye (Fig. 18c). The Aztec term for 'ray of light', *miotl*, derives from the term *mītl*, meaning 'dart' (Seler 1904b, 384), and quite frequently, dart points rim Aztec solar images, including the famed Calendar Stone. Seler (Seler 1904b, 384–5) also notes that in Postclassic Mesoamerica, the rays of light emitted by the first appearance of Venus as morning star were believed to be deadly darts.



**Figure 16.** Extruded eyeballs in Classic Maya art: a) supernatural being, Sayil (Pollock 1980, fig. 255a); b) deer as companion spirit, named with doubled eyeball glyph (Kerr 1994, 112); c) mammal holding vessel (Kerr 1989, 83).

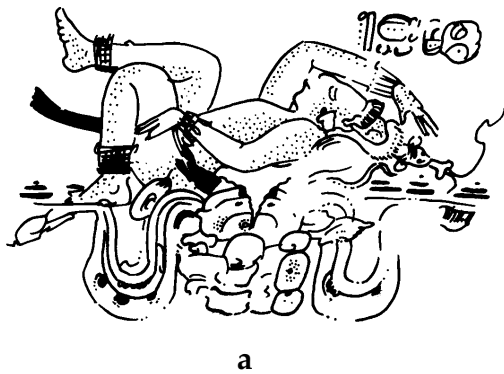
with pointed darts (Fig. 18d–e).

The Classic Maya seem to have assigned the emanating power of vision to portraits as well. These were conceived as physical, essentially charged extensions of the person being represented. When mutilated, either by antagonists or through ritual ‘killing’, it was usually the eyes that were effaced or hacked, presumably because of the forces thought to radiate from them (Houston & Stuart 1998a, 88). It is just possible that the Maya observed a ceremony much like the Buddhist ‘opening of the eyes’, which activated, enlivened, and empowered sculptures (Gombrich 1966). The inscription of Stela 3 from Machaquila, Guatemala, ends in an impersonal expression, *ila-aj/k'al-tu:n/na-ho-tu:n*, ‘it is seen, wrapped [dedicated] stone, fifth stone’ (see below for discussion of the initial signs: Graham 1967, fig. 49; also Machaquila Stela 7, *il-ba*, ‘see image/self’, Graham 1967, fig. 57; Stuart 1996, 157). Stuart and Houston have made the argument that this refers to the first reading of the text, but it may also suggest that the sight of the monument, probably by the ruler himself, vitalizes and consecrates it to service as a royal

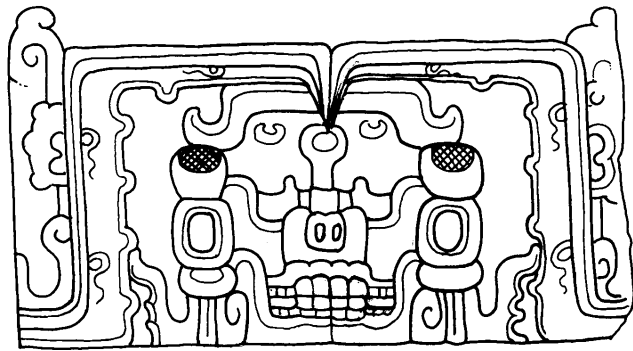
representation (Houston & Stuart 1998a). Tellingly, the dead are often shown in Mesoamerican art with closed eyes (Fig. 4c).

In this connexion, it is noteworthy that the eyes of Classic Maya deities fall generally into two categories. One set is clearly human, marking youthful or female gods such as the ‘hero twins’, the moon goddess, or the maize god (Taube 1992b, figs. 19, 28 & 30). The other set of gods have eyes with square outlines and inset designs of varying shape. Such characterize the sun god and various deities with elderly features or strikingly inhuman visages (Taube 1992b, figs. 4, 12 & 22). The differences between the two kinds of eye raise interesting questions about what the Maya intended. If sight was transmissive and procreative, such distinctions might have signalled that one group had a particular kind of sight, perhaps as original or creator gods, and that the other did not.

The pupils of ‘square-eyed’ gods in Classic Maya art also form two major categories. One type, commonly found with the sun god and the aged creator Itzamna, display a crossed-eye pupil (Fig. 19b–c).



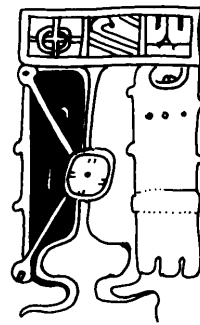
a



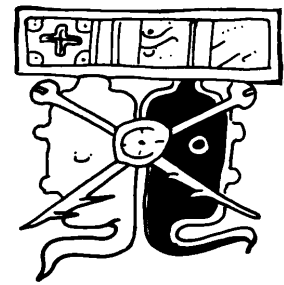
b

**Figure 17.** Eye secretion in Late Classic Maya art: a) newborn Maize god (Kerr 1990, 215); b) basal register on stela (Anonymous 1998, pl. 215).

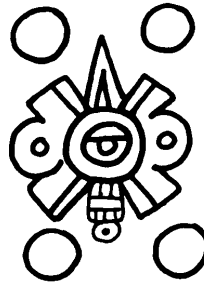
The pair of curving lines delineating the pupil is identical to the 'nen' mirror sign used to designate hard, reflective surfaces, such as stone mirrors or polished celts (Fig. 19a). The same reflective sign can also appear on the brow of the sun deity and other gods (Fig. 19b–c). The other type of eye is a swirl or spiral, and seems to be associated with gods of the dark and watery underworld (Fig. 19d–f). Thus the nocturnal aspect of the sun god, the Jaguar God of the Underworld, displays these pupils, in sharp contrast to the diurnal form of the sun god (Fig. 19d). In Mesoamerica, eyes are widely identified with mirrors (Saunders 1988; Taube 1992a, 181–2). Along with the *nen* pupil marking, the spiral element also appears on the surfaces of mirrors, although often worn by death and underworld beings, including the Moan Owl and the deathly god of completion (Fig. 19f–g). It would appear that the differing eye forms denote two qualities of reflective light, one a bright gleam from hard, shiny surfaces, and the other more muted and opaque. Along with the Jaguar God of the Underworld, the piscine god known as GI also displays



a



b



c



d



e

**Figure 18.** Celestial light as eyes in Postclassic Mesoamerica: a) Maya solar eclipse, Dresden Codex, p. 54; b) Maya solar eclipse, Dresden Codex, p. 56; c) Aztec solar sign, Codex Borbonicus, p. 14; d) Maya star sign from Tulum Structure 5 (Miller 1982, pl. 28); e) Mixtec star sign, Codex Vindobonensis, p. 47.

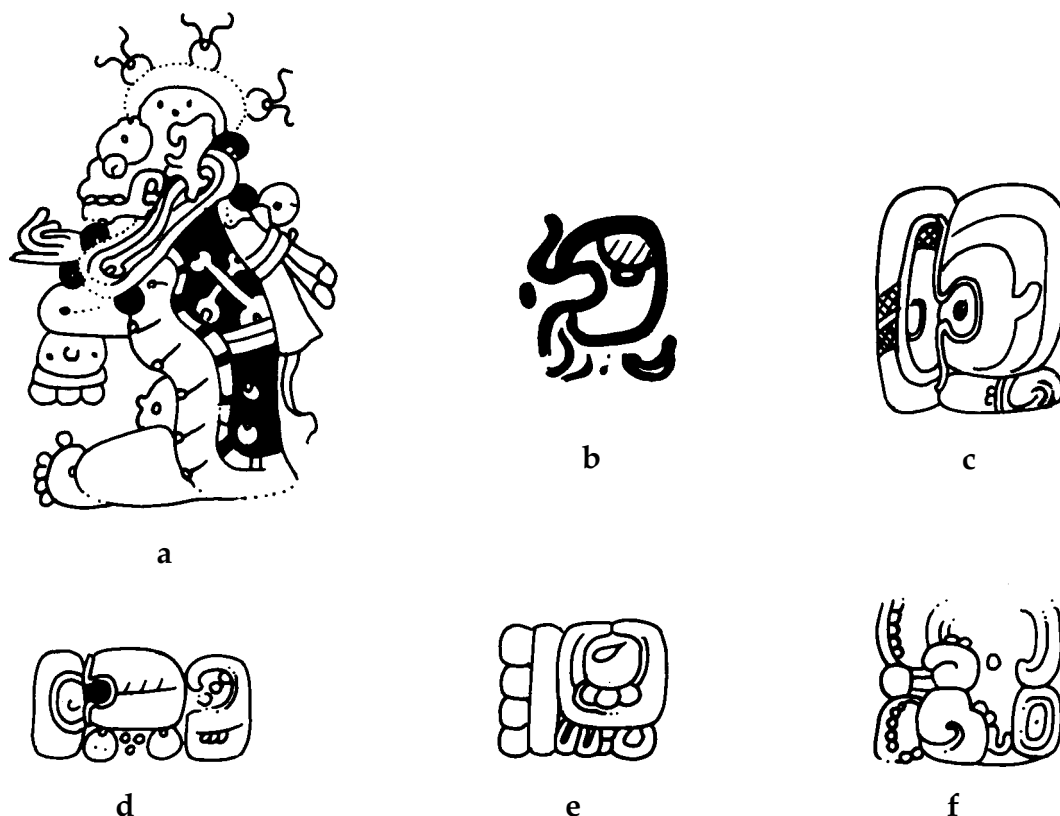
swirling eyes, and it is likely that this eye form derives from bodies of water, widely identified with the underworld in Maya thought (Fig. 19e). Thus Early Classic images of flowing water often display swirls identical to the eyes of aquatic and underworld beings (Fig. 19h–i). A similar convention appears in the Early Classic art of Teotihuacan, where falling drops, streams, and even the ocean display eyes, probably to denote the reflective, shining quality of liquid (Fig. 19j).

Maya writing abounds in glyphs that refer to sight. These include affixes necessitated by grammar, but also a principal or 'main sign' that shows an eyeball from which the pupil exudes two lines, very similar to the pairs of lines denoting scent and sound (Fig. 20a–d). In a rather macabre fashion, death gods in the *Codex Dresden* display seeing eyes on their bodies, and even eyes as a form of speech or breath (Fig. 20, for eye emanating from the mouth





**Figure 19.** Comparison of deity eyes and reflective surfaces in Classic Maya art: a) 'mirror' sign (Schele & Miller 1983, fig. 3a); b) deity head, detail, Palenque Tablet of the Foliated Cross (Schele & Miller 1983, fig. 36); c) head of sun god, stucco head, Palenque (Schele & Miller 1983, fig. 3f); d) Jaguar God of the Underworld, detail, Palenque Tablet of the Sun (drawing courtesy of Linda Schele); e) mask of G1 (Taube 1992b, fig. 9a); f) God L, door jamb, Palenque, Temple of the Cross: note mirror on headdress (drawing courtesy of Linda Schele); g) God of Completion with spiral mirror in headdress, Copan (Taube 1992b, fig. 55f); h) water emblem, Río Azul tomb 1 (after Hall 1989, fig. 37); i) detail of Early Classic water emblem on vessel (Hellmuth 1988, fig. 168); j) youth fishing for shells, mural from Tetitla compound, Teotihuacan (after Miller 1973, fig. 277).



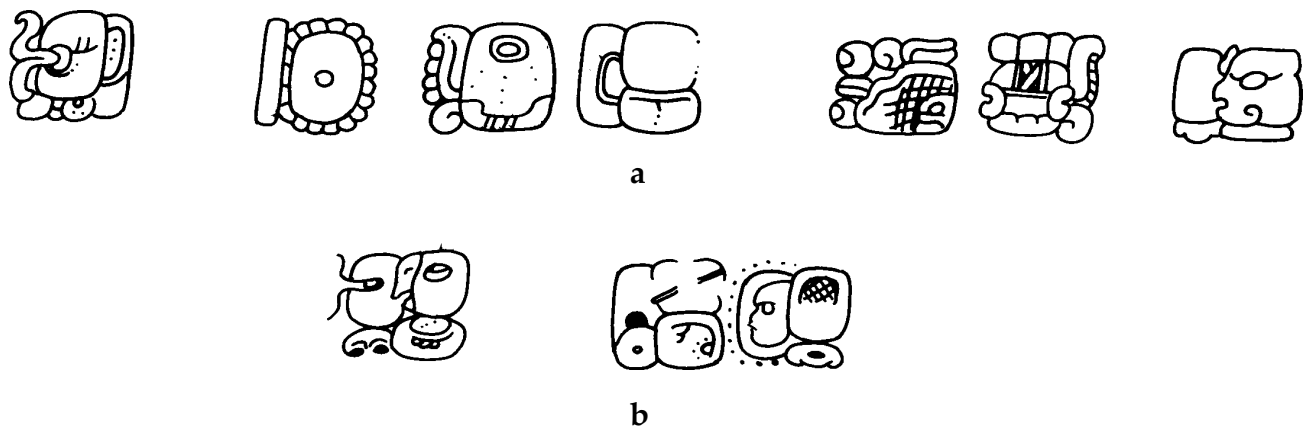
**Figure 20.** Maya glyphs and icons for 'see': a) Postclassic Dresden Codex, p. 12b, with death god and sighted eyeballs; b) Naj Tunich Drawing 23: A3 (Stone 1995, fig. 8-23); c) La Corona (?) panel (after drawing by I. Graham); d) Uaxactun Stela 13:A4 (drawing: I. Graham); e) Piedras Negras Panel 3:D1; f) Copan Stela N:A10 (after drawing by B. Fash).

see *Codex Dresden*, pp. 8a, 10a, 11a, 15a,c). In the case of the vision sign, the lines begin within the eye, often as a U-shaped cleft around the pupil. The similarity of this form to birth verbs and birthing expressions has been studied extensively by David Stuart and shows again that the Classic Maya perceived a fundamental linkage between sight and birth, both equally projective from the body. In independent research in the late 1980s, Stuart and Houston deciphered this sign as *il* or *ila*, a Classic Maya expression meaning 'see' (Fig. 20b–d). The same sign occurs in the so-called 'Glyph D' of the lunar series in the Classic calendar (Thompson 1950, fig. 36). The first appearance of the new moon appears to involve the concept of 'holy sight' or 'the god sees', quite like the heliacal rising of Venus as morning star (Fig. 12e). In fact, the Aztec *Florentine Codex* compares the heliacal appearance of the morning star to the shining moon:

it burst forth completely, took its place in full light, became brilliant, and shone white. Like the moon's rays, so did it shine (Sahagún 1950–82, bk. 7, 11–12).

Another variant of the Maya lunar sign, read *hul* or *ul*, 'arrive', consists of a moon glyph that contains an eye (Fig. 20f). Present evidence does not allow us to establish the exact meaning of this complex of signs, although it does suggest a strong association between sight and physical manifestation, in this case of the crescent moon.

As a verb, the glyph for 'see', *ila-aj* or *y-ila-ji*, is found throughout the corpus of Classic and particularly Late Classic inscriptions (c. AD 600 to 850). Two kinds of contexts exist. One features the verb in initial position, as the first element in a phrase meaning 'it is seen'. Typically, these expressions specify location of the event, as in reference to a mortuary pyramid on a panel from the area of Cancuen, Guatemala ('at *ho jana:b wits*', perhaps the Maya Flower World), and in many texts from the wall paintings of Naj Tunich, Guatemala ('at *mo'pan'*') (Fig. 21a–b). The physical mooring of sight clearly conferred materiality to that action. The second context is that of secondary verb — namely, positioned after an initial phrase



**Figure 21.** Glyphic phrases with verb 'see': a) panel from Cancuen region (drawing: L. Schele); b) Naj Tunich Drawing 66:B1-D1 (Stone 1995, fig. 7-12).

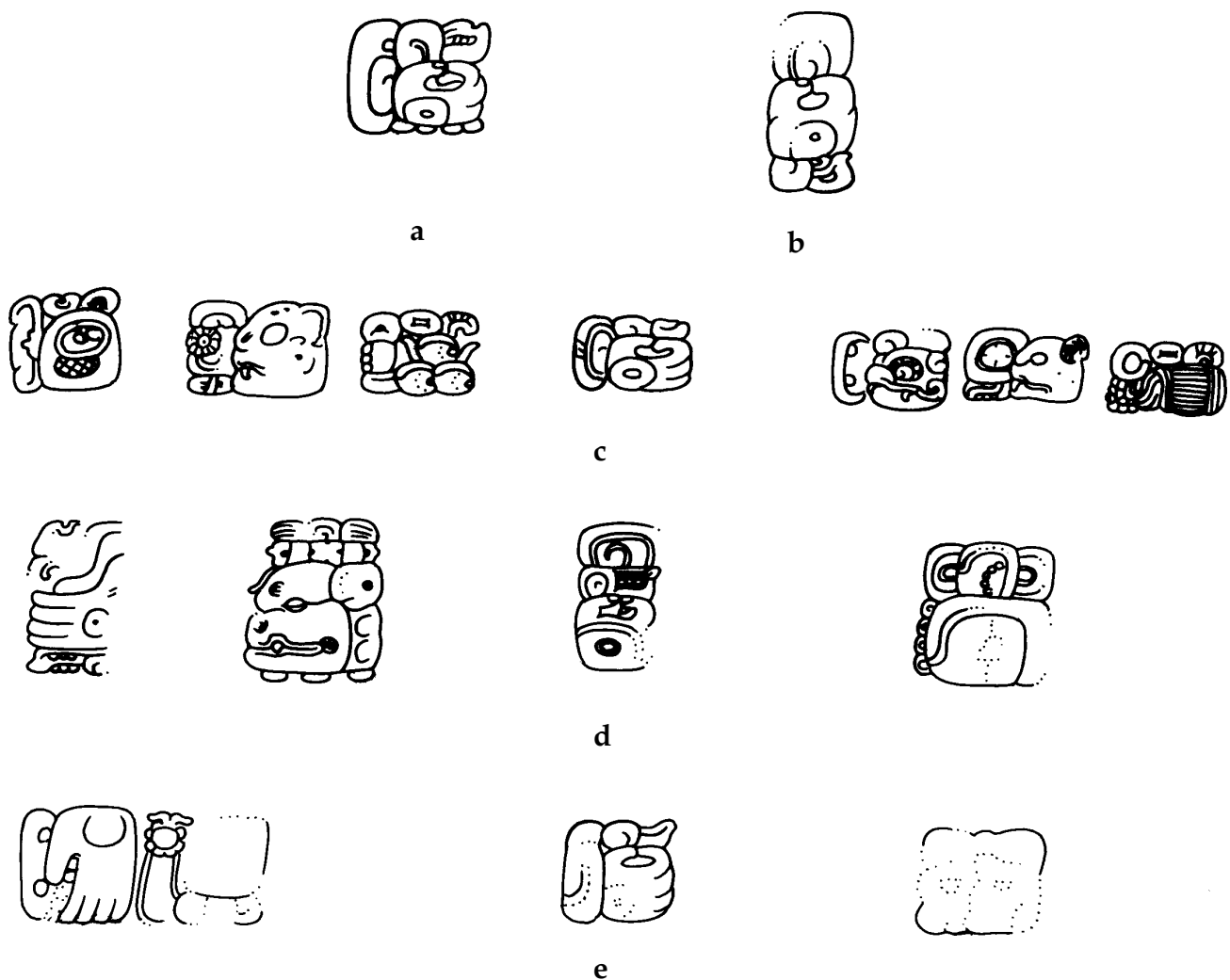
containing an initial verb (see Ixtutz Stela 4:A5–B5). The individual who 'sees' is always someone of high status, an overlord or crucial visitor. Such statements indicate that the act of seeing, and, implicitly, the physical presence of the overlord or visitor, held singular importance for the Classic Maya, just as it does for some Maya groups today (Vogt 1993, 205). Such presences imply that sight discharged a witnessing or authorizing function in Classic society. In a moral and perhaps a legal sense the events being seen achieved validity not only because they took place, but because others used sight to participate in them, as 'co-creators' of a signal event. It is probably relevant that, in most Mayan languages, to see something is also to discern and understand; thus, the act of perception is regarded as physiological, but equally cognitive, intellectual, and, in the case of shamans, at once visionary and spiritually omniscient (Hanks 1990, 88; Vogt 1993, 187, 205).

### Sight, ecological events, and moral valuation

The notion of perceptual and interactional fields embracing bodies and actions leads to a final piece of evidence, a set of glyphs that refers explicitly to visual fields during the Classic period. This is the *y-ichnal* expression, usually spelled **yi-chi-NAL** (Fig. 22a–b), which is certainly cognate with Yucatecan *y-iknal*, an inalienably possessed noun that requires a possessor (David Stuart pers. comm. 1987; Stuart 1997, 10).<sup>9</sup> William Hanks has done a penetrating analysis of the *-iknal* expression among Modern Yucatecan speakers. From him we learn that the *-iknal* can be one of two things: either a habitual place or home, and thus anchored in space; or a corporeal field of interaction, a region that is a 'mo-

bile field of action related to an agent the way one's shadow or perceptual field is' (Hanks 1990, 91). There is some hieroglyphic evidence that the Classic Maya intended the latter meaning, albeit in a narrower sense. Among modern Yucatec, the *-iknal* is closely 'linked to bodily activity of a speaker' and within the body's line of view (Hanks 1990, 92). The *-iknal* field generally lies in front, although it may include peripheral fields that can be accessed by head movement (Hanks 1990, 91, 93). Although predicated on sight, it is not, in Gibson's terms, a 'visual field' that relies only on eyesight from a fixed vantage or a hypothetical, perspectival frame (Gibson 1979, 285–6). Rather, it lies closer to a 'visual world' that is 'ecologically intertwined with the other senses' and that reaches out to projected 'depth shapes' (Gibson 1979, 206–7; Jay 1993, 4). This understanding contemplates vision not from a single vantage, but in terms of the totality of objects within view, each as a participant in that world. In Gibson's jargon, such *-ichnal* would represent an 'ecological event' that could be understood and classified in relation to its creation of space/time, its nesting within other events, and the possibilities afforded for other, suitable responses (Gibson 1979, 100–102).

What is so intriguing is the appearance of this term in Classic inscriptions (Fig. 20c–e). Without exception, the entity to whom an *-ichnal* belongs is either a ruler or a deity — lords appear singly, while gods occur in pairs towards the Eastern Maya Lowlands, and as triads or quadrads in the Western Maya region. Chronologically, the expression is restricted to the middle years of the Late Classic, with scattered examples all the way into the Terminal Classic period (c. AD 800); the largest number ( $n = 10$ ) involve the act of 'receiving' regalia or a ritual ( $n = 5$ )



**Figure 22.** The *y-ichnal* expression: a) Aguateca Stela 1:D6 (Graham 1967, fig. 3); b) Copan Altar 41:E1 (after drawing by L. Schele); c) Aguateca Stela 2:E2–F7 (Graham 1967, fig. 5); d) El Peru stela fragment (after drawing by I. Graham); e) Ixkun Stela 1:J6–K7 (drawing: I. Graham).

that may entail ‘dressing’ or ‘adornment’. The date of such references may demonstrate the increasing importance of consensus, collective acts, and non-regal influence in political and ritual life of the time (Houston & Stuart 1998b). The visual field always embraces another person and someone else’s action. Evidence from sites in the Petexbatun area of Guatemala emphasizes that the *-ichnal* shifts: the same deities will associate their *-ichnal* with different place names, demonstrating that the perceptual field is not, at least at first, rooted in a particular location (cf. Stuart & Houston 1994, fig. 5; Graham 1996, 59). Moreover, when the Classic Maya regarded individual perception, at least in their glyphic texts, it was not simply as a vista or a bracing view of archi-

tecture, but as a reciprocal, heavily social context involving other people or beings. In truth, this was ‘communion-oriented’ vision, an ‘ecological event’ (again in Gibson’s terminology) of a very special sort. With gods in particular, the *-ichnal* would have been extended, presumably, by the field of view multiple participants.

In addition, Hanks observes that, among the Yucatec Maya, the *-ichnal* tends to contain areas that are ‘up’ and to the ‘right’ (Hanks 1990, 91). Among the Classic Maya, this perceptual field is preferably ‘down’, especially as it encompasses lower-ranking persons. For example, Stela 2 from Aguateca, Guatemala, situates the perceptual field with respect to a humbled captive writhing under the ruler’s feet, and



the same seems to be true on other monuments of deities floating above lords, looking 'down' through the space of their *-ichnal* (Graham 1967, fig. 5). What is a commonly-held perceptual region for later Yucatec Maya becomes, for the Classic lords, a field of vision and witness that appears to have been crucial in validating ritual. It served almost as a notarial presence that concretized actions through shared experience and participation. Such witnesses were not passive, but, through eyesight, active celebrants in the events before them. In glyphic inscriptions no captive or inferior lord ever possesses or experiences an *-ichnal*. We should also emphasize the moral valuation of orientation, 'up' being good, 'down' less good, right preferable to left. Houston has documented the delicate tensions that result from relative position in Maya art (Houston 1998).

How are we to relate this to movement and perception in Classic Maya buildings? The meaning of a place comes not only from architectural setting, usually vertically disposed, but from the fact that something is being done and that several people are involved in undertaking or supervising such an action. In this view of place, architecture becomes, not surprisingly, a prop — even if a grand one — for reciprocal, socially meshed behaviour that has the formulaic repetition of ritual. Broad fields, issuing from the few bodies accorded *-ichnal* in Classic Maya rhetoric, impart meanings to architectonic spaces; sightlines through windows or along the edges of walls seem to have been less important than is sometimes asserted (e.g. Hartung 1980, 74). Nonetheless, it would be an overstatement to disengage entirely the mobile *-ichnal* from the settings where they played such a large role in royal and ritual life. The closed courtyards in Maya palaces that emphasize the sweep of peripheral vision, the fixed thrones and benches where rulers sat, or the stairways where lords surveyed tribute, captives, and musicians served, in a sense, to tether and bind the *-ichnal* to focal spots on the axes that configured Maya buildings. For architectural settings, the Classic Maya may well have conceived of the *-ichnal* in Hanks' first sense, that of a habitual place. To put this in Gibson's language, such settings were designed to stage and control the *-ichnal* as a recurrent, ecological event, in the distinctive, hierarchical sense intended by the Classic Maya.

## Conclusion

As cultures differ in many ways, so too does their conception of the senses. The senses attain central importance because they channel how we regard the

world and they explain how the world is influenced by creative, wilful projections from the eyes and mouth. The visual culture and its meta-sensory expressions that are described in this article may have reached their most overt and elaborate expression in Maya civilization of the Late Classic period, but their roots doubtless penetrated deeper in time. Many ethnographic parallels, including Hanks' excellent data from Yucatan, suggest a continued presence to this day. One component consisted of the body. The acts of perception and cognition were near-instantaneous and thus indistinguishable, hence their perceived fusion into a single event. Similarly, regardless of society, binocular and peripheral vision oriented the body in space. But culture consistently intervened: within Mesoamerica in general, and the Classic Maya region in particular, peripheral vision acquired moral and hierarchical significance, the perfume of flowers enchanted the socially privileged, sound and hearing related to heated oratory, and 'empty' spaces flickered and filled with lambent meaning. Such effects were communicated through ingenious synaesthetic codes that were visual, graphic, and permanent. It is important to note that, ethnographically, such spaces could be enjoyed by all, regardless of status. In ancient art and writing, however, the concept seems to have been appropriated and refined by élites alone.

Ancient Mesoamerican signs used to denote sound, smell and sight are notably similar, and typically feature gently curving pairs of volutes. These senses significantly overlap in ancient Mesoamerican thought. Thus the sound of speech or song would be metaphorically expressed through beautiful, aromatic flowers, or shining jade. Sound and scents appear to have been closely integrated with concepts of the soul and the afterlife. The sinuous curves denoting the senses in ancient Maya writing and art are also one of the most striking characteristics of the Classic Maya style, and are readily seen in portrayals of human bodies and facial features as well as cloth, feathers, and other elements of costume. Michael Coe (1973, 91) notes the sinuous nature of ancient Maya art: 'Like the practitioners of Art Nouveau around 1900, the finest Classic Maya artists were obsessed with the "whiplash line".' For the Classic Maya, such curving lines were particularly 'sensual', as they replicated the forms used to portray qualities of sight, sound and scent. As a visual embodiment of sensual communication, Classic Maya art evoked qualities attributed to the senses.

Behind the senses and their indigenous understanding lies a deeper point about what philoso-

phers call the ‘mind–body’ problem. For Spinoza, the mind and body were not distinct, as Descartes would have it, but of one substance — God. From this ensued the monistic postulate that the physical and spiritual universe were one-and-the same, that internal and external worlds held communion, both being limited in their apprehension only by the meagre senses of humanity (Collinson 1987, 61, 62; Bennett 1996, 64–9). Monistic propositions have been applied to Mesoamerican thought, with some success (e.g. Burkhart 1989; Monaghan 1995), as well as to other cultural traditions. An intriguing study of mortuary and commemorative cults of Egyptian sheikhs suggests ‘a continuum that encompasses the etherealization of the body and the substantiation of the spirit’ (Wickett 1993, 197). There is much in this article that accords with the premise that we can fathom the ancient Mesoamerican mindset through the notion of shared essence, regardless of supposed ‘concreteness’ or lack thereof. Monism claims substance and creative energy for things, states, conditions or forces that might be regarded by current, scientific thinking as invisible, non-material, non-causative, and devoid of essence. In this essay we contend that, for the Classic Maya, physical and non-physical entities shared a charged vitality, whether directed from the mouth through speech, discharged as creative impulse through sight, or inhaled from sweet-smelling flowers. Regrettably, the essay has also set out on a difficult path: an ‘archaeology of the senses’ can never be possible directly, insofar as it traffics in non-replicable and ephemeral experiences. Nonetheless, available evidence, especially from rich sources of Mesoamerica, brings us closer to what it was like to smell, hear, speak, see — to live — in this part of the Pre-Columbian world.

### Acknowledgements

Appropriately enough, these reflections on the senses came to us while we were gorging on *tapas* in the Plaza Mayor of Madrid. David Stuart shared counsel, evidence, and ideas with his customary generosity. We thank Tom Cummins, Cecelia Klein, Helga Maria Miram, John Monaghan, John Pohl, and Javier Urcid for their helpful advice. Norman Hammond and David Webster provided excellent comments as our reviewers. Houston gave versions of this paper as invited talks at the universities of Hamburg and Yale, at the Center for the Advanced Study of the Visual Arts, National Gallery of Art, Washington, D.C., and at the De Young Museum, San Francisco. Transcriptions follow the standard set by the Center

for Maya Research; ‘Kerr’ numbers correspond to Justin Kerr’s catalog of rollout photographs, from which he graciously allows publication here.

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### Notes

1. Dorothy Hosler correctly notes that synaesthesia can also pass from sound to sight, as in the Aztec notion of the creation or invocation of colours by song (Hosler 1994, 242).
2. The injurious concept of vision, as especially conceived in southern Europe, may also be divided into an indiscriminate emission, the *jettatura*, and one that is invited only by the fortunate and prosperous — the ‘envious glance’ described by Bacon (Gifford 1958, 14).
3. These debates are equally relevant in Europe. Svetlana Alpers (Alpers 1983, xxv, 244) describes two different ‘visual cultures’, one northern and especially Dutch, the other Italian, in art of the early Modern period. Southern artists focused on the *lux*, light from the eye, or ‘extramission’, northerners the *lumen*, light received by eye, or ‘intromission’ (see also Gombrich 1976, 19–35).
4. We are indebted to Helga-Maria and Wolfgang Miram for kindly drawing our attention to many early speech scrolls in Western art. The earliest examples appear to show vellum or paper scrolls unfolding from the hands, perhaps in conceptual play on the relation of speech to its permanent record. Later still, the scrolls emanate from the mouth as elegant calligraphy, culminating in Durer’s memorable woodcut of the Apocalypse, which shows a bird cawing ‘we, ve, be’ as it plummets from heaven. The interplay and transposition of speech scrolls and elements cast from the hands appear with equal prominence in the mural art of Teotihuacan (Miller 1973, 100–101): both are rimmed with qualifying, flowery signs.
5. Our comparison of signs and ideas within Mesoamerica needs some clarification. Some scholars believe that such comparisons are wrong-headed. To their thinking, this kind of research: (1) relies on the concept of ‘Mesoamerica’, an essentialist abstraction that has no independent existence apart from its usefulness in organizing information; (2) ignores the historical and cultural separation of individual traditions within this general region; and (3) fails to understand

that signs or icons in varying parts of Mesoamerica may have the same form but utterly different meaning. These would seem to be sensible reservations, but for one important point: pan-Mesoamerican comparisons work. Local graphic conventions must be thoroughly understood and their contexts explored before such comparisons yield valid arguments. But the approach has been tried time and again with fruitful results, to the reciprocal illumination of difficult and patchy sets of evidence. We suspect that such common ideas had their origin anciently, as part of a deep conceptual substrate associated with the beginnings of agriculture (and probably long before) and as a consequence of intense interaction among Mesoamerican peoples.

6. A reading for this sign, *nik*, first proposed by Nikolai Grube, is unlikely to be correct for phonological reasons, since *nich* is the expected Classic form. Houston believes it must have been a word beginning in *mi-*, perhaps with an honorific ending *-ik*.
7. One of the earliest explicit discussions of speech scrolls appears in a posthumously published report by Beyer; his report was first prepared in 1917 (1955, 33–4).
8. The act of hearing may in turn occur on the Early Classic Resbalon Hieroglyphic Stairway 1 (block 22), which displays an ear receiving a looped scroll; the *xa* prefix may complement a root *xak* 'listen, spy' (Yucatec) or, more likely, it represents an aspect marker.
9. Inalienable possession has an iconographic concomitant in the signs of Classic writing. Virtually all body parts expose the point of severance, since, logically, hands, fingers, heads, and torsos cannot exist without first having been attached to a body. Accordingly, hands show a circle near the wrist (the arm bones), heads a doubled indentation (spine and trachea), torsos a circle (the spine). The Classic Maya extended this concept to other nouns of inalienable possession, such as 'house', *-oto:t*, which show a 'circle of severance', usually on a platform, in the same way as would a body part.

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