seals. During the tenth century, some letters became more rounded. This change can be traced in inscriptions containing the name of the owner and his father, as the bowl of the letter šin in the word ṣūn ['son'] became deeper and rounded. Later, probably during the tenth or eleventh century, the bowl was transformed into a long oblique stroke that descends below the base line. At roughly the same time, certain tails and loops climb towards the top of the engraved space. The rising tail is a distinctive feature for dating these objects. Small decorative elements, such as schematised leaves or bars, were also added. They appear most often on the lower end of the letter šin, but are sometimes found on other characters that extend below the base line or on the tips of the long upstrokes. The letters gradually lost their rigidity, and the script became more curvilinear, either in the eleventh century or possibly earlier in the eastern Islamic world as suggested by coins from the late tenth century.

Seals dating from the thirteenth century show a new style that becomes more pronounced by the fifteenth century. Inscriptions became considerably longer. Decoration, hitherto limited to a few schematised motifs such as a six-pointed star formed by three short crossed strokes, became more naturalistic and filled the area more completely, including the spaces between the characters. The variety of gemstones used was restricted, with carnelian becoming by far the most popular. The range of languages widened, and in addition to Arabic, the inscriptions, usually short poems, could be written in Persian, and later in Turkish. From the sixteenth century, many inscriptions include the year in which the seal was made, but these dates are sometimes difficult to read. The hurriedly executed figures can be confused with the overall decoration, and the cipher for ‘thousand’ is often omitted as obvious and has to be supplied where appropriate.

— PART IV —

Reading and Recording Inscriptions
Chapter 15

Sources, Methods and Conventions

The previous parts of this book survey and summarise what is known about inscriptions on buildings in and objects from the Islamic lands. This part is more practical: it aims to show the reader how to find information about a particular inscription and how to record a new text. A first section describes and evaluates general reference works about Islamic epigraphy. These include volumes dealing with historical information, notably the MCJA (Mémoires de la Mission archéologique française au Caire), the series initiated by van Berchem in the early twentieth century, and the RCEA (Répertoire chronologique d'épigraphie arabe), the chronological list of Arabic inscriptions begun under the editorship of Étienne Combe, Jean Sauvaget and Gaston Wiet in 1931. This opening section is followed by one explaining how to identify and interpret Koranic and other religious texts. A subsequent section treats the different calendars used for dates in inscriptions. Finally, a short section gives the different symbols used in recording an inscription.

General Reference Works

The massive tomes of the MCJA are the core material for studying Islamic epigraphy, and to do much work on the subject, one must be able to exploit them fully. The first problem is to find them in the library. Sometimes they are catalogued by the names of the author(s), sometimes as a separate series (MCJA), but most often as volumes in a series of Mémoires published by the Mission archéologique française au Caire, which later became the Institut français d'archéologie orientale du Caire. Van Berchem’s opus on Cairo (MCJA Égypte 1), for example, is volume XIX of the Mémoires de la Mission archéologique française au Caire, while Wiet’s continuation (MCJA Égypte 2) is volume 52 in the same series, but now published as Mémoires de l’Institut français d’archéologie orientale du Caire (often abbreviated MFO). Thus, the two works do not appear next to each other on the library shelf, and finding one volume in the MCJA does not ensure that one can quickly find the others. [For complete information on the volumes as given in their tables of contents, see ‘Volumes in the MCJA’ at the beginning of this book.]

Next is the question of how the individual volumes are organised. They concentrate on architectural inscriptions, which are arranged in chronological order according to the date that the building was constructed. Repairs and renovations to a building are listed along with the initial entry on the building. Thus, Manalik revamps a Fatimid building such as the Aqshar Mosque in Cairo (MCJA Égypte 2, nos. 21–7) will be found not with other fourteenth- or fifteenth-century inscriptions but following the tenth-century entry on the mosque (MCJA Égypte 2, nos. 20).

Each entry is divided in two parts, one on epigraphy, the other on the archaeology of the building. A bold heading at the beginning gives the name of the building and the date, generally of completion. This is followed by a brief indication of the building’s location within the city. Each inscription within the building is listed separately. The entry begins with summary remarks about where the inscription is found within the building;
the dimensions, the size (small, medium or large) and type (for example, simple, flourished and decorative Kufic; Ayyubid, Mamluk and Ottoman naskh) of the letters and the material on which the inscription is carved in relief (unless noted otherwise) the state of preservation, the number of lines and divisions, and the presence or absence of diacritical marks and other orthographic signs. This heading is followed by a transcription of the text in Arabic characters. Next comes a summation translation and critical analysis of the text, including any important historical, philological or archaeological deductions that can be made about it. Plates with photographs of rubbings or squashes of the inscriptions at the end of each fascicle allow the reader to judge the style.

The first volumes of the MCI can be published, van Berchem's work on Egypt (MCI Egypte 1), give a good example of how these publications are organised. Following an introductory essay on the need for a corpus and a manual of Arabic archaeology, van Berchem's opus contains 145 inscriptions, all verified by the author in situ. The inscriptions are listed chronologically within dynastic headings, and the work is divided into four fascicles published between 1854 and 1903. The first fascicle covers buildings founded by the Unayrua, Tahmids, Fatimid and Ayyubids, from the foundation of the Nilometer in 97/715-6 to the madrasa and tomb founded by Salih Najm al-Din Ayyub in 644/1247. The second fascicle covers those buildings founded by the Idrisi Mamluks, and the third, those founded by the Circassian Mamluks. The fourth fascicle treats a handful of Ottoman buildings as well as sixty objects, mainly architectural furnishing, from the Cairo Museum. Wiet's supplementary volume on Cairo, MCI Egypte 2, adds fifty-four inscriptions from the earliest Islamic times through the Fatimid period.

One point already clear from these first volumes of the MCI is the interest shown by scholars and epigraphists of this time in the earlier periods of Islamic history. Ottoman inscriptions, for example, are treated only summarily. There were several reasons for this emphasis on early and medieval Islam. In part, it reflects the nineteenth-century viewpoint when scholars looked back to the eighth and ninth centuries as the golden age of a unified Islamic world, and many scholars considered Egypt in the later centuries merely a province of the Ottoman empire. In part, this emphasis also reflects the value of the early inscriptions, which are usually distinct and discrete and often the only contemporary evidence for certain events, as few written sources survive from the early Islamic period. By contrast, inscriptions from later times are far more plentiful and often supplemented or even replaced by contemporary accounts written from a number of viewpoints.

While this emphasis in the MCI on early or medieval Islamic times may be understandable, its impact is aggravated by the chronological organisation from earliest times onwards, with the result that the entries for the later period were often never completed. Wiet's additions and corrections to van Berchem's opus, for example, never reached even the Mamluk period. The MCI is most useful, then, for the earliest times, but one needs to look carefully for later inscriptions.

Despite this limitation, the volumes of the MCI are of extraordinary importance for historical studies, as information from the inscriptions themselves is combined and coordinated with that supplied by texts. Wiet's long entry on the earliest building in Cairo, the mosque of 'Amr b. al-As (MCI Egypte 2, pp. 1-16), for example, contains no preserved inscriptions, which are all modern, but rather those recorded in medieval texts, of which he had an extraordinarily wide and deep grasp.

A second advantage of the MCI is its superb indices, which allow the reader to find a wealth of information without reading through the entire volume. Each complete work, such as van Berchem's four volumes on Cairo (MCI Egypte 1), contains a single index, and a perusal of the index to van Berchem's opus gives the reader some idea of its vast scope. The index, which took van Berchem two years to complete, is 110 pages long and contains more than 50,000 references. It includes all proper names of people and places mentioned in Arabic or French in the inscriptions and commentaries, the summates and titles mentioned in the calendars and formulates of benediction and malversation; all the Arabic words in the inscriptions, and all words in the commentaries that relate on the one hand to epigraphy, archaeology, architecture and construction and on the other to religious, political, administrative and judicial institutions, especially diplomatics and titulature, in other words to all the terms that relate to history in its broadest sense. All of the words are transcribed into French, so that one does not even need to know the Arabic alphabet to use the index.

To see how useful van Berchem's index is, we can use the example of the word 'abd. Following the main entry 'abd (slave, servant), one finds a list of references first to nine entries in which the word appears in the Arabic text (a few entries mentioned above an asterisk to indicate that the word appears several times in the same entry) and then references to three separate pages on which the word is discussed in the commentaries. This list for 'abd is followed by sub-entries for three different plurals ('abdan, 'abd and 'abd), each with references to entries and pages. The main entry is followed by eight entries in which 'abd occurs in a phrase (for example, the title 'abd Allah or the phrases al-'abd al-laqtar and al-'abd al-laqtar la Alladu 'aladu), twenty-four entries of proper names beginning with 'abd (for example, 'Abd al-As'ad, 'Abd al-Raqii, and finally a separate entry on the proper name 'Abdallah. Entries in bold point the reader to significant discussions of the term, and cross references within the index leads to further discussions. Lost the reader miss something or forget how to use the index, a nine-page introduction lays out the categories and forms.

For the novice, a few pointers make it easier to get around this extraordinary research tool. It is important to remember that slightly different systems of transcription were used in the different volumes. Some indices, for example, transcribe qalif with a q, others with a k; some transcribe Stina with a St, following the French system, others use St following the system used in the Encyclopaedia of Islam. These are minor differences, but should one not find any entries under an appropriate letter (for example, no words such as shaykh beginning with s in van Berchem's index), then one should use a modicum of sense and root around elsewhere. This is worth doing, since it is impossible to overestimate the treasures contained in these volumes. They are the fundamental works for the study of Islamic epigraphy, and their major limitation is that they cover only a few sites in the central Islamic lands.

The RCEA is a more comprehensive list that sets out to amass a corpus of datable historical inscriptions in Arabic. It thus includes inscriptions on portable objects as well as those on buildings, although coins, glass weights, papyri, manuscripts and non-dated signatures on ceramic shards and manufactured objects are deliberately omitted. Each of the original sixteen volumes of the RCEA contains 400 entries, arranged chronologically by year up to 765/1361. Within the year, the inscriptions are generally arranged from west to east in the following order: Sicily, Spain, Morocco, Algeria, Tunisia, Egypt, other parts of Africa, Palestine, Syria, Arabia, Asia Minor, European Turkey, Armenia, Mesopotamia, the Caucasus, Persia, India and China. Inscriptions containing a ruler's name but no date are grouped together in the last year of his reign. Other undated inscriptions are put at the beginning, middle or quarter of a century according to the hegra calendar.

The entries in the RCEA are much briefer than those in the MCIA, basically a simple list without commentaries. The typical entry has a number and identification of type (for example, construction text, restoration text, funerary text, epitaph, graffiti, signature, royal inscription or portable inscription). Below in capital letters is the name of the site or place where the object was made. This is followed by a heading with several brief phrases about location, size, material and script. Two line in the line indicates the text was published and illustrated. The main entry gives the Arabic text, followed by a translation into French. Optional last lines list citations where the text is discussed and illustrated.
One of the major gaps in the original six volumes of the *RCEA* was the lack of any indices. To find a particular inscription, the reader had to flip through the volumes, and the geographical indications were so vague that even the experienced scholar might overlook a text. To remedy this problem, a geographical index with an alphabetical list of sites was published in 1975. In it, each site is identified in several authoritative sources, ranging from the *Times Atlas of the World* and the *Encyclopedia of Islam* to the classical manuals of geography such as Le Strange's 1905 volume on the lands of the eastern caliphate. For each site in the *RCEA*, the inscriptions are grouped by volume, with the number of the inscription, its date and its type. Inscriptions in museums are listed separately after those in the city itself.

In addition to making the inscriptions in the *RCEA* more readily available, the geographical index is useful in itself. It contains precise geographical indications of obscure sites and useful cross-references among the various names of a single site. For example, in discussing the hill of the Biblical town of Bethsaida, the reader is referred, with references to the *Times Atlas of the World* and Le Strange. Looking over all the entries to a single city, one can also get a sense of historical change through its inscriptions. For Cordova, for example, there are almost no inscriptions from the first three volumes. With volumes IV and V, one can trace the expansion of the great mosque there, and hence the growth of the Muslim community, which reared in importance in succeeding centuries, with only a few epitaphs found in the later volumes.

Not even a good geographical index, however, could solve all the problems of the original six volumes of the *RCEA*. It was often impossible to check the accuracy of the entries, which were submitted by scholars throughout the field. The entries represent the best that was available at the time, but they are often inconsistent and the text unverified. Sometimes, for example, the text was included twice or even three times because different scholars had read the date differently (for example, nos 5210bis, 5324 and 5373bis, all recording the same inscription on the portal of a khanqah at Naskar).

Hence, it was decided to adopt a more critical attitude when publication of the *RCEA* resumed in 1982 with volume XVII. A new numbering system was introduced, with the heghta year followed by a numerical list. Thus, inscription 762 001 is the first inscription under the year 762. Headings were expanded to include more information about location, state of preservation, material and script. A geographical index was included at the end of each volume. The biggest changes occurred in the text and translation. The text is reproduced more accurately by line, and Koranic texts are given in full when their exact length is known. The text is also more critical. The source used is given, along with variants from other sources or suggestions by the editor. Translations are more consistent, with an attempt made to use one French word for one Arabic one. Brief commentaries are also included to explain how the date was established for an undated inscription.

The scope of this monumental enterprise is clear from the ongoing history of publication of the *RCEA*. Volume XVII, containing approximately 400 inscriptions from the years 765/1361 to 783/1381, covers only twenty years of Islamic history. Volume XVIII, published almost a decade later, carries the work to the year 900/1500. At the rate of a new volume that covers twenty years of Islamic history appearing every decade, it will be three centuries before this enterprise reaches modern times.

**Koranic and Other Religious Texts**

Although historical inscriptions were the most interesting to scholars compiling the *MCCA* and *RCEA*, they are outnumbered by religious inscriptions, of which the most common are citations from the Koran. Koranic inscriptions appear on all types of Islamic architecture, from the earliest buildings, such as the Dome of the Rock built in Jerusalem in 705/692 (see Figure 1.4), to modern ones, such as the mosque built by King Faisal II at Riyadh airport in 1984 (see Figure 1.5). Koranic inscriptions also occur on many objects made at all periods and in all areas of the Islamic lands.

In early scholarship, these Koranic texts were sometimes passed over as banal or irrelevant. Several kinds of evidence, however, show that this idea is wrong and that Koranic texts were considered meaningful. Studying them, just like studying historical inscriptions, can shed light on the meaning and function of a building or object. Wael (MCCA Egypt 2, p. 201) cited an unusual example of written justification for the selection of a Koranic text on a building: the engineer in charge of constructing the Nilometer in Egypt received a message from the caliph telling him to have Koranic verses with texts appropriate to the Nilometers inscribed on it. The builder chose specific Koranic verses, noting that it was impossible to find better or more appropriate texts to inscribe.

Size also suggests the importance of Koranic inscriptions, for sometimes the Koranic inscription is longer than the historical text on a building, and we can assume that the Koranic text is not merely decorative but meaningful. A good example is the 60-metre minaret at Jam in central Afghanistan (see Figure 1.86). Its lower shaft is decorated with an interlace band containing chapter 13 of the Koran, the sura of Maryam. Any explanation of why this extraordinary minaret was built in the middle of this remote valley must justify why the patron went to the trouble of wearing the words of this particular sura in such a prominent place on the building. To analyse Koranic inscriptions on buildings and objects, the researcher needs to understand the structure and arrangement of the Koran, particularly some of the peculiarities in the numbering systems used. Using a concordance, he can identify the text contained in the inscription, and he can then interpret the context and explain why it was chosen for that particular place.

*55.66 Minaret of Jam, Afghanistan, late twelfth century.*
The Koran is accepted by Muslims as God's word revealed to the Prophet Muhammad in Arabic. It was first transmitted orally, but, according to traditional accounts, under the third caliph 'Othman (r. 644–656) the revelations were collected and ascribed in a book. The book comprises 114 chapters or suras (Arabic سورة), which are divided into a number of verses (آية). The suras are arraged roughly in order of length from longest to shortest, except for the first sura, which is a petitionary prayer (البقرة). Variant readings of the text are possible, and by the tenth century seven readings were generally accepted. The verses can also be counted in different ways.

Until recently, the text of the Koran most widely used in the West was that published by Gustav Flügel in 1833. It does not correspond to any one traditional reading, for in about half the suras Flügel changed the verse divisions in order to establish an improved method. Flügel's edition was the basis for the English translations by R. Bell (Edinburgh, 1397–9) and A. J. Arberry (London, 1955). In 1924, a standard Egyptian edition of the Koran, known as al-Mustafah al-shatiri or al-Qur'an al-karim, was adopted. This is the version used in most regions of the Islamic lands today, except for parts of North Africa. The German translation by R. Paret and the French translation by R. Blachère give the numbers in both the Flügel and the Standard Egyptian editions. The translation by Marmaduke Pickthall, The Meaning of the Glorious Koran (London, 1930, reprinted 1957), follows an Indian tradition that deviates from the standard Egyptian text in a few places.

In addition to the various readings and numbering systems, there are two ways to refer to the suras. Muslims traditionally refer to them by name. The name is usually derived from a key word or idea in the sura. For example, the Sura of Victory (Surat al-Fath) takes its name from the first line that promises a clear victory (الرءوس من بني صنيع)."Abd al-Rahim's concordance is in Muhammad's lifetime and did not come to be regarded as part of the text, many suras have more than one name. With the acceptance of the Standard Egyptian edition of the Koran in the 30th century, uniform names for the suras have become more prevalent, although a few suras are still known by two names (for example, Bānu Is'āl and al-Is'ār for the fourteenth sura).

By contrast, Western scholars usually cite the suras by number. Thus, the Surat al-Fath or Sura of Victory is the forty-eighth sura. Traditionally, scholars used Roman numerals (either capital or small) to indicate the suras, followed by Arabic numerals for the verse. Thus, the first verse of the Surat al-Fath is cited as XLVIII.1 or xlviii.1. This system leads to frequent errors, since Roman numerals are cumbersome and a digit is often dropped. A better way to record the sura and verse is by using Arabic numerals separated by a colon or a full stop, thus Koran 48.1 or Koran 48:1.

A person who will come after you and teach the Koran, and he will be a companion of the Koran, and he will be a companion of the Koran.
A few Koranic citations that epitomize important aspects of the faith are often known by epithets and have always been popular in inscriptions. Koran 2:255, the clearest statement of God's majesty, known as the Throne Verse (al-‘ayn al-‘azīm), is the most frequent Koranic text cited in inscriptions. Koran 2:33, which says that God has sent his messenger with guidance and the religion of truth, is known as the Prophetic Mission. Koran 24:35, in which God is described as the light of the heavens and the earth, is called the Light Verse (ayat al-nur). Other popular texts include Koran 3:18, which includes a paraphrase of the first part of the profession of faith (shahadah) that there is no deity but God, sura 48 (al-Fath, Victory), which promises victory to believers, and sura 112 (al-Ikhlas, the Purifying), which describes God's oneness. These texts were undoubtedly popular in inscriptions because they sum up important aspects of the faith.

Other verses were chosen for inscriptions because they underscored the purpose of the inscription or the function of the building or form. Thus, Koran 2:188, about the invisibility of waqf, is often included in endowment texts. Koran 2:18, which says that the person to maintain God's mosques is he who believes in God, prays and gives alms, is one of the most frequent inscriptions on mosques (R. Hilhenbrand 1998). The verse is one of the few Koranic texts referring specifically to God's mosques (mustashfa al-‘idah), and of these, it is the most relevant to patrons. Indeed, its presence in an architectural inscription can be said to identify a building as a mosque. Similarly, Koran 17:78, about prayer and vigil, is a common text on mihrabs. In a few cases, a Koranic verse was chosen because it contained a specific word that referred to the function of a particular object. Thus, the foundation inscription around the huge cauldron from the shrine of Ahmad Yasavi at Turkistan (see Figure 15.87), called a drinking vessel (al-sîgr)al-sîgr) to pilgrims. Keys to the Ka‘ba were often inscribed with 3:90–1, referring to God's house. Certain verses were considered prophylactic. The last two suras are charms or incantations. According to Edward Lane's account of contemporary life in Cairo (1836: 247–8), a book or scroll with seven suras—particularly 6, 18, 36, 44, 55, 67 and 75—was an esteemed charm in nineteenth-century Egypt. Another charm, usually worn in the cap and believed to ward off the devil and all evil genii, was a piece of paper inscribed with the 'verses of protection or preservation' (ayat al-šarī‘). They comprised Koran 2:235, 11:68, 12:12, 13:17, 7:77, 41:13 and 81:10–2. The 'verses of restoration' (ayat al-šarī‘a), Koran 9:14, 10:57, 16:69, 17:58, 20:80 and 41:144, all of which refer to a cure (al-shifa‘), were used to charm away sickness. They were written on the inner surface of an earthenware cup or bowl. Water was added and stirred until the writing washed off, and the water infused with the sacred words was drunk by the patient (Lane 1836: 353–4). In medieval Spain, Koran 3:18 and the first words of 3:85 were considered a prophylactic formula for seeking protection from evil (al-mawrid) and hence were used as a frame on the tombstone of an Almoravid princess who died in 496/1093 (Lèvi-Provençal 1932: 31).

The interpretation of a Koranic text (and hence its suitability for a given situation) could change over time, and legal scholars and others constantly re-examined and reinterpreted specific verses to justify sectarian, legal or doctrinal disputes and divisions. Several texts were popular with Shi'ites as they were often cited to show their connection to the Prophet Muhammad and to defend sectarian positions. Koran 33:33, with the phrase 'People of the House' (ahl al-bayt), was used to vindicate Shi'ite claims to the imamate of 'Ali and his descendants and is found on Fatimid tombs in Cairo and cenotaphs and tombs from Shi'ite shrines in Iraq and Iran. Koran 8:65, which includes the word wali‘ahum ['your friend'], also has special meaning to Shi'ites and occurs on the same types of buildings. Koran 47:23, which also mentions close kin, was another text appropriate to Shi'ite places. Plays on words, so easy to make in Arabic because of the root structure, were another reason for the selection of a particular Koranic citation. Thus, the choice of 17:79, which says that God will raise one to a praiseworthy station (mujaddid al-mujaddid), is a natural one for patrons named Mahmud. Similarly, the succeeding verse, Koran 17:80, which refers to a 'just ingenting' (mukhtalik al-sidq), is appropriate for doorways. Another principle for the selection of a particular text was bracketing or symcodicue, using part to substitute for the whole. Writing the whole Koran was considered a worthy goal, and the carved wooden liêne below the ceiling in the Mosque of Ibn Tulun in Cairo, which is nearly 2 km long, is commonly said to include all of the Koran, although study has shown that there was only space for some one-fifteenth of the book (Crawwell 1932: 235–7). By choosing Koran 1 (al-Fatiha) and Koran 114 (al-Nas), one could be said to have written the whole Koran. This may be the reason that the first and last verses were popular on lustre star tiles.

Space available was another criterion. For example, it was possible to write out the full text of a short sura from the end of the Koran on a single lustre tile. The longest word in the Koran, fasayaathallahum (Allah) ['God will suffice you against them'] (from Koran 2:257), was popular in early Islamic times as a slogan of the ‘Abbasids. According to the rules of the ‘Abbasid court written down by the secretary Hilal al-Sahi, Russian dâr al-khâlsâ, is decorated the pale sup- porting the 'Abbasid banner (1977: text p. 330 trans. p. 77). The verse also occurs on a variety of media in the early Islamic period, ranging from a stucco fragment from Sana to wood from Fustat, an inscribed textile and a tin-glazed cobalt and cream bowl excavated at Samarra'. The word shows up again on lustre tiles, coins and tombstones of the Mongol period in Iran where it is elaborately arranged as an arba‘ [Miles 1939: 70]. The single word could thus be fitted on a
small object and, with its meaningful text about God's omnipotence, could be said to encapsulate the Koran.

Often a particular verse had overlapping layers of meaning and could be chosen for different reasons in different situations. A good example is Koran 3:18. In addition to its reference to the profession of faith, it also has a funerary association through the word shahid ("witness", also "martyr"), and was popular on tombstones. Muslim theologians and commentators also cited the verse for the word qist (justice) as a justification for their doctrine of rationality, and Bulliet (1966) argued that this interpretation was the reason for its inclusion on a large coin struck for Mahmud of Ghazna. Clearly Koranic texts could be interpreted in different ways in different situations, and there were different reasons for choosing a particular verse.

Different texts could also be chosen for the same situation. One example of the variety of texts considered appropriate for a given situation is the Koranic texts chosen for tombstones. One expects some selection to meet the tastes of the burial ceremony, the day of judgment, resurrection and the like, and indeed many of these themes are found. Common verses include Koran 2:185 and 23:15, which say that every soul shall taste of death; Koran 32:27, that the hour will come and God will raise up all who are in their graves; and Koran 55:36-7, that everything is transitory except God's face. Other verses (for example, Koran 52:12-14 and 19:13) invoke God's mercy and compassion.

What is interesting is how specific verses came into use and went out of popularity at different times. West (1952, for example, noted that both Koran 2:32 and 2:37, from the Prophetic Mission, were popular on early Egyptian tombstones, but were replaced from 349/965 onwards by Koran 35:36-7. Some scholars (for example, Bloom 1908) have connected these epigraphic changes with societal considerations, notably the death of Shi'a umma under the Fatimids, and seen the changes as reflecting a popular level of taste, one that is not necessarily recorded in written documents.

This analysis was criticized by Taylor (1992), but he does not offer any other explanation for the changes other than a simple shift in epigraphic formulas. These divergent opinions show how difficult and risky it can be to interpret the choice of Koranic inscriptions in any given situation. In many cases, the choice of Koranic verses for inscriptions was quite rote, and the verses were selected for their general popularity. In a few cases, it is also possible to suggest that the choice was deliberate and that the verses were assembled to compose a programme with a specific message. The best-known examples are the mosaic inscriptions in the Dome of the Rock in Jerusalem (O. Grabar 1959; Dodd 1969; Blair 1970) and the Great Mosque at Damascus (Finster 1970). In order to pursue this line of interpretation, it is essential to show that the verses chosen are different from what one would expect. Only then can one attempt to explain that they are meaningful.

There are few reference works available to identity other kinds of religious texts inscribed on buildings and objects from the Islamic lands. The hadith, for example, are usually not found in Wessinck's extensive Consonance and indices de la tradition musulmane (1956-88), which lists traditions from the canonical sources. The inscribed hadith were closely chosen to suit the particular site, and some may have been coined for the occasion. The range of authorities cited is quite broad, ranging from traditions ascribed to Muhammad, 'Al and other Shi'ite imams to those by famous literary or historical figures. Several traditions attributed to Socrates, for example, are cited on the façade of the tomb of Shirin Beka Aqa erected in 787/1386-6 at the Shah-i Zinda, the necropolis outside medieval Samarqand.

Similarly, the prayer formulas invoking God's name (Arabic di'a'd'ad') are not systematically published. The inscriptions on metalwares provide some of the best evidence for these prayers in medieval times, and many are published in Melikian-Chirvani's catalogue (1982b) of the Iranian metalwork in the V&A. The index to the volume, however, is insufficient, and the only way to find when or if a particular word or phrase is used is to flip through the text. Recording these hadith, prayer formulas and other texts would be a profitable enterprise. Most seem to reflect popular taste, and they provide a counterbalance to the official history of religious taste provided by standard written authorities.

Dates and Calendars

The date, often the piece of information most sought by modern scholars reading an inscription, usually comes at the end of the foundation text. Sometimes it is introduced by a few words such as "and this is" (wa hadhak) or "this took place in" (was khatat dhallak) or "with the date of " (bi-tarih), but often the date simply runs on after the rest of the historical text. The simplest form reads "in the year" (fi sana, occasionally bi-sana). Learning to recognize the distinctive shape of the word sana - either the four teeth and final taw madhaba in an angular script or the swooping curve, tooth and final taw madhaba in a cursive one - can be an easy and effective way to find the date in an inscription.

This lusre tile from a frieze (see Figure 15.88, for example, clearly contains a date. The word sana ("year") is followed by sab' wa sab'se elwa ("seven and seven hundred") - the word before sana ends with a larn. It is not part of the word 'in (l or b) and belongs to the month. It could be either Rabii 1 (al-awsal) or Shawwal, and by locating other tiles from the same frieze (Watson 1985: 191, no. 263) it is possible to reconstruct the entire text as Koran 76:1-7 and the date Shawwal 703/March-April 1350.

The word sana ("year") could be replaced by 'azan. This was a familiar form in North Africa. According to al-Qalqashandi, one used the word 'azm in the Maghrib for apotropaic reasons, because it evoked the idea of firmity, while the word sana was applied to a year of scarcity (MCIA Egypte 2, p. 131). The word 'azm appeared occasionally in the Levant (for example, RCEA 3545), and its use in Mecca and Jerusalem was probably the result of pilgrim influences. It is exceptional to find it in the eastern Islamic lands, and its startling use at a place such as the tomb tower at Bastam in northern Iran demands a singular explanation (Blaiz 1982: 366-84).

When space was at a premium, the 'centuries' digit could be dropped. Marshall (1972) proposed that this happened on the 'Bara eves', the inlaid brass ewer in the Torontd State Museum in Tbilisi (see Figure 9.53), and that the date should be read as [1]67 or [1]59 (corresponding to 785-4 or 785-6) or even [2]67 or [2]69 (corresponding to 880-1 or 882-3). Dates on Persian buildings erected in the second millennium of the hegira often have only three numbers, and it is sometimes difficult to tell which digit, usually a zero, was omitted. One must always ask, therefore, whether the date is complete or whether this is only the part of the date for which there was sufficient space available.

Although it was most common to give simply the year, some texts name the month. The name can be followed by one of several adjectives (see MCIA Egypte 2, pp. 35-7 for a list of these adjectives). It can also be preceded by the word shahr ('month'). This was not a random procedure. According to the Mamluk chronicler al-Qalqashandi, the word shahr could be joined to all months, but it was especially useful with Rabii and Ramadan. Epigraphy confirms his statement, for Ramadan is rarely written alone and the others are more often written without shahr. Occasionally, an inscription is even more specific, giving the day of the month and even the day of the week.

The Muslim lunar calendar, which begins with the year that Muhammad emigrated from Mecca to Medina, is by far the most common one used in inscriptions throughout the Muslim lands. Known as anno hegra, it is commonly abbreviated to. Since it is a lunar year, it is some ten and a half days shorter than a solar year. To calculate the correspondence with Common Era dates, one should consult a concordance. Freeman Grenville's little handbook, The Muslim and Christian Calendars (1965) shows various ways to do this. This and other calendars are described in an article by Tajizadeh (1957-9).

As most inscriptions were written in Arabic, the hegira calendar was usually cited in Arabic,
posed to be replaced by another regnal calendar, but as he was the last Sassanian monarch, this never occurred and the Yazdigird calendar continued. To arrive at the corresponding Common Era date, one should add 651 (for dates between the vernal equinox in March and the end of December) or 652 (for dates between January 1 and the vernal equinox in March) to the Sassanian solar year.

There must have been some sliding of dates in medieval times, for this process does not always work. Several tomb towns erected by minor rulers in the tenth and eleventh centuries in out-of-the-way sites along the Caspian Sea have inscriptions in Arabic and Pahlavi, with the Arabic date given in the hegira calendar and the Pahlavi one in the Yazdigird era [Blair 1932a, nos. 31–32]. In one case (the tomb tower at Radkan), the corresponding hegira and Yazdigird calendars are 653 years apart, but in another (the tomb tower at Lahin) the Pahlavi and Arabic texts did not agree.

The solar year could also be given in Arabic. The most famous of these tomb towers, the Qumad-i Gabus erected by the Ziyarid prince Qabus b. Washiti [Blair 1932a, no. 30], has an Arabic inscription giving the date in the lunar year 397 (which ran from 27 September 1006 to 16 September 1007) and in the solar year 375 (which ran from 13 March 1006 to 14 March 1007). Putting the two together allows us to fix the date of the tomb tower between late September 1006 and mid-September 1007.

The Persian solar months were obviously in common use in Iran alongside the official lunar calendar. This is clear from the epigraphic record. An inscription carved for the Buayd Abu Kaijar at Persepolis, for example, records his presence on rizi-i bakhshin min mulh-i aban (the second of Aban) in the Arabic year 418/1026 [Blair 1932a, no. 43]. Similarly, a tombstone from Turanushkut uses a Persian month (mulh-i dayl) with an Arabic year 457/1065 (Akbah 1396–75, vol. 1, no. 174/10).

The hegira and Yazdigird calendars were not the only ones used in medieval Iran; the Julian calendar was also used. An inscription engraved in 1041 to honour a Qarakhanid prince in the Wajib Gorge in the Farghana Valley of Uzbekistan uses three calendars: the Arabic hegira, the Persian Yazdigird and the Greek Christian. The inscription gives a precise date in the Arabic lunar calendar of Tusday 1 Jumada 1 433, as well as the Persian month of Day in the year 430, and the Greek month of Panun I, the Syriac version of the Julian calendar [Blair 1932a, no. 41]. The Julian calendar was probably used by Nestorian Christians in the region.

The Yazdigird era, which kept slipping backward with respect to the solar year and needed intercalation, was reformed by the Saljuq sultan Malikshah. The new Jalali or Malikzada era was introduced with the vernal equinox of the year 471–2 (15 March 1079), but to my knowledge, it was never used in epigraphy. Another new calendar was introduced under the Ilkhanid Gharan in 701/1301. Known as the Khani era, it was popularized in the 1350s by his nephew Abu Sa’id who used it on many coins. This popularity may explain why a graffito penned on the mosque at Astarhavan in 735/1335 gives the date in a mixture of Arabic and Persian [Miles 1972], but the Khani calendar was not used in many other inscriptions that survive. Neither was the Turkic-Mongol animal calendar which appears in texts of the same period [Mehirve 1954].

Although not common in epigraphy, these calendars must have continued in daily use. A glazed tombstone made for Bibi Malik Khatun in 261 (Musée de Sévres, Paris, see Watson 1956, fig. 131) is dated ‘the beginning of the month of Tir Jalali of the year 1809 Khafites’, corresponding to the year 886 of the hegira of the Prophet. The crude modelling and unidentified patrony show that the tombstone was not from a royal commission, and most formal inscriptions from the later period in Iran continue to use the regular hegira calendar.

In India, a new calendar was instituted by the emperor Akbar in 1569, the twenty-ninth year of his reign. Known as the Ilahi calendar, it was described by Abu’l-Fadl ‘Allami in his chronicle of Akbar’s reign, the A’in-i akbari [vol. 2, p. 305]. The Ilahi era was made to begin not from the date of its institution but retrospectively from the first New Year (the vernal equinox) twenty days after the emperor’s accession in 1556. It was reportedly used until the accession of Shah Jahan in 1077/1668.

but in outlying lands the heqira date was sometimes translated into the vernacular language. The small Ghurid mausoleum at Chahit in central Afghanistan, for example, has a Koranic band followed by the heqira date translated into Persian words [Blair 1985: bi râz-âh-î delham jamid [sic] al-awwal sal-i qamar pânsad shahid dâ az hijrat-i pooyambarat mohammad sahi alaâh ‘alâshî] (dated the tenth of Jamadi I of the lunar year five hundred and sixty-two after the heqira of the Prophet Muhammad, God’s blessing upon him). Several other calendars were also used in Iran. After the Muslim conquest of Iran, Persians continued to use a solar calendar alongside the official Arabic one, and the solar calendar was used occasionally in inscriptions. The last Sassanian solar calendar went into effect during the year that Yazdigird III acceded to the throne (16 June 632–15 June 633). After his death, it was sup-

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Despite the introduction of the Ilahi calendar, however, the hegira calendar remained the most common in monumental inscriptions in India, particularly for mosques and other religious buildings. In the Taj Mahal, for example, the inscriptions on the cenotaphs of Mumtaz Mahal and Shah Jahan give the dates of their death in the hegira years 1030 (1622) and 1037 (1629) respectively. Similarly, the signature of the calligrapher Amanat Khan in cartouches on the interior of the tomb uses the hegira date 1035 (1635-6). Sometimes, however, a dual system that mentioned both the hegira and the regnal years was used. Thus, Amanat Khan’s full signature at the end of the Koranic hand around the interior of the tomb gives the hegira date 1048 and the twelfth regnal year of Shah Jahan’s reign (1658-9).

This system of dual dates giving the emperor’s regnal year along with the hegira year is generally used on jades and other precious objects made for or appropriated by the Moghul emperors (many published in Markell 1995). For example, the jade inlay made for Jahangir and now in the Metropolitan Museum has a foundation inscription and signature on the underside of the foot ring saying that it was made for the emperor in the fourteenth year of his reign corresponding to the hegira year 1038 (1628-9) by the artist Momin. Another example is the white jade tankard made for Ulugh Beg (see Figure 14.8). It was inscribed for Jahangir in 1613-4 with a lengthy inscription running around the upper edge of the rim giving the emperor’s name and titles and the date of the eighth regnal year corresponding to the hegira year 1033 (sana 8 jahan mubaba sana 1032 bahr). Shah Jahan added his own, shorter inscription in taqqa below the handle, 1056 sabit zidan in 20, with his sobriquet ‘Lord of the Second Conjunction’ flanked by two dates, 1056 of the hegira calendar (1646-7) and the twentieth year of his reign. Although the dates of these inscriptions are clear, the reasons for making them are not. According to the emperor’s memoirs, Jahangir acquired the jade cup in 1608, some five years before his name was inscribed on it. The cup undoubtedly passed to Shah Jahan on his accession, but his inscription was added twenty years later, perhaps when an official inventory of the treasury was made.

Local calendars were also used in other outlying areas. In Java, for example, a purely lunar calendar was introduced in 1953, and dates in inscriptions composed after this time are often given in this typically Javanese calendar. Most of these systems are limited in their use.

In addition to different calendars, there are also different systems of numeration. The first and probably the best known is the abjad system, the alphabetic system in which each letter of the Arabic alphabet was used to represent a different numerical value. The letters are arranged in the sequence of older Semitic alphabets, and the name itself was formed from the first four letters. For the sake of pronunciation and memorisation, the letters are grouped into pronounceable but meaningless words: ‘abjad hawuz battu kalaman sa‘fas qasamat thahboth daqiqah. The article ‘Abjad in the Encyclopaedia Iranica gives a convenient table. In the Maghribi, the fifth, sixth and eighth groups are arranged differently, and the letters are grouped ‘abjad hawazinn batijin kalamanin sa‘adin qissat thahboth qadzishin.

The abjad system of dating was commonly used by scientists, divinators and others for astronomical tables, astrological horoscopes and death, compositional and regnal chronograms. It also occurs on magic squares, talismans and other forms of letter magic. It was standard on astrolabes, and two contemporary examples show that the eastern and western systems were already in use in medieval times. A tenth-century astrolabe made in ‘Iraq by Nasrullah/Asquli (see Figure 15.8), for example, uses the eastern system with sin for 60 and sad for 90, whereas one in the Germanische Nationalmuseum, Nuremberg, made in 473/1079, uses the Maghribi system with sad for 60 and dad for 90. The ‘Iraq astrolabe is also dated in abjad on the back of the kura: sana shi‘a ‘the year of the mark’, and the value of the three letters (‘hla or 300 + 50 or 10 + 1) adds up to 315, corresponding to 937-8 CE.

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Another system of numeration used in the early Islamic period is called Coptic (zīnīm). Used in early Arab administration records, it is not common in epigraphy. One rare example is a very early piece of lustred glass from eighth-century Egypt and now in the Cairo Museum [Youssef 1972].

These systems of numeration were eventually replaced by the so-called Arabic numerals. Lemma gives an extensive discussion of the subject in his article 'Arabic numerals' in the Dictionary of the Middle Ages (vol. 1, pp. 2185–98). More properly called the Hindū-Arabic system, this is a simple and ingenious system in which any quantity can be represented by nine figures using a decimal point. This system of number representation had arisen in India at least by the fifth century and was diffused by Muslim civilisation. Although known, it was not used in early Islamic times, when numbers in manuscripts and on objects were written out in words or transcribed in alifṣāf or occasionally in Coptic numerals. The use of numerals in manuscripts was only adopted slowly, and astronomers and mathematicians remained firmly attached to older systems of number representation well into late medieval times. Even in the sixteenth and seventeenth centuries, scribal rendering of the Hindū numerals is clumsy and inconsistent.

A survey of the practice on objects might be of interest to historians of science in charting the gradual adoption of this system in the Islamic lands. Arabic numerals were used, for example, in dates on Persian lustre ceramics, particularly tiles, during the thirteenth century.

The forms of the Arabic numerals also changed over time. Irani (1955–6) has compiled various forms of numerals used in manuscripts dating from the eleventh to the eighteenth century. Zero was originally written as a small circle and then gradually reduced to a point. Both forms are used on medieval Persian lustrewares. The biggest change occurred in the numeral for five. In the traditional form, adopted from the Hindū numeral, five was written something like a figure-eight with a flat right side. This is the form used on medieval lustrewares. Gradually, the cusp on the left became less significant and moved downward. In the modern form for five in most of the Arab world, the cusp is suppressed so that five is written as a circle. By contrast, in Iran, the cusp is at the bottom of the numeral so that five is written as an upside-down heart.

The forms of the Arabic numerals are written in different ways in different places. In India, for example, seven was often written on its side. In Spain and the Maghrib, during the ninth or more probably the tenth century, the Arabic numerals developed a distinct form known as 'dust numerals' (al-ʿaṣānr al-ghabīḥ). The name is probably derived from the dust board on which calculations were done in medieval times. These 'dust' forms were adopted for the modern European numerals. This system is not widespread in epigraphy.

Recording an Inscription

The first step in studying an inscription is to record it as written. Various systems are used to record an inscription from the Islamic lands. One of the most popular and convenient, the Leiden Bracket system, uses these conventions when adapted for Arabic epigraphy (Burgoyne and Abul-Haṣī 1979):

1. Square brackets enclose text that is lost, where the surface is broken away or so worn and eroded that the inscribed text does not survive. The square brackets can be filled in in several ways:

2. Conjectural restoration of missing text proposed by editor.

3. Text missing, no conjectural restoration proposed by editor. Each dot represents approximately one missing letter. This can also be written as [., .], [., .], and so on.

4. The same, but the length of missing text is unknown to the editor.

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< 1> Conjectural addition. Angle brackets enclose corrections and additions proposed by the editor. These are usually letters which properly belong to the text but have been erroneously omitted when the text was written.

< 11> Conjectural deletion. Braces enclose letters which do not properly belong to the text but were erroneously added when the text was written. They should be ignored in reading.

< 111> Conjectural interpolation of doubtful letters. The superscript circle above a letter indicates that only incomplete traces of the letter survive, and that these traces, if taken out of context, could be interpreted in more than one way. Thus the ١ does not indicate damage as such but rather palaeographic ambiguity resulting from damage and indicates that the reading of the individual letter is an editorial conjecture.

Undeciphered letter traces. Traces of letters whose palaeographic interpretation is not apparent to the editor. Each dot represents traces of approximately one letter.

Dijkema (1977) gives further marks showing how this system can be adapted to accommodate Ottoman poetic texts.
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