



Armenian paleography: a reassessment

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En ce qui concerne les manuscrits arméniens, les études paléographiques s'appuient sur une longue tradition, qui a vu l'élaboration d'une typologie des écritures et la constitution d'un ensemble important d'œuvres de référence sous forme d'albums, de catalogues et de monographies. Des progrès substantiels sont cependant possibles et, avec l'Album of Armenian Paleography, il serait souhaitable de mettre au point un instrument de travail d'un autre type qui servirait de point de départ à des études plus fines.

The scholarly study of ancient Armenian writing began with Yakob Dashean's *An Overview of Armenian Paleography* published in 1898¹. The Mekhitarist father was inspired in part by a photograph sent from Paris by Auguste Carrière of a unique Greek papyrus written with Armenian letters. Though the papyrus subsequently disappeared, Dashean's pioneer effort, even though it lacked reproductions, laid the foundation for the science of Armenian paleography. In 1913, Garegin Yovsép'ean, inspired by Dashean, offered his *Album of Armenian Paleography* with 143 photographic samples of manuscript hands and some early stone inscriptions². In his 1928 compendium, *The Letters of the Armenians*, Hrachia Adjarean, using Dashean and Yovsép'ean as a base, presented his own views on the development of Armenian scripts³. The last serious study of Armenian paleography was Ashot Abrahamyan's major manual⁴, *History of Armenian Letters and Writing*, of 1959, revised and augmented in 1973⁵. Step'an Melik'-Bakhshyan's *Armenian Paleography* of 1987, is little more than an abridged rewriting of Abrahamyan's *History* with more and better plates. Soviet studies, like Abrahamyan's, are compilations concerned more with ligatures, monograms, coded writing, and scribes than with a systematic examination of the evolution of Armenian scripts.

The earliest published discussion of Armenian script types, coming shortly after the discipline of paleography was established by Mabillon for

Latin in 1681 and Montfaucon for Greek in 1708⁶, seems to be a brief section under "De Orthographia" in Johannis Schröder's *Thesaurus Linguae Armenicae* of 1711⁷. Essentially it contains an alphabet table of various scripts and a one page commentary. In 1730, an anonymous writer in Constantinople prepared an Armenian grammar in French with a short section on writing styles entitled "De l'orthographe"⁸. This unpublished manuscript from the Bibliothèque nationale de France with its unnoticed section on Armenian scripts provides an alphabet table similar to Schröder's⁹. A somewhat more detailed discussion, but without a table, is found in volume III of the Mekhitarist Ghukas Indjidjean's *The Archaeology of the Geographical World of the Armenians* of 1835¹⁰. Schröder presented four script types, including a decorative one; the unpublished manuscript of 1730 included seven types, three of which are decorative; and Indjidjean listed a dozen types, four that are paleographically interesting, the others being decorative, cryptic, or epigraphic.

Dashean's remark of a century ago, that most studies on Armenian writing were devoted to the invention of the alphabet and the form of letters rather than to the comparative analysis of bookhands, remains valid today. This delayed interest in paleography among Armenologists is paralleled by a similar neglect of codicology. In part, it is due to an often noted characteristic of Armenian manuscripts: the consistent use of dated scribal colophons. About 60% of all Armenian manuscripts are precisely dated¹¹, a percentage much higher than for Greek and Latin manuscripts. Therefore, the pressure to use such ancillary tools as paleography and codicology to help date undated manuscripts has been less strongly felt in Armenian research.

The need for an album of Armenian paleography, which would combine a study of script development with a comprehensive selection of dated

1. Dashean, Y., *Aknark me hay hnagrut'ean vray* (*An Overview of Armenian Paleography*). *Studies on the Art of Armenian Writing*, Vienna, 1898, 199 pages (originally published in *Handés Amsoreany*).

2. Yovsep'ean, G., *Grch'ut'ean aruste hin hayoc' méj*, published as "K'artez hay hnagrut'ean", *Shoghakat'*, S. Éjmiacin hayagitakan joghovacu, n° 1, Vagharshapat, S. Éjmiacin, 1913, p. 170-214, a-d, 1, 90 pls., 143 figs.

3. Hrach'eay Adjarean, *Hayoc' grere*, National Library, vol. 69, Vienna, Mekhitarist Press, 1928. His groups are *erkat'agir*, *mijin* (semi)-*Mesropian erkat'agir*, *p'ok'r* (small)-*erkat'agir*, *anc'man gir* or transitional script, *bolorgir*, *notragir*, and *shghagir*.

4. He prepared two shorter earlier studies on Armenian paleography: A. G. Abrahamyan, *Hamar'ot urvagic haykakan paleografiayi*, Erevan, 1940; *idem*, *Haykakan paleografia*, Erevan, 1948. These have not been available for this study.

5. Abrahamyan, A. G., *Hay gri ev grch'ut'yan patmut'yun* (*Histoire des lettres et de l'écriture arméniennes*), Erevan, 1959. The second edition of Abrahamyan's work entitled *Hayoc' gir ev grch'ut'yun* (*Letters and Writing of the Armenians*), Erevan, 1973, with French résumé p. 347-361; chapter IV, "Haykakan gratesaknere ev nrants' gorcacut'yan motavor zhama-nake", p. 56-88.

6. Johannis (Jean) Mabillon, *De re diplomatica libri...* etc., Paris, 1681, *Supplementum*, Paris, 1704, second edition, 1709. Bertrand de Montfaucon, *Paleographia graeca*, 1708. Bibliographical details in L. Boyle, *Medieval Latin Palaeography*, Toronto, 1984, p. 12-13.

7. Johannis Joachim Schröder, *Thesaurus Linguae Armenicae, antiquae et hodiernae*, Amsterdam, 1711, "Liber Primus, de Orthographia", p. 1-6.

8. Paris, Bibliothèque nationale de France, Manuscript Armenian 276, a grammar copied in 1730 in Constantinople. The script types are listed under "de l'Orthographe" and cover pages 13-23. Seven types of script are listed: *kazanakir*, *zakakir*, *zaghegir*, *ergatakir*, *kylhakir*, *bolorakir*, *notorakir*.

9. I am preparing a short note on the manuscript and its paleographic discussion.

10. Indjidjean, Fr. Ghukas, *Hnaxôsut'ïwn ashxarhagrakan Hayastaneac' ashxarhi*, 3 vols., vol. 3, Venice, 1835, p. 77-79, briefly describes some dozen types of script: *Erkat'agir*, *Mijakagir*, *Boloragir*, *Nôtragir*; then *Dramagir*, *Kondakagir* (*Chifra*), *P'aragir*, *Înjagir*, (*Dzagir*), *P'akagir*, *Varazagir*, *Nshanagir*.

11. A decade ago a survey was conducted encompassing more than half of the approximately 30,000 extant Armenian manuscripts; see D. Kouymjian, "Dated Armenian Manuscripts as a Statistical Tool for Armenian History", *Medieval Armenian Culture*, T. Samuelian and M. Stone eds., University of Pennsylvania Armenian Texts and Studies, vol. 6, Chico, CA, 1983, p. 425-439. See also Bernard Coulie, *Répertoire des bibliothèques et des catalogues de manuscrits arméniens, Corpus Christianorum*, Brepols-Turnhout, 1992.

examples, induced professors Michael Stone, Henning Lehmann, and myself to prepare an *Album of Armenian Paleography*. The project, initiated by the Association Internationale des Etudes Arméniennes, has been adopted by the Armenian Academy of Sciences and publication has been assured by Aarhus University Press. To date the manuscript collections of Erevan, Venice, Jerusalem, Dublin, London, Paris, and several American collections have been surveyed. During a working seminar this past January in Aarhus, a preliminary selection of manuscripts to be included was made¹².

Types of Scripts

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Four principal Armenian scripts, with a varying number of sub-scripts and transitional forms have become the accepted types. They are *erkat'agir* (majuscule), *bolorgir* (literally "complete letters" or minuscule), *notrgir* (a notary or scribal writing used in chancery documents), and *shghagir* (the modern cursive with joined letters). Schröder, the Anonymous manuscript of 1730, and Indjidjean¹³ all employed the first three terms¹⁴. The word *shghagir* (now understood as slanted letters) seems to be a nineteenth century formulation¹⁵.

Erkat'agir

The invention of the Armenian alphabet by Mesrop Mashtoc' in 404 A. D. is a widely studied phenomenon. The origin of each of the thirty-six letters of this extremely flexible and rich collection of consonants and vowels has been reasonably explained. Scholars have proposed different hypotheses on just what letter types were used in the monumental translation of the Bible undertaken by Mesrop and his disciples.

From the time of Indjidjean, scholars have been emphatic that Mesrop created and used *erkat'agir*. With this as a premise, most studies on Armenian paleography, including most of those cited above¹⁶, assume a linear and chronological evolution of Armenian from *erkat'agir* to *shghagir*, albeit with overlapping and some anomalies. The only major dissident voice has been

12. D. Kouymjian, "Album of Armenian paleography: Report on a Workshop", *Revue des Études arméniennes*, vol. 25, (1994-1995), p. 483-494.

13. Indjidjean, note 10 *supra*.

14. Paris, BnF, MS arm. 276, p. 13: "Ils (les Arméniens) ont sept sortes d'Écritures a savoir zaghgakir, ... karanakir, zakakir ... ergathakir ... kylhakir ... bolorakir ... et le nodrakir".

15. Before examining the origin and development of *erkat'agir*, it should be noted that thus

far no monograph devoted to any one of the four scripts has been produced similar to those for Latin or Greek paleography.

16. Yovsep'ean was open to the idea of the coexistence from an early period of *erkat'agir* and *bolorgir*, see his "Hayoc' gri glxavor tesaknere", *Taraz* (1912), n° 10, p. 168-173, reprinted with photos in Manya Ghazaryan (editor), *Garegin Hovsep'yan, Nyuter ev usumnasirut'yunner hay arvesti patmut'yan* [Garegin Yovsep'ean, *Material and Studies for the History of Armenian Art*], vol. 1, Erevan, 1983, p. 114-119.

that of Garo Ghafadaryan, who in 1939 proposed that all types except *shghagir* were formed by Mesrop's hand and were used in all periods¹⁷.

The term *gir*, letter, is common to all names for scripts. The expression *erkat'agir*, literally "iron letters", is attested as early as the tenth or eleventh century¹⁸. The term Mesropian *erkat'agir*, suggesting letters invented or used by Mesrop, describes the script of the earliest Armenian Gospel manuscripts, especially those of the ninth and tenth centuries, and lapidary or stone inscriptions from the late fifth through the eleventh centuries. The letters are large, very erect, gracefully rounded capitals, uncials as we have come to call such majuscules in Latin and Greek paleography. Two theories explain the word *erkat'agir*, neither is totally convincing: one suggests an iron stylus was used to write the letters, the other contends that a ferrous oxide was employed in the ink of Armenian manuscripts. Schröder invoked the former, while Indjidjean disputed the stylus theory in favor of an iron oxide ink¹⁹.

Metal styluses were used in antiquity, but only for writing on durable materials such as clay tablets, or, in the Latin world, waxed boards, the precursors of the codex. But we have no evidence of waxed tablets being used in Armenia²⁰. As for ferrous inks, many early Armenian manuscripts employed a brown variety, characteristic of iron oxides, rather than the dark black of an Indian or Chinese ink common in Latin, Byzantine, and later Armenian manuscripts. Yet, because the same brown ink is found in some *bolorgir* or minuscule manuscripts, deriving the term *erkat'agir* from the use of ferrous ink also has its problems²¹.

How then do we explain the name iron letters? The answer is probably to be sought in the upright quality of this writing. Like Latin capitals, large *erkat'agir* was the preferred script of Armenian stone inscriptions, some of

17. Ghafadaryan, K., *Haykakan gri skzbnakan tesaknere* (The Original Forms of Armenian Letters), Erevan, 1939, p. 35-36, reprinted in 1953.

18. According to the famous Mekhitarist dictionary, *Nor bargirk' haykazeen lezui*, Venice, 1836-1837, p. 588, the earliest attestation of the word is in the fifteenth century; however, a much older citation is found in a short colophon on folio 4 of Venice MS 123, a Gospel, generally dated to the 10th century (the colophon is difficult to read), Barsegh Sargisean, *Catalogue of Manuscripts in the Venice Mekhitarist Collection*, vol. I, p. 544, suggests a reading of 911 for the colophon. Cf. A. Mat'evosyan, *Hayeren jerageri hishatakaraner*, E-ZhB *dd.* [Colophons of Armenian Manuscripts, V-XIIth Centuries], Erevan, 1988, n° 64, p. 50. Yovsep'ean does not include this colophon in his collection.

19. Charles Mercier in his "Notes de paléographie arménienne" (fragments de ses

cours), *Revue des études arméniennes*, n.s., 13 (1978-1979), p. 51-58, accepted the idea of the metal stylus theory.

20. One would have to go back more than a thousand years before the invention of the alphabet to postulate an iron stylus tradition from Urartian cuneiform tablets of the early sixth century B.C.

21. The iron stylus theory also poses the question of the earliest medium of Armenian manuscripts. Mercier wondered whether the evolution from an upright *erkat'agir* to a slanted one might not be due to the passage from the papyrus roll to the codex following an accepted notion borrowed from Latin paleography ("Notes", p. 52, citing A. Dain, *Les manuscrits*, p. 65 and 57). Bernhard Bischoff, *Paléographie de l'antiquité romaine et du Moyen Âge occidental*, trans. Jean Vezin, Grands manuels Picard, Paris, 1985, p. 74, relying on an Italian study of 1977 rejects the theory even

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which go back to the late fifth century. An iron chisel was used to carve these letters. Indeed, there is an instantly perceptible monumentality in early inscriptions. It is as though the alphabet was fashioned from iron and would, therefore, endure forever.

Of the four major writing styles, *erkat'agir* has been given the most subdivisions: Mesropian or rounded, slanted, semi, angular, small, and transitional. This situation underlines the scholarly preoccupation with the epoch of the invention of the alphabet and a concentration of interest on the oldest manuscripts. The longer lasting *bolorgir*, used in the majority of all surviving manuscripts, has only three sub-designations, transitional *bolorgir*, which like transitional *erkat'agir* is a mixed script, Cilician *bolorgir*, and eastern *bolorgir*. *Notrgir* and *shghagir* are usually not subdivided. On the other hand, it is true that proportionally more *erkat'agir* manuscripts have lost their colophons and are thus undated. Furthermore, perhaps two to three thousand flyleaves are preserved from otherwise lost *erkat'agir* manuscripts. All these are dated essentially on paleographic grounds. Thus, it is important that a rational set of categories for *erkat'agir* be formulated.

Bolorgir

*Bolorgir*²², the ancestor of modern Armenian type fonts, dominates scribal hands from the twelfth to the sixteenth centuries. Its use for short phrases and colophons and even for copying an entire manuscript is attested as early as the tenth century. *Bolorgir* used both majuscule and minuscule letters, often with quite different shapes. As mentioned above most authorities believe *bolorgir* evolved gradually from *erkat'agir* because of the dual exigencies of saving time (fewer pen strokes) and economizing on parchment (smaller letters)²³.

for Latin paleography: "...il faut chercher les conditions de l'évolution de l'écriture récente (i.e. minuscule) dans les mutations des formes de la cursive et non pas dans le changement de matière subjective et dans la possibilité de modifier l'orientation du support de l'écriture qui en résulte." Did Mesrop and his group first use papyrus before parchment? The Gnostic codices from Nag Hammadi are of papyrus, and two Georgian papyrus manuscripts in codex or book form from the tenth century do survive in the Keklidze Institute for ancient Georgian manuscripts in Tbilisi. However, there are no Armenian papyrus manuscripts and no record of any in the sources. Even though the oldest Armenian paper manuscript is dated 981 (Erevan, M2679) all other early manuscripts are parch-

ment codices. The lost papyrus fragment referred to above was never part of a book. The triumph of the parchment codex over the papyrus roll was in the fourth century. And even though papyrus was used in Egypt until the tenth century, there is a strong likelihood that in the fifth century Armenians used parchment right from the beginning without a transition from papyrus. Thus, it seems more reasonable to abandon the notion that papyrus was a common writing surface in Armenia in Mesrop's time, and with it the idea that slanted *erkat'agir* is in part explainable by a change from roll to codex.

22. The anonymous BnF manuscript of 1730 uses the term *boloragir* in parallel with *erkat'agir*, so too do Indjidjean and Yovsép'ean.
23. For instance Mercier, "Notes", p. 53.

Yet, even though the manuscript evidence shows the gradual abandoning of *erkat'agir* in favor of the regular use of *bolorgir*, and even though a large number of manuscripts from the eleventh to the thirteenth centuries use a transitional alphabet of *erkat'agir* letters mixed in with *bolorgir* letters, the assumption of a direct development from one script to another still has not been authoritatively demonstrated from empirical data.

Several questions have been raised in this respect. If Mesrop did not use lower case letters, *bolorgir*, that is did not invent minuscule, when and how was it introduced? If, on the other hand, *bolorgir* is an evolutionary script, is there hard evidence to show this development from the manuscripts themselves? Unfortunately, there is not. The earliest surviving dated Armenian manuscripts are the Milk'é Gospels of 862 now in Venice, and the Lazarian Gospels of 887, now in Erevan, both written in Mesropian *erkat'agir*. A few undated codices, especially in the vast Matenadaran collection, are assigned dates as early as the seventh century, even the fifth for isolated fragments. But the arguments for their dating are not convincing. Given that *bolorgir* manuscripts are attested as early as 981, it seems too close to the earliest *erkat'agir* manuscripts for a gradual development to have taken place, and, besides, no tangible evidence (firmly dated pre-ninth century manuscripts) has survived to show the incremental mutation of Armenian capitals into their lower case forms²⁴. In this regard it should be remembered Ghafadaryan argued that *bolorgir* and the chancellery *notrgir* were devised or available in the fifth century along with *erkat'agir*²⁵.

So much of the early theorizing about Armenian paleography is dependent on eighteenth and nineteenth century studies of Greek and, especially, Latin paleography. Scholars often made *a priori* assumptions based on these theories, rather than closely examining extant manuscripts. It was also once believed that Latin minuscule developed from the earliest majuscule manuscripts. But the late nineteenth century discovery in Egypt of thousands of Greek and Latin papyri forced scholars to abandon this notion. Minuscule, often in a very cursive form, existed from very early times alongside the upright Greek and Latin majuscule²⁶. In principle, Ghafadaryan could have been right in asserting that *bolorgir* was coterminous with *erkat'agir*²⁷.

24. Only sixteen of the thirty-six letters display different forms in majuscule and minuscule, and of these nearly half show only a minor difference. It is on the basis of these letters that an evolutionary change must be established.

25. See note 17 *supra*.

26. Bischoff, *Paléographie de l'antiquité romaine*, p. 70. The discussion is about Latin paleography. Bischoff uses the term "recent cursive" (as opposed to majuscule cursive) and suggests a firm usage by the third century; this

minuscule cursive gradually replaces the majuscule cursive.

27. Yovsép'ean seem inclined toward such a possibility, see note 16 *supra*; Mercier also flirted with such an hypothesis: "Si, dès le x^e siècle, on trouve capitale et minuscule, on n'en peut conclure que ces deux écritures ont toujours coexisté", "Notes", p. 57. Yet, there are 500 years between the invention of the Armenian alphabet and the tenth century, plenty of time for an evolution to *bolorgir*.

In the end a more nuanced approach may be necessary. Uncials or majuscule letters seem to have been used in the west for more formal writing: literary texts, Gospels, and important religious works as well as luxury manuscripts. The data gathered for the *Album of Armenian Paleography* points to a similar pattern. The *bolorgir* manuscripts of the tenth and eleventh centuries seem chronologically anomalous until it is observed that most of them are philosophical or less formal texts rather than Gospels.

Unlike the early development of *erkat'agir*, that of *bolorgir*, or Armenian minuscule, can be charted in manuscripts from its earliest intrusion to its perfection in the twelfth and thirteenth centuries. Its progress parallels remarkably that of Caroline script in Latin paleography. When introduced in the early years of Emperor Charlemagne's rule, just before 800, Caroline swept aside all earlier attempts at forming a compact, uncluttered, uniform, and legible minuscule. So, too, in Armenia, under the impetus of princely and royal families of the newly established Armenian Cilician state, and nurtured by very literate catholicos and bishops in the twelfth century, *bolorgir* became the bookhand of the major scriptoria. For more than 500 years it was the dominant script for biblical and literary texts. *Erkat'agir* was relegated to incipits and lavish display pages. Exceptions ran parallel to the experience of Caroline: some later royal Gospels were executed in *erkat'agir*, like the Gospels of 1268 of T'oros Roslin, among the most sumptuous of his manuscripts.

Unfortunately, the Caroline and *bolorgir* analogy breaks down when we search for the evolutionary history that may have produced Armenian minuscule. Examination of pre-Christian and early Christian Latin papyri clearly shows the origins of Caroline script in earlier cursive minuscule found in them. The invention of the Armenian alphabet in the early fifth century precludes any pre-Christian antecedents, indeed, we have no Armenian manuscript writing of a certain date before the ninth century²⁸. The near totality of Armenian lapidary and mosaic inscriptions up to the eleventh century are in a rounded *erkat'agir*²⁹. With no tangible earlier evidence to support a different position, scholars have proclaimed that *bolorgir* evolved linearly from *erkat'agir*. Without the fund of papyri or other documents in minuscule dating back to the early Christian era available to Latin and Greek paleographers, Armenian researchers are at a disadvantage to specify the steps in the development of *bolorgir*.

Mesrop, who knew Greek and Syriac, was by necessity familiar with minuscule and cursive alphabets. It is difficult to imagine that he and his

28. Scholars at the Matenadaran, the research center and repository for ancient manuscripts in Erevan, claim that one undated manuscript is from the seventh century and that fragments of Gospel pages date earlier.

29. By rounded, I mean capitals similar to uncials with vertical and horizontal segments

usually curved rather than straight or angular. The Armenian graffiti found in the Sinai and studied by Michael Stone, *The Armenian Inscriptions from the Sinai*, Cambridge, Mass., 1982, are often cursive, but seemingly in an informal *erkat'agir*.

pupils, as they translated the Bible, a task that took decades, would have used the laborious *erkat'agir* for drafts as they went along. Unfortunately, no written documents in Armenian outside of book manuscripts or fragments of them have survived prior to the twelfth century³⁰. The earliest Armenian chancery documents in a very cursive *bolorgir* or a proto-*notrgir* are from the Cilician court when minuscule *bolorgir* is the standard bookhand.

The dilemma between a theory of a later evolution of minuscule and the speculation that *erkat'agir* and *bolorgir* scripts co-existed from the fifth century will not be easily resolved, but the methodology and tools to be described at the end of this paper will bring us closer to an understanding of the use of different forms of writing in the early centuries.

Papyrus

In this respect a single document may help re-phrase certain questions and at the same time alter our notion about early Armenian hands. The lost Greek papyrus written in Armenian letters mentioned earlier has been rediscovered. I had been trying to locate it since the start of the paleographic project. In 1993 I found the papyrus in Paris and since then have gathered together a team of scholars to study it in its entirety³¹. Dashean inserted a detail of the photograph sent from Paris by Carrière in his *Overview of Armenian Paleography*, and briefly discussed its style and date³². In 1937-1938³³, Georges Cuendet³⁴ and Maurice Leroy³⁵, unable to locate the original, published the text contained on Dashean's photo.

The text of the papyrus is a run-on list of expressions in everyday Greek written by someone who had a weak knowledge of that language. It has been conjectured that the author was an Armenian soldier in the

30. Only a few of these manuscripts are in *bolorgir* or a mixed *erkat'agir-bolorgir* script; Stone has studied these in an article "The Mixed *Erkat'agir Bolorgir* Script in Armenian Manuscripts", forthcoming in *Middle Eastern Manuscripts*.

31. BnF, MS arm. 332. Bernard Coulie of Louvain has agreed to work on the Greek, Jos Weitenberg of Leiden on the Armenian phonology and other linguistic questions, and I will deal with the historical and paleographic aspects of it. Michael Stone has also offered many suggestions about the papyrus over the past months. See now D. Kouymjian, "Unique Armenian Papyrus", *Acts of the Vth International Congress of Armenian Linguistics*, Delmar, NY, 1996, p. 381-386.

32. Dashean, *Survey*, p. 92-104.

33. According to Dashean, Carrière had written to him about the papyrus in 1892 and sent

the photo sometime later. A brief note about the papyrus was published in *Bazmavép of Venice* (1892), p. 39, partially cited by Dashean, p. 93, note 1, reporting on a letter sent to Fr. Ghevond Alishan announcing the discovery. In his letter Carrière clearly pointed out that the papyrus had writing in Armenian letters on both sides, a detail seemingly missed by later scholars.

34. Georges Cuendet, "Un papyrus grec en caractères arméniens", *Annuaire de l'Institut de philologie et d'histoire orientales et slaves*, vol. V (1937), *Mélanges Émile Boisacq*, p. 219-226, and *idem*, "À propos d'un papyrus grec en caractères arméniens", *Handés Amsoreay* (1938), n° 1-3.

35. Maurice Leroy, "Un papyrus arméno-grec", *Byzantion*, vol. XIII (1938), fasc. 2, p. 513-537.

Byzantine army stationed in Egypt trying to perfect his Greek. On historical grounds, the papyrus should be dated prior to the Arab conquest of Egypt in 640. Whatever its exact date, it is the oldest surviving example of Armenian manuscript writing, and one can see why it compelled Dashean to embark on a serious study of Armenian paleography³⁶. A strip of the papyrus on the left side and a fragment from the lower right corner –representing about a sixth of the published text– were not in the photograph used by Cuendet and, therefore, never transcribed or translated by him or Leroy. (The extreme lower left and lower right pieces have been reconstituted up-side-down.) More remarkable, however, the document has a text of equal length on its back side which has never been photographed or studied, even though it was mentioned by Carrière in his letters to Alishan and Dashean.

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The papyrus represents the only surviving non-book manuscript in Armenian from the fifth to the twelfth century and as such is an important link between the origin of the alphabet and our earliest codices four hundred years later. It forces us to reevaluate notions about the evolution of Armenian script from *erkat'agir* to *bolorgir*.

The letter by letter analysis of the papyrus script has not yet been completed, but a close look at the form of the first letter of the Armenian alphabet, A or *Ayb*, is instructive. Its shape is very similar to the *ayb* from the inscription of the Armenian basilica of Tekor, now destroyed, dated to the last quarter of the fifth century³⁷, as well as Armenian mosaics of the fifth or sixth centuries from Jerusalem. *Aybs* formed in this manner exist in no other Armenian manuscripts. This resemblance may allow us to date the papyrus very close to the moment of the invention of the Armenian alphabet.

The papyrus *ayb*, like that of the Tekor basilica inscription, is made with a single stroke. The right arm of a U-shaped letter is looped around at the top toward the right and continued with a down stroke which barely touches it just below mid-way and then curves up slightly. It is easy to see how by simply extending that line further upwards we arrive at an approximation of the minuscule or *bolorgir ayb*. This would support a theory of evolution from *erkat'agir* to *bolorgir*, but whether other letters in the papyrus can be made to show such an evolution remains to be studied.

Dashean pointed out that the writing of the papyrus was a semi-*erkat'agir* with some transitional *erkat'agir*, yet the informal cursive script used in this personal document is quite different than any other known early hand and should encourage us to consider seriously the notion that *erkat'agir* and *bolorgir*, majuscule and minuscule, existed side by side from the beginning of Armenian writing. One ought to add that Dashean and Adjarean even saw elements of *notrgir* as well as *shghagir*, that is ligatured cursive, in the papyrus.

36. Dashean was also inspired by a number of Armenian palimpsests published in the 1890s.

37. Both N. Marr, and T. T'oramanyan favored a dating of 490 to 525.

As for the refinement and standardization of *bolorgir* as the chosen book-hand and the circumstances which converged to allow such a codification, it can be more readily studied. A hypothetical reform or standardization of Armenian *bolorgir* would be localized in the twelfth century at the Cilician court. It was the moment of active contacts between the Armenians and the Crusaders. The impact of the Latin west on Armenian culture in language and the arts has been amply documented. Several thirteenth century Armenian manuscripts were copied in Rome and other Italian cities, and at least one Armenian manuscript, now in Jerusalem, of the tenth or eleventh century, has small Greek majuscules juxtaposed with small Armenian *erkat'agir*. Thirteenth century documents from the royal court of Cilician Armenia, written in Latin rather than Armenian and addressed to the Pope, have survived. Yet, the impact of medieval Latin or Greek on the evolution of Armenian paleography remains unstudied.

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Time does not allow for a discussion of the cursive hands, *notrgir* and *shghagir*. They are used mostly in informal texts: colophons in early manuscripts, marginal notations, and above all chancery documents, starting in the twelfth century, but they, too, have not been studied properly.

Methodology

An indispensable first step in the paleographic study of Armenian is an adequate definition of the characteristics of each of the letters that constitute the four major scripts. Adjarean in his *The Letters of the Armenians* took up the analysis in a hundred page, letter by letter, description relying mostly on published samples from Hovsép'ian's *Album*. Though much of his analysis is colored by *a priori* assumptions, he did set down criteria for the examination of letters: how they were drawn, and, through ascenders and descenders, their relationship to the baseline of the text³⁸. Unfortunately, Adjarean's work has not been carried forward.

As a working methodology for the *Album of Armenian Paleography*, it was decided to put aside all previously identified script categories and arrange all samples chronologically. From the nearly one thousand manuscripts examined, some 600 were photographed. From these a selection of 200 precisely dated specimens, representative of all important variant scripts, was extracted. Original photographs, either in color or in black and white, have been digitized through the Kodak Photo CD-ROM process for display and manipulation on a Macintosh Power PC. With appropriate software, particularly Adobe Photoshop, the manuscript pages were enlarged for a letter by letter examination of scribal hands. Individual letters from each document have been isolated and gathered together by the

38. Adjarean, *Hayoc' grere*, p. 372-459; Schröder, *Thesaurus*, Part II, p. 6, had already group-

ed letters in categories according to ascenders and descenders.

well known “copy and paste” method into a unique alphabet chart for each manuscript³⁹. Eventually, these alphabets will be examined against a standard grid so that the ascenders and descenders of letters can be accurately measured and such questions as bilinearity –that is, the letter’s positions between an upper headline and a lower baseline– properly addressed. This is being done for all two hundred specimens. The alphabets will then be placed into large tables juxtaposing upper and lower case letters of all samples. A new and broad comparative tool will then be available to use with scripts of undated manuscripts. The tables will also serve as empirical guides toward resolving some of the questions asked during the course of this talk.

Conclusions and the Future

Why do we need paleographic studies for Armenian manuscripts? Simply put: if 60% of Armenian manuscripts are dated, 40% are undated, and paleography remains the leading method of ascribing dates to them. Even approximate dating on paleographic grounds of the thousands of *erkat’agir* manuscript fragments will prove invaluable for localizing the codicological information contained in them. This information will also allow the grouping of manuscripts and the discovery of relationships between regions and specific scriptoria. The storage capability of the new generation of desktop computers permits the bringing together of hundreds, even thousands, of paleographic samples from Armenian manuscripts. With the perfection of Newton-type technology, it should become possible to teach the computer to recognize letter shapes, scan a new manuscript, and determine which dated writing style already in the database most closely resembles it. Through such a method, dating should become less hazardous and perhaps more rational, and attribution to specific workshops and even individual scribes facilitated. It is hoped that when the *Album of Armenian Paleography* is completed and all samples have been computer-analyzed and stored, a powerful and innovative method will be in place to supplement traditional paleographic studies of Armenian scripts. In turn, this same methodology may be applicable for research in Latin, Greek, Arabic, and other alphabets.

39. This work is being carried out by Michael Stone in Jerusalem.