

Mapping the Linguistic Sub-Areas of Eurasia:
Word-Initial /r-/¹

Natalie Operstein

University of California, Los Angeles

1. Introduction. There are in Eurasia several areas characterized by the absence of non-fortis initial /r-/. Such areas have been independently identified in the Northern Mediterranean, Anatolia, the Caucasus, Central Asia and Siberia; the language families affected by the absence of /r-/ belong to such unrelated (or distantly related) groupings as Indo-European, Yeniseian, Uralic, Altaic, Dravidian, and North-East Caucasian. Perhaps the most coherent treatment this phenomenon has received was within the ideological framework of Mediterranean studies; the following paragraph from Lahovary (1946:611) is representative of this treatment:

“Une des caractéristiques les plus curieuses du parler des Roumains de Macédonie, dit l’aromain, est l’adjonction d’un *a* prothétique dans les mots commençant par la consonne *r* ou *l*. Cette particularité s’éclaire, cependant, dès que l’on aura observé qu’elle se retrouve exactement dans le basque, comme dans l’ancien aquitain et que le même phénomène se rencontre dans le gascon moderne, très influencé par l’ancien ibérique, dans les dialects du sud de la Sardaigne, en Sicile (surtout devant *r*), dans l’ancien arménien et dans plusieurs dialects grecs du sud. On peut, ainsi, établir géographiquement la chaîne des relais entre l’Asie Mineure – où le phénomène paraît avoir eu son point de départ, . . . les Balkans et l’Ibérie”.

Lahovary assumes prothesis before initial /r-/ as his point of departure, taking no account of the fact that the initial /r-/ he refers to is lenis in the case of Armenian and fortis in the other languages except the Aromanian of Macedonia and Modern Greek, for which this distinction is irrelevant. The importance of distinguishing between the fortis and lenis /r-/ was clearly seen by the Hispanists that connected the facts of Hispano-Romance, Southern Italian, Sardinian, Gascon, Occitan, and Basque but, for the same reason, failed to include the languages of the Balkans in their areal generalizations (e.g., Menéndez Pidal 1959:cxxxi ff). However, by concentrating on the distribution of the *r*-phonemes rather than such relatively unstable surface features as the initial prothesis, it is possible to reconcile the two approaches and to unite the geographically discrete zones identified by them into a continuous linguistic area.

A detailed investigation of the data suggests that the large zone in which no initial non-fortis /r-/ is allowed falls into two unequal sub-areas. Languages of the western sub-area have two /r/s, fortis and lenis, that contrast only intervocally. For the other positions it is possible to establish an archiphoneme /R/, which is predictably realized in different positions in each language; the important common trait is that only fortis /r/ is allowed word-initially. In some languages the initial fortis /r-/ takes a prothetic vowel, which may be optional (as, for example, in Castilian) or obligatory (as in Basque). In cases where the languages of this sub-area attest at present only one *r*-phoneme (for

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example, Romanian), it is usually possible to reconstruct an earlier stage with two rhotics. Moreover, gradual loss of the phonemic distinction between the fortis and lenis /r/s can be directly observed in some languages of the area, for example, in present-day Occitan and Gascon (Bec 1973:48; Cardaillac 1973:32). The western sub-area includes the Iberian Peninsula, southern France, parts of the British Isles, Sardinia, and South Italy. As explained in detail in sub-sections 2.16-2.19, the relevant languages of the Balkan peninsula and Armenian are transitional between the western and eastern types.

In contrast to the western sub-area, languages of the eastern type usually have only one *r*-phoneme that requires obligatory vocalic prothesis in the initial position. It is possible to encounter in this zone languages with more than one *r*-phoneme, but in such cases the distribution of the /r/s has a completely different pattern from that encountered in languages of the western type. It is also to be noted that, even though prothesis before initial /r-/ occurs in both sub-areas, its status in each of them is different. Whereas in the west only fortis /r-/ has the ability to develop vocalic prothesis while lenis /r/ is not allowed initially at all, in the eastern languages vocalic prothesis is the main strategy for eliminating the rhotic(s) in initial position. The eastern sub-area includes the Anatolian peninsula and parts of the Northern Caucasus and Northern Eurasia. The linguistic data on which the division into two types is based are discussed in sections 2 and 3.¹

2. The western sub-area.

2.1. Portuguese, spoken in the westernmost extreme of this sub-area, has two rhotics (cf. Head 1964:96; Morais Barbosa 1965:167ff). The lenis /r/ is realized as an alveolar flap, and the fortis /r/ can be realized as an alveolar trill, a uvular trill, a voiced uvular fricative, or a voiceless uvular fricative (Mateus and d'Andrade 2000:11). The alveolar trill is the most archaic realization of the fortis /r/: it was still current in Lisbon among people of the older generation in the 1960s, and is encountered nowadays dialectally. Uvular trill pronunciation developed sometime during the second half of the nineteenth century, and the velar fricative realization of the fortis /r/, which was becoming dominant in Lisbon at the time of Morais Barbosa's study (1965:189ff), is the most recent. The two rhotics contrast intervocalically (e.g. *murro* 'punch', *muro* 'wall'), and only the fortis /r/ appears initially (e.g. *rua* 'street') and as onset after a heterosyllabic *n*, *l*, or *s* (e.g. *honra* 'honor'). The coda position (e.g. *mar* 'sea', *carta* 'letter') and onset clusters (e.g. *prato* 'plate') are the loci for the lenis phoneme.² Occasionally, the initial /r-/ seems to receive a prothetic vowel, e.g. in *arraia* for *raia* 'border' (Cornu 1882; Jungemann 1955:274-75).

2.2. The distribution and realization of the two rhotics in **Castilian** are similar to those of Portuguese. The lenis /r/, realized as an alveolar flap, occurs in the coda position (e.g. *cortar* 'to cut') and in onset clusters (e.g. *tres* 'three'). The fortis /r/, pronounced as an alveolar trill, occurs initially (e.g. *roca* 'rock') and as onset after heterosyllabic *n*, *l*, *s* (e.g. *honra* 'honor'). The two rhotics contrast intervocalically (e.g. *cerro* 'hill', *zero* 'zero') (cf. Navarro Tomás 1926:112, 119).

In a handful of cases, the Castilian initial /r-/ receives a prothetic vowel. It has been suggested that a prothetic vowel is attested in the Hispano-Latin *arrugia* 'mine shaft', thought to be one of the common isoglosses of the Iberian and Alpine regions (cf. Spanish *arroyo*, Friulian *roye*, *roia*); prothesis before initial /r/ is also known in early medieval Hispanic documents written in Latin (Bertoldi 1932). A prothetic vowel occurs in some common words and place-names in Aragonese (Menéndez Pidal 1959:cxxxiiff;

Rohlf's 1970:150). Prothesis before the fortis initial /r-/ probably originates in an attempt to ease the pronunciation of a trill by means of a schwa-like prothetic vowel, which may later develop into a full vowel (cf. 2.19 below, and Bec 1970:545). In some cases, the presence of a prothetic vowel may be used as evidence of an earlier fortis /r-/ (cf. 2.11, 2.13, and 2.17 on Engadine, the dialects of Lucca, and Aromanian).

2.3. Catalan has a flap and a trill /r/, that are in general distributed as in Portuguese and Castilian: fortis /r/ occurs initially (e.g. *roca* 'rock') and as onset after *l*, *n*, *s* (e.g. *folre* 'lining'), lenis /r/ in the coda position (e.g. *mar* 'sea', *carta* 'letter') and in onset clusters (e.g. *brou* 'broth'); the two rhotics contrast intervocally (e.g. *serra* 'saw', *cera* 'wax'). Dialectal differences include the realization of /r/ in absolute final position: for example, it is lenis in Valencian but fortis in Central Catalan. In the syllabic coda before the following consonant the realization of /r/ depends on a number of factors that include the preceding vowel, accent, and dialect (cf. Recasens 1991:324ff; Bibiloni 2002). As in Castilian and Portuguese, a small number of Catalan words with initial /r-/ attest a prothetic vowel (cf. Cornu 1882; Jungemann 1955:274).

2.4. The character and distribution of fortis and lenis /r/'s in **Galician** have the familiar Iberian pattern (cf. Álvarez et al. 1986:36-37): fortis /r/ initially (e.g. *romper* 'to break') and as onset after *n*, *l*, *s* (e.g. *tenro* 'tender'), lenis /r/ in the syllabic coda (e.g. *bicar* 'kiss') and in onset clusters (e.g. *prata* 'silver'); both intervocally (e.g. *carro* 'car', *caro* 'expensive'). Cornu (1882) lists examples of Galician words with a prothetic vowel before the initial /r-/.³

2.5. All dialects of **Basque** have (or have had until fairly recently)⁴ a phonemic opposition between a tapped and a trilled alveolar /r/ (cf. Michelena 1976:327-28). In accordance with Martinet's (1950) and Michelena's (1957:128) proposals, this contrast continues the ancient Basque fortis/lenis opposition that affected obstruents, liquids, and /n/. The two rhotics contrast only between vowels, cf. *ero* 'crazy' versus *erro* 'root'. Basque lacks word-initial /r-/s, except in unassimilated loan-words. Early Latin loans with an initial /r-/ were rendered in Basque by a fortis /r/ preceded by an automatic prothetic vowel, whose quality seems to have depended on the vowel of the root, cf. *arrazoi(n)* ~ *errazoe* 'reason, right' < *ratione*, *erripa* 'steep slope' < *ripa*, *errota* 'mill' < *rota*, *errege* 'king' < *rege* (Jungemann 1955:280; Michelena 1974:146; Gorrochategui 1995:46). Syllable-finally, the phonemic distinction between the fortis and lenis /r/s is neutralized in favor of the trill, but the distinction is preserved in some sandhi contexts (Michelena 1957:120-21; Gorrochategui 1995:46).

2.6. The facts of **Old Aquitanian**, a language related to Basque that used to be spoken in the territory roughly coinciding with modern Gascony, are reconstituted from personal names in Greco-Latin sources, Roman inscriptions, and place-names (Gorrochategui 1995:32, 38). The distribution of the two *r*-phonemes of Old Aquitanian, spelled in the sources as single and double <r>, closely parallels that of Basque: the *r*'s are not found initially, the two *r*'s contrast intervocally, and the geminate <r> appears at the end of stems.

2.7. Ancient Iberian texts had two signs rendered in Latin as <r(r)>. The same texts written in the Greek alphabet have two *r*-signs, one of which is differentiated from the other by an apex (cf. Anderson 1988:22, 58, 72). The two *r*-signs are not interchangeable, one of them being consistently written at the beginning of words and before consonants (Gómez-Moreno 1949:272-74; Beltrán 1953:94; Michelena 1957:120

and 1985a:344-45). Two *r*-signs are graphically distinguished in the **Tartessian** script as well (Sverdrup and Guardans 2002:124-25).

2.8. Gascon, spoken in the territory of ancient Aquitania, is sufficiently different from Occitan to have been considered a separate language in the Middle Ages (Suchier 1931:47; Rohlf 1970:17ff; Cardaillac 1973:12). Some Gascon dialects develop a prothetic /a/ before the word-initial fortis /r/, cf. *arram* < *ramu*; *arriu* < *rivu*; *arrazoo* (Béarnais), *arragon* (Armagnac) < *ratione* (Suchier 1931:48). This treatment is unknown in the northern and eastern parts of the Gascon territory, and it affects only the initial fortis /r-/ of the inherited vocabulary: word-initial /r/s of secondary origin, as well as the initial /r/s of French borrowings, have no prothetic vowel (Jungemann 1955:278). The two /r/s contrast intervocalically, cf. *tèrre* ‘earth’ versus *tère* ‘file, series’ (Vintilă-Rădulescu 1968:86-87). Outside of intervocalic position, the two /r/s are distributed complementarily. For example, in the dialect of Donzac (Cardaillac 1973:32) fortis /r/ occurs word-initially and as onset after *n*, and lenis /r/ occurs in onset clusters and in the syllabic coda. Examples of the fortis /r/ include *res* ‘nothing’ and *enrambulat* ‘confused’; examples of the lenis /r/ include *bigar* ‘mosquito’ and *broko* ‘twig’. In the same dialect, each *r*-phoneme can be replaced by the French uvular trill/fricative, in which case the distinction between them is neutralized (Cardaillac 1973:32).

2.9. Occitan has two rhotics, fortis (a trill) and lenis (a flap). Literary Provençal had fortis /r/ at the beginning of words, in onset clusters, in coda position and intervocalically, and lenis /r/ intervocalically and word-finally. The distribution of the strong and weak /r/s thus differs from that of the Iberian languages, for instance, in that the two phonemes can contrast not only intervocalically, but also word-finally. The possibility of a word-final contrast resulted from the loss of final vowels, cf. *honor* < *honore* and *ferr* < *ferru* (Ronjat 1932, I:97ff and II:298ff). In modern Occitan, lenis /r/ occurs word-finally and before and after consonants except /n/ and /l/, while fortis /r/ occurs initially and also before and after /n/ and /l/; the two /r/s contrast intervocalically (e.g. *marrit* ‘bad’, *marit* ‘husband’). Under the influence of French, in some parts of the Occitan territory both rhotics can be replaced by a uvular /r/, in which case the distinction between them ceases to be pertinent (Bec 1973:48).

2.10. Indo-European *r has a double outcome in **Celtic**, as lenis and fortis /r/s (but see 4.1 on Hispano-Celtic). In modern Irish and Scottish, fortis /r/ occurs in absolute initials, after *s*, *l* and *r*, in old gemination, and before dentals; its distribution is thus close to that found in Iberian Romance (Pedersen 1909:141-42; Lewis and Pedersen 1961:49). In Falc’hun’s Breton dialect, fortis /r/ occurs in absolute anlaut and lenis /r/ word-finally; the two phonemes contrast intervocalically after a stressed vowel, but tend to merge before stress (Falc’hun 1951:51, 73). In some Celtic languages, however, the distinction between the fortis and lenis /r/s has been lost (Pedersen 1909:141; Sommerfelt 1978:56-59). The surface realization of the initial fortis /r-/ is of interest: in Falc’hun’s Breton dialect, for instance, the fortis /r/ in absolute anlaut may be preceded by a “quasi-vocalic on-glide” or be entirely voiceless, the two realizations being allophonic (Jackson 1967:811). One cannot avoid making a comparison with the initial voiceless phonetically long /r/ of Ancient Greek (2.18).

2.11. The Engadine dialects of Romansh have developed a prothetic /a/ before the initial /r/, for example in *aram* ‘branch’, *arík* ‘rich’, *aríde* ‘to laugh’ (Meyer-Lübke

1890:324; Bec 1970:544 and 1971:327). Prothetic /a/ also develops before other consonants, whereby this group of dialects agrees with Aromanian (Gartner 1883:70-71).

2.12. Sardinian is divided into three major dialect areas, Campidanese in the south, Logudorese and Nuorese in the north (cf. Virdis 1978:9ff). In Logudorese and Nuorese the initial /r-/ is always realized as fortis. In Campidanese, the initial fortis /r-/ is preceded by a prothetic /a/, cf. Latin *ridere* > *arriri* ‘to laugh’, Italian *ricco* > *arrìku* ‘rich’, Spanish *reloj* > *arreloĝu* ‘watch’, *arreína* ‘queen’ (Italian *regina*), *arrósa* ‘rose’ (Italian *rosa*) (Wagner 1907:22; Bolognesi 1998:42-43). In the border area between Campidanese and the northern dialects the quality of the prothetic vowel depends on the vowel following the /r-/: it is /a/ when the following vowel is /a/, /e/ before a front vowel, and /o/ before a rounded vowel, cf. *errìu* < *rivu*, *arràna* < *rana*, *orròza* < *rosa*. Harmonizing the prothetic vowel to the following vowel may have been the original state of affairs in Campidanese, where prothetic /a/ appears to have spread at the expense of other vowels; medieval documents in Sardinian show three prothetic vowels (Jungemann 1955:276; Virdis 1978:37-38). The fortis /r/ also occurs intervocalically (cf. *kàrru* ‘car’ < *carrum*) (Wagner 1941:53-55; Contini 1987:393-419).

2.13. In large areas of extreme **South Italy**, Latin initial /r-/ has developed into a fortis trill, cf. *rrama*, *rrosa*, *rre* (Sicily); *rracina*, *rrizzu*, *rrunca* (Calabria); *rruina*, *rrimori* (Salento). This phenomenon becomes more sporadic the more one moves to the north, but numerous words display the initial fortis trill in Neapolitan and various sub-dialects of Tuscan and Abruzzese (cf. Rohlfs 1966:223; Vaughan 1915:52; Vignoli 1911:144). Medieval manuscripts from Tuscany attest forms such as *lo rree* ‘the king’, and a fair number of similar forms also exist in the southern part of Corsica (Rohlfs 1966:224). The initial trill often triggers the appearance of a prothetic vowel, cf. *arraggiu* ‘ray’, *arriposu* ‘repose’, *arrìsicu* ‘risk’, *arrìriri* ‘to laugh’ (Sicily); *arramu* ‘branch’, *arrè* ‘king’, *arruffianu* ‘ruffian’ (Calabria); *arrissa* ‘laugh’, *arrobbu* ‘dress’, *arraggia* ‘anger’ (Neapolitan); *arre* ‘king’ (Abruzzo). In some dialects of the province of Lucca (Tuscany), the original fortis /r-/ merged with the lenis sonorant after first acquiring the prothetic vowel, which led to such forms as *irossu* ‘red’ and *iragion* ‘reason’ (Rohlfs 1966:224, 336; see also 2.11 and 2.17 on parallel developments in Engadine and Aromanian).

2.14. Studies of the pronunciation of **Classical Latin** agree in stating that it had one *r*-phoneme realized as an alveolar trill (e.g., Sturtevant 1940:150-51; Kent 1945:59; Tronskij 1960:54; Allen 1964:32), which seems to put Latin outside the linguistic area under consideration. However, certain phonetic developments in Latin and Romance suggest that the pronunciation of Latin initial /r-/ differed from that of the single /r/ in other positions, and was similar to that of the intervocalic geminate /r/. First, the change of intervocalic /s/ to /r/, and that of /d/ to /r/ intervocalically and word-finally before labials (e.g., *flōs* G. sg. *flōris*; *merīdiēs* for **medidies*; *arfuisse* for *adfuisse*) suggest fricative and tapped articulations, respectively, for the /r/s resulting from these developments (Seelmann 1885:311; Allen 1964:33; for parallel developments in Umbrian see Meiser 1986:218ff). Second, the development of Latin initial /r-/ in more than half of the Romance domain is consistently different from that of non-initial single /r/, and parallel to that of intervocalic geminate /r/, which suggests a more tense articulation of Latin initial /r-/ (cf. in this connection Pedersen 1909:141, with a further reference). In general, the distribution of (the allophones of) Latin /r/ seems to be similar to that of the

lateral, best described as fortis initially/intervocally and lenis in other positions (De Martino 2001:164).

2.15. Sixteenth-century **Romanian** had two rhotics, fortis and lenis, whose distribution was similar, though not identical, to that of Iberian Romance. Fortis /r/ occurred word-initially (e.g. *rrece*), intervocally (e.g. *curre* < Latin *currere*), as a syllabic coda before a consonant (*argint*), and in onset clusters (*crăpa* < Latin *crepare*). In the first three positions, the fortis /r/ is notated as such in early manuscripts, while the fortis character of the /r/ in onset clusters is deduced from the development of the following vowel (cf. Sala 1970:42-45). In early borrowings from Slavic and Hungarian, the /r/s of these languages are rendered in Romanian by the fortis /r/ (Sala 1940:42, 51).

2.16. Indo-European *r split into fortis and lenis /r/ in **Albanian**, but the distribution of the two reflexes is not entirely clear. *r in consonant clusters normally develops into a lenis /r/, while initial and intervocalic *r can develop into a lenis or fortis phoneme, the latter reflexes being more numerous (Orel 2000:52-53). Albanian initial fortis /r-/ also seems to reflect the Indo-European sequence *h₁r- (Hamp 1965:137; but see Beekes 1988:101). Word-final /r/ is lost.

The distribution of the two rhotics in early loans from Latin and Slavic is clearer. Latin initial /r-/ and intervocalic geminate /r/ are reflected in Albanian as fortis, cf. *rreze* ‘ray, spoke’ < Latin *radius*, *karrë* ‘cart’ < Latin *carru* (numerous examples in Mihăescu 1966:19). However, there are also three examples of Latin initial /r-/ developing into Albanian lenis /r/ (among them *regj* ‘king’ < Latin *regem*), and various examples of Latin single intervocalic /r/ developing into Albanian fortis /r/, cf. *tmerr* ‘horror, fright’ < Latin *timore*. In common with Aromanian, Albanian reflects the /r/ of early Slavic loans as fortis, cf. *karrutë* ‘fermenter’ < Slavic *koryto (Orel 2000:57-60).

2.17. Aromanian, one of the two Balkan Romance languages to have developed south of the Danube, is spoken in various countries of the Balkans, with the two largest groups in Albania and Greece. Caragiu (1975:218, 264) divides the dialects of Aromanian into those of the ‘Farsherotian’ type (*tip fărșerotesc*) and those of the ‘Aromanian’ type (*tip aromânesc*), roughly corresponding to the Aromanian of Albania and Greece.⁵ One of the distinguishing features of the Farsherotian type is the opposition between fortis and lenis /r/s, the fortis /r/ being realized as an alveolar trill and the lenis /r/ as a uvular or velar phoneme (Caragiu 1975:265). The two rhotics contrast intervocally, cf. *căra* ‘meat’ versus *căra* ‘if’. Dialects of the Aromanian type have only one *r*-phoneme obligatorily preceded by a prothetic /a/ word-initially, so that Farsherotian *rămăn*^u corresponds to Aromanian *armân*^u (both from Latin *romanus*) (Caragiu 1968:61 and 1975:225, 265; Lazarou 1986:172ff). The prothetic /a/ before /r/ exists not only in words of Latin origin, but also in borrowings from the neighboring languages, cf. *arác* ‘crawfish’ (< Slavic *rak*), *aráftu* ‘tailor’ (< Greek *ράπτης*) (Papahagi 1974).

With Albanian and Aromanian of the ‘Farsherotian’ type one approaches the limit of the western sub-area with its clear distribution of the fortis and lenis /r/s. Aromanian of the ‘Aromanian’ type, with its single *r*-phoneme that requires vocalic prothesis initially, already aligns with languages of the eastern sub-area. The last two languages of this zone to be considered, Armenian and Ancient Greek, are also transitional between the two zones as they present a mixture of the western and the eastern types. In common with the

eastern type, they use prothesis to eliminate the initial occurrence of their lenis /r/. At the same time, they also develop a fortis /r/ that can be used in initial position.

2.18. Ancient Greek had two rhotics traditionally analyzed as voiced and voiceless allophones of the same phoneme (e.g., Lejeune 1972:141-44; Sommerstein 1973:2-3; differently in Lupaş 1972:133). Voiceless /r/, that historically derives from consonant clusters *sr and *wr, appeared word-initially, intervocalically, and after aspirated stops in onset clusters (Allen 1987:41-45; Sommerstein 1973:47; Harviainen 1976:11). In addition to voicelessness, this type of /r/ also possessed distinctive length, as is shown by the geminate spelling of its intervocalic allophone, and its treatment in the initial position in dramatic poetry. Thus, the aorist of *ρέω* 'to flow' is *ἔρρευσα*, and the opposite of *ρητός* 'speaking' is *ἄρητος*. Initial /r-/ is treated as long after a final short vowel in poetry; examples of long /r/ in absolute anlaut are also attested (Allen 1987:44; Sommerstein 1972:48; Schwyzer 1959:310). In the earliest Greek loan-words in neighboring languages such as Syriac, Coptic, Latin, and Armenian, voiceless /r/ is rendered by the digraphs <rh> or <hr> (intervocalically in Latin also as <rrh>, cf. *Pyrrhus*), while voiced /r/ is represented in the same languages by a simple <r> (Harviainen 1976:29ff; Tronskij 1960:54, n.1). Voiced /r/, thought to have been realized as an alveolar trill, occurred intervocalically, in the syllabic coda, and after unaspirated stops in onset clusters (Lupaş 1972:25, 66-67). Word-initially, voiced /r/ required automatic vocalic prothesis (Rix 1976:58); this is true of borrowed as well as native vocabulary (cf. *ερέβινθοι* 'peas' alongside *λέβινθοι* in Georgiev 1941:48). The voiceless allophone disappeared and seems to have been replaced by the voiced /r/ in all positions in Modern Greek sometime before the 5th century A.D., so that the modern language possesses only one type of /r/ (Harviainen 1976:11; Newton 1972:10).

It would seem that the voiced and voiceless /r/s of Ancient Greek may be regarded as distinct phonemes. Except for the intervocalic position in which both could occur, the distribution of the two /r/s is complementary. Although voiceless /r/ has a secondary origin, it corresponds functionally to the fortis /r/ of the western languages by its distribution. In connection with the surface realization of the voiceless /r/, one is especially reminded of Celtic, where word-initial fortis /r/ combines length and voicelessness as distinctive features (see Falc'hun 1951:69, 90 for Welsh and for his native dialect of Breton). Greek 'etymological' /r/, which is a voiced phoneme, occurs initially only if preceded by a prothetic vowel. Thus, as has already been pointed out in 2.17, the Greek system of rhotics is transitional between the western and the eastern sub-areas. On the one hand, Greek employs prothesis as the strategy for avoiding initial /r-/. On the other hand, in common with languages of the western type, it secondarily develops a phonetically long /r/ which is accepted word-initially.

2.19. A comparable situation existed in **Classical Armenian**. It had two rhotics, a lenis /r/ realized as an alveolar approximant, and a fortis /r/ realized as an alveolar trill (Tumanjan 1971:34, 42-43). The two phonemes could contrast word-medially and word-finally, cf. *aru* 'male' vs. *aru* 'brook' and *k'ar* 'stone' vs. *k'ar* 'four' (Tumanjan 1971:66). Armenian fortis /r/ has as its sources Indo-European initial *r (but cf. 3.2), *sr, and *r before *n*. The sources of the lenis /r/ include Indo-European intervocalic *r and the initial *h₁₋₃r clusters (cf. Meillet 1936:46; Tumanjan 1971: 65-66).

The result of the above developments was that Classical Armenian had no word-initial rhotics. Word-initial lenis /r/ received a full prothetic vowel (a) in original IE

words that began with an *r, (b) in words where the /r/ moved into the initial position as a result of metathesis or initial consonant loss (cf. *artasuk* ‘tears’ < *drak’u-; *erek* ‘three’ < *treyes), and (c) in the earlier stratum of borrowings from Iranian. Word-initial fortis /r/ was also pronounced with an automatic prothetic schwa which, however, failed to develop into a full vowel: the presence of this schwa can be deduced from sandhi phenomena and certain morphological patterns (cf. Feydit 1982:78, 81; Clackson 1994:33, 176). Classical Armenian fortis /r/ was used to render Greek initial /r-/ and the initial /r-/ in the more recent stratum of borrowings from Iranian (cf. Hübschmann 1962; Lazzeroni 1958:130; Feydit 1982:45, 81, 85-86).

3. The eastern type.

Languages of the eastern zone usually have one *r*-phoneme eliminated initially by means of a prothetic vowel. Another diachronically discernible strategy to avoid the initial /r-/ is to replace it with other coronals, typically alveolar stops or the palatal glide. Given that the absence of initial /r-/ is the only relevant distributional feature in this area, the description of the eastern type given below is for the most part confined to a simple listing of the corresponding languages and language groups.

3.1. Hittite and other Anatolian languages lack initial /r-/ (Kimball 1999:340-41).

3.2. At least beginning with Lehmann (1951), initial /r-/ is generally not reconstructed for **Proto-Indo-European**: the reconstructions assume instead clusters with a preceding laryngeal (see Beekes 1988:60; for an opposing view cf. Rasmussen 1999:334). From the viewpoint of such a reconstruction, the absence of *r*-initial forms in Anatolian, Armenian and Greek can be viewed as an archaism, and the development of *r*-initial forms in other Indo-European dialects as a secondary phenomenon. If it can be shown that the absence of initial /r-/ in Proto-Indo-European is a substrate feature, this would place it within the linguistic area characterized by the absence of initial /r-/ at least immediately before its dialectal breakup. Proto-Indo-European and those dialects that had stayed within this linguistic area (Anatolian, Armenian, Greek, and to some extent Albanian) continued to avoid the initial /r-/, while the dialects that had moved out of this area secondarily developed it.

3.3. Hurro-Urartian has no *r*-initial roots. In this it agrees with **Nakh** and **Daghestani**, the modern branches of North-East Caucasian (Diakonoff and Starostin 1986:4, 10; Desheriev 1979:185; Talibov 1980:265-66; Bush 1964:81). Proto-East Caucasian initial *r develops into Proto-Hurro-Urartian *t- (Diakonoff and Starostin 1986:65). The only apparent *r*-initial word in Urartian is the personal name *Rusa*, known in Assyrian transmission as *Ursâ*, which shows that this word began with a prothetic vowel (Diakonoff 1958:44 and n.2). The influence of /r/ on the neighboring sounds, the transmission of Urartian /r/ in Akkadian, and the proposed lexical correspondences in Armenian seem to suggest that Urartian /r/ had a voiceless or aspirated realization (Diakonoff 1958: 44-45, 53).

A number of modern Nakho-Daghestanian languages distinguish between fortis and lenis /r/s that can contrast in certain positions. For example, in Chechen the two /r/s contrast word-medially, and in Tabasaran word-medially after vowels (cf. Trubetskoj 1987:301, 306, 310, 314, 319).

3.4. Liquids did not appear initially in **Proto-Altaiic** (cf. Patrie 1982:44). This restriction applies to all branches of Altaiic, including Japanese and Korean, so that, as far

as this language family is concerned, it is difficult to separate the inherited absence of initial /r-/ from the possible areal influence.

3.5. There is no initial /r-/ in **Proto-Turkic**, the earliest written documents in the Turkic languages, and in the native vocabulary in modern Turkic languages (Tenishev 1984:361). Early *r*-initial loan-words receive a (typically high) prothetic vowel, cf. dialectal Turkish *urumeli* ‘European Turkey’, Azeri *irāng* ‘paint’, Kirghiz *uruqsat* ‘permission’, Kazakh *yraxmet* ‘thank you’, Turkmen *irežep* ‘Rajab’ (a personal name), Uzbek *ürvizä* ‘revision’ (Tenishev 1984:77, 362).

3.6. Only three **Mongolian** languages allow initial /r-/ in native words: in others, initial /r-/ occurs only in unadapted borrowings from Tibetan, Persian, or Russian (Jakhontova 1997:12). Initial /r-/ was absent from Proto-Mongolian as well (Darbeeva 1996:90). In early borrowings, initial /r-/ received a prothetic vowel, cf. Khalkhas *Orõs* ‘Russia’ < Russian *Rus*’, Bur’at *ymāc’i* ‘shirt’ < Russian *rubashka* (Tenishev 1984:362; Darbeeva 1996:133-34).⁶

3.7. *r*-initial words do not occur in **Tungus-Manchu** (Sunik 1997:156).

3.8. /r/ and /rʰ/ could not begin native morphemes in **Old Japanese**; /r/ does not occur initially in native words in modern Japanese (Miller 1967:194; also Alpatov 1997:308 and 1997b:335).

3.9. Korean /r/, realized as [r] or [l], is encountered initially only in recent loans and in native morphemes that do not occur at the beginning of a speech chain (Martin 1992:28; Mazur 1997:372).

3.10. Proto-Uralic lacked initial *r. It is difficult to determine whether the absence of initial /r-/ in **Proto-Samoyedic** and **Yukagir** is inherited or is the result of an areal influence (Janhunen 1998:464; Krejnovich 1982:14; Nikolaeva and Helimski 1997:156).

3.11. Proto-Yeniseian *r, along with the other two reconstructed liquids, *r₁ and *l, did not occur initially (Starostin 1982:148). In **Ket**, the only surviving member of the group, /r/ occurs only word-medially and word-finally (Dul’zon 1968:38; Verner 1968:22; Segal 1968:60-61).

3.12. The fact that many of the **Paleo-Siberian** languages lack the phoneme /r/ altogether may be significant. Among such languages are Koryak, Aleut, and various dialects of Eskimo (cf. the corresponding chapters in Volodin 1997).

3.13. No word begins with an *r or an *r̥ (retroflex /r/) in **Proto-Dravidian** (Zvelebil 1970: 77, 145, 149).

4. The borders of the western sub-area. The eastern sub-area has a chain distribution, forming island-like spots of varying extent in the vast expanse of Asia from Anatolia to Japan (see Figure 1). The western sub-area, on the other hand, is geographically compact, which makes it necessary to delimit its borders by identifying the contiguous languages that allow non-fortis initial /r-/.

4.1. Hispano-Celtic texts employ only one of the Iberian *r*-signs, which allows the identification of only one rhotic (Michelena 1957:119, 1976:555, 1985a:345; Anderson 1988:83). It is unclear how to reconcile this fact with the Insular Celtic data (cf. 2.10).

4.2. Old French opposed fortis and lenis /r/ only intervocalically. This opposition persisted in northern-central France until the 16th century, and in Parisian French until the 17th, when the lenis phoneme became rhotacized (e.g., *chaise* < *chaire*) and fortis /r/

developed into a uvular trill, so that the two began to be opposed by their place of articulation. The distinction between intervocalic /r/s was neutralized in favor of the uvular phoneme in Parisian French, but it persists in some regional variants of the standard language (Martinet 1952:205 and 1964:278; Haudricourt and Juilland 1970:66-68). Initially, however, Latin /r/ seems to have developed into a lenis phoneme, which puts French outside the linguistic area in question.

Approximate distribution of the western and eastern language types

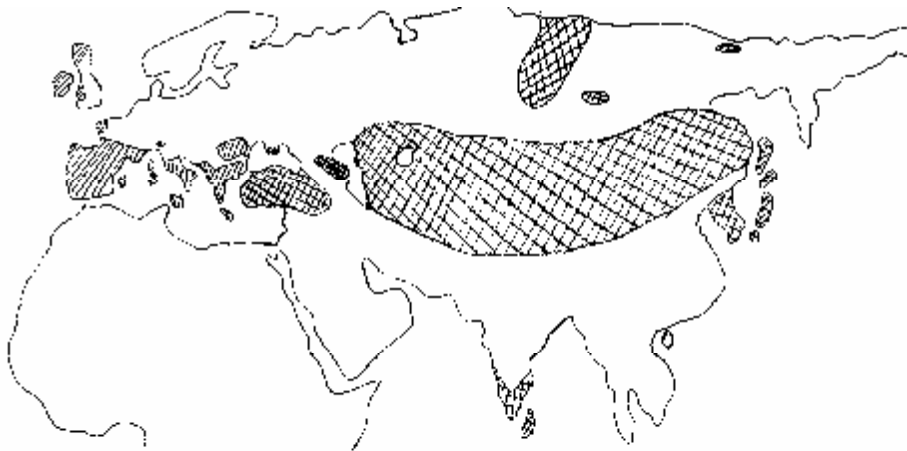


Figure 1

4.3. Franco-Provençal currently distinguishes intervocalically between fortis and lenis /r/; the realizations of each phoneme may differ according to the generation or the individual (Bec 1971:462). In other positions there exists one type of /r/ (Martinet 1956:64-65).

4.4. German has one *r*-phoneme in all positions (Wiese 1996:10).

4.5. The dialects of **North Italy** seem to fall outside this area, even though their treatment of Latin initial /r-/ probably coincided with that of the intervocalic geminate /r/ (Martinet 1952:205).

4.6. Dalmatian had a single *r*-phoneme in all positions (Hadlich 1965:59-62).

4.7. The status of long consonants in **Hungarian** is ambiguous as most geminates can be derived by synchronic rules (cf. Siptár and Törkenczy 2000:19). In general terms, geminates in Hungarian are possible only intervocalically and utterance-finally after a vowel (cf. *orr* ‘nose’); single /r/ occurs word-initially (*rom* ‘ruin’) and syllable-finally (*jár* ‘walk’, *burgonya* ‘potato’) (Siptár and Törkenczy 2000:286). Thus, the distribution of the single and geminate /r/s places Hungarian outside the area in question.

4.8. Initial *r is reconstructed for **Proto-North Caucasian** (see, e.g., roots cited in Nikolaev and Starostin 1991:224-26).

4.9. Initial *r is known in **Afro-Asiatic**, ancient **Egyptian**, **Coptic**, and **Berber** (e.g., Diakonoff 1965:17-27; Ehret 1995:390-93).

4.11. Proto-Semitic had one type of *r. The Arab grammarians comment on two /r/s in Classical Arabic, one of which is emphatic (Cantineau 1960:48-50). Even though the distinction between two types of /r/ persists in modern Arabic dialects and has been phonemicized in some of them, their distribution is markedly different from the one encountered in the languages of the western sub-area. However, it may be significant that **Syriac**, a dialect of Aramaic, tends to add prothetic vowels to initial consonant clusters beginning with [s], [š], and [r] (Tsereteli 1979:30).

5. Preliminary conclusions. The phonological patterns presented in this paper and the differences between them raise many questions that remain to be addressed in detail. From the genetic point of view, the languages affected by the absence of non-fortis initial /r-/ are Indo-European, Altaic, Uralic, Dravidian, North-East Caucasian, Yeniseian, and Basque. The first four groups belong to the Nostratic macrofamily, while Basque may be related, at the Dene-Caucasian level, both to North-East Caucasian and Yeniseian (e.g., Bengtson 2003). At least two different explanations of the pattern are possible. First, the absence of non-fortis initial /r-/ in the Nostratic languages may represent an archaic trait of Nostratic phonology and may be unrelated to the parallel feature in North-East Caucasian, Yeniseian and Basque. Alternatively, if this feature is not inherited, the individual Nostratic languages may have acquired it by moving into areas occupied by speakers of the different branches of Dene-Caucasian. In either case, reinforcement, rather than elimination by prothesis, of the initial /r-/ in the western sub-area seems to indicate that in this zone, as suggested already in Holmer (1949:16), there had existed a substrate layer characterized by a fortis/lenis opposition in the consonant system. Further studies on the areal fragmentation of Eurasia may shed more light on the phenomenon presented in the paper, and may also provide further explanations.

Notes

¹This paper was originally planned as a study of initial /r-/ in the Northern Mediterranean and Asia Minor. I would like to thank Vyach. Vs. Ivanov for discussing with me the larger Eurasian extent of the area, and bibliographical references. I am also grateful to Derek C. Carr, Vyach. Vs. Ivanov, and Brent Vine for their valuable comments on an earlier draft of the paper.

²The distribution of the two /r/s in most of Brazilian Portuguese is similar to that of European Portuguese (cf. Giangola 2001).

³Some Romance dialects also develop the Latin preposition *re-* into *a/er-*. Among them are (dialects of) Piedmontese, Sardinian, Italian, Portuguese, and French (Cornu 1880; Meyer-Lübke 1890:309-10; Wagner 1907:34; Bec 1970:88; Rohlf's 1966:224; Barbier 1934:90).

⁴This opposition has been neutralized, for example, in Souletin, where the tap was lost intervocalically and the remaining /r/ is the historical trill (cf. Hualde 1993:304).

⁵For an earlier classification of Aromanian dialects see Capidan (1932 and 1929-30).

⁶The insertion of prothetic vowels before initial /r-/ also characterizes the speech of Mongolian learners of Russian, cf. *arbota* 'work' for *rabota*, *ervoljutsija* 'revolution' for *revoljutsija* (Trofimova 1989:143).

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