

# From the River Systems in Anatolia: The Names of the Longest River

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THE RIVER SYSTEM OF ASIA MINOR is interesting from many points of view; e.g., the predominant drainage there is peripheral. On the south coast of the area there are three rivers, namely, the *Kalykadnos* (Turkish *Göksu*), *Saros* (*Seihun*), and the *Pyramos* (*Djihān*); westwards there flow to the Aegean Sea the *Hermos* (*Gediz*) and the *Maeander* (*Menderes*); three others turn northwards and flow into the Black Sea – the *Iris* (*Yeshil Irmak*), *Halys* (*Kızıl Irmak*), and the *Sangarios* (*Sakarya*).<sup>1</sup>

As Asia Minor has approximately the same area as France, so its Halys River has about the same length as France's largest river, *La Loire* (Lat. *Liger*), the latter being 980 km. long. An important difference between the rivers of the two countries is that the Asia Minor rivers are not truly navigable whereas those of France are.

In Pontus there are two important river systems, the Halys and the Iris. The Halys is the largest and longest river in Asia Minor, ca. 960 km. long in modern times, while the Sangarios is the second largest (600 km. long), and the Iris third (400 km. long). Though the Halys is the longest, yet it drains an area decidedly smaller than the Sangarios. The Halys, on the other hand, is deep and rapid and in history often constituted a boundary. It rises from a region near beds of rock-salt at the former Armenian border, running for some distance in a westerly direction, almost parallel to the Euphrates, and, after making a tremendous curve to the southwest, turning gradually in a north-easterly direction through Phrygia (part of which was later called Galatia) and Paphlagonia, finds its way to the Euxine Pontus or Black Sea, some 35 miles to the northwest of Amisos (Turk. *Samsun*). In other words, it flows past Pontus, Cappadocia, Galatia, and Paphlagonia.

<sup>1</sup> Cf. H. Hassinger, *Geographische Grundlagen der Geschichte*<sup>2</sup> (Freiburg, 1953), 117f.

Quite a bit has been written about the Halys River,<sup>2</sup> though no exhaustive or somewhat systematic onomatological treatment of the subject has come to my attention.

The purpose of this paper is to discuss (I) the most ancient and the ancient names of the river and (II) also their modern counterparts.

## I. ANCIENT NAMES

### 1. Hittite <sup>1D</sup>*MARASŠANDA* and *MARASŠANTIJA* 'Red River'

Within the loop formed by the Halys river lay Hatussas, the capital of the Hittite empire. The earliest recorded name of the river was *Maraššanda*, written by means of two Sumerograms.  $\dot{I}D.SA_5$ , where the logogram  $\dot{I}D$  means 'river' and is equivalent to Akkadian *nāru* and the logogram  $SA_5$  means 'red' (= Akkad. *sāmu*), so that the whole name stands for 'Red River.' Forrer was the first to identify (in 1919) the Hittite name with Halys.<sup>3</sup> Eleven years later, Götze published notes on the Hittite text AO 9608 of the Louvre: Hattušili, reporting the attack of the Gašgaš (Gash-gaeans) on the border territory, mentions the *Maraššanda* river;

<sup>2</sup> W. Ruge, art. "Halys," *RE* 7,2 (1912), 2286 f. [with bibliography]; Ch. M. Danoff, art. "Pontos Euxeinos," *RE Supplem.* 9 (1962), 926; A. Philippon, *Kleinasien* (Heidelberg, 1918) (*Handbuch der Regionalen Geologie* V, 2, 22. Heft), pp. 27–31: Das Hochland des Halys-Bogens, with three maps, plates I, II, III. (The city in NE Babylonia called *Halus*, Tac. *Annales* 6,41 [*RE* 7,2 (1912), 2879], is unrelated to the river name *Halys.*); idem, *Das byzantinische Reich als geographische Erscheinung* (Leiden, 1939), 150 f.; J. Garstang and O. R. Gurney, *The Geography of the Hittite Empire* (London, 1959), p. 1 and 39. — Cf. also K. Ritter, *Erdkunde von Asien* 18 (1858), 236–448; J. Jung, *Grundriß der Geographie von Italien und dem Orbis Romanus*<sup>2</sup> (Munich, 1897 = *Handbuch der Altertumswissenschaft*, 3,3,1), pp. 139, 140, 142, 143 [with bibliography]; P. M. Kondoyannis, *Γεωγραφία τῆς Μικρῆς Ἀσίας* (Athens, 1921) (Σύλλογος πρὸς Διάδοσιν Ὀφελίμων Βιβλίων, No. 11), 21, 23 f., and passim; W. M. Calder, art. "Halys," in *Oxford Classical Dictionary* (Oxford, 1949), 403 [brief]; K. Lameris, Eleftheroudakis' Ἐγκυκλοπαιδικὸν Λεξικὸν 1 (1927), 837 b f.; A. A. Papadopoulos, art. "Ἄλυσ, Μεγάλη Ἑλληνικὴ Ἐγκυκλοπαιδεία 4 (1928), 94; cf. also S. Ioannidis, Ἱστορία καὶ στατιστικὴ τῆς Τραπεζοῦντος (Constantinople, 1870), p. 161; K. Papamichalopoulos, Περιήγησις εἰς τὸν Πόντον (Athens, 1903), 331. — The whole Halys River course is found drawn on maps in Richard Kiepert, *Karte von Kleinasien*, A IV; B III and IV; C IV. — See addendum.

<sup>3</sup> Emil Forrer, "Die acht Sprachen der Boghazköi-Inschriften," *SB. d. Berl. Akad. d. Wiss.*, 1919, p. 1039. Forrer wrote  $\dot{I}D.SI.A$  and *Maraššantija*.

the geographical context in the fragment requires, according to Götze, the identification of *Maraššanda* with Halys.<sup>4</sup> And most recently, Güterbock, translating fragment 48 of KBo VII.16 and in keeping with Götze's identification, renders the logograms ÍD.SA<sub>5</sub> with Hittite <sup>10</sup>*Maraššanta*, with which he compares Luvian *marušamma* 'red' (KUB 22.70 rev. 11f.), wherein Luvian suffix partic. pres. pass. *-ma-* is equivalent to Hittite *-ant-*, and translates it in the text "at/to the Red River."<sup>5</sup> The stem *maruš-* certainly designates a color and thus may mean 'red.'<sup>6</sup> The uncovering of this earliest name of the longest river in Anatolia is important; and its interpretation as 'Red River' is strengthened by the comparative study of river names, in this specific case by the modern, i.e., the Turkish, name *Kızıl-Irmak* (see below).

Another interpretation of the name is that *Maraššanda* has a suffix *-anda* found in such other names as *Allanda*, *Arinanda*, etc.,<sup>7</sup> and is held to be a foreign, non-Hittite, name<sup>8</sup> and specifically to be a derivative of *Marašša* with the suff. *-anda*.<sup>9</sup>

*Maraššantija* is another name that designates a town,<sup>10</sup> but more often a river.<sup>11</sup> It is the general consensus now that the river called *Maraššantija* is the Halys,<sup>12</sup> flowing to the north of the town

<sup>4</sup> Albrecht Götze, "Bemerkungen zu dem hethitischen Text AO 9608 des Louvre," *RHA* [= *Revue hittite et asianique*] (Paris) (1930–32), 25 note 50.

<sup>5</sup> H. G. Güterbock, "The Deeds of Suppiluliuma as Told by His Son, Mursili II," *Journal of Cuneiform Studies* 10 (1956), 116; the same word is listed also among the Glossenkeilwörter in J. Friedrich, *Hethitisches Wörterbuch* (Heidelberg, 1952), p. 332.

<sup>6</sup> This is the exact wording in a letter of 21 Feb. 1964 of Professor I. J. Gelb (Oriental Institute, Univ. of Chicago), to whom I am indebted also for helpful advice, the reference to Güterbock's article, as well as for suggestions made on an early draft of this paper. Differently Brandenstein and Laroche; see below.

<sup>7</sup> F. Bilabel, *Geschichte Vorderasiens und Ägyptens vom 16.–11. Jahrhundert v. Chr.* (Heidelberg, 1927), p. 281 note 3.

<sup>8</sup> W. Brandenstein, "Die Erforschung der Ortsnamen in Altkleinasien," *ZONF* 11 (1935), 75.

<sup>9</sup> E. Laroche, *Recueil d'onomastique hittite* (Paris, 1952), p. 73; cf. p. 126. See addendum.

<sup>10</sup> KBo VI.29, rev. 18–20; ABo T. 65, lines 12–13 [The Mašat Letter].

<sup>11</sup> KUB XIX.13 (apud Güterbock, *JCS* [note 5] 10.108ff., fragment 34); KUB VI. 45.II,12–14 [Prayer of Muwattalis]; Hattusili III, IV.1ff.

<sup>12</sup> J. Danmanville, "Un roi hittite honore Ishtar de Šamuḫa," *RHA* 14, fasc. 59 (1956), 59; A. Götze, "The Roads of Northern Cappadocia in Hittite Times," *RHA* 15, fasc. 61 (1957), 98 with note 47 [on p. 102]; Garstand and Gurney, *The Geography of the Hittite Empire*, 4, 18, 22, 23, 27, 33, 36, 42, 50, 57, 117.

Kanes, which is located south of Hakkis on the N-S trade route from the capital Hattusas.

Regarding the relationship of the names, the name of the town *Maraššantija* derives, of course, from the name of the river *Maraššantija*. This longer name is obviously a derivative of *Maraššanta* with the land suffix *-ia*, as *Λυκία* from *Λυκη*, *Ḫaldia* from the god name *Ḫaldi*, and *Arlanduja* from *Arlanda*; and, while *Maraššanta* is held to be non-Hittite, the derivative *Maraššantija* is Hittitized.<sup>13</sup>

Furthermore, another Anatolian river name, written in cuneiform Hittite sources with two signs *ÍD.SIG<sub>7</sub>-na* or *ÍD.SÍG-na*, signifying 'Green River' or 'Blue-Wool River' respectively, plus the phonetic sign *-na* and indicating the pronunciation *Ḫulanaš*,<sup>14</sup> is identified by some scholars with the Greek name Ἰρις, an identification that is likewise supported by the equivalent Turkish designation *Yeşil Irmak* 'Green River.'<sup>15</sup>

In addition, the Hittite name *Kummesmaha* (also spelled *Kummesmaha*) belongs to a river west of the Lower *Marassantija* or of the tributary now known as *Devrez*;<sup>16</sup> but it is also identified with the same *Iris* (*Yeşil Irmak*) or its affluent called *Skylax* (Turk. *Çekekrek*).<sup>17</sup>

<sup>13</sup> Brandenstein, *ZONF* 11.75.

<sup>14</sup> *Ḫulana* KUB 26.43.1; the duplicate 50.1.25 has *ÍD.SIG<sub>7</sub>-na*; *SÍG-nit* KUB 4.10.3.13 (Luv. *SÍG-laniš* KUB 25.39.4.6). On the name: E. Laroche (*Symbolae ad studia Orientis pertinentes Fr. Hroznyj dedicatae*, Pars II = *Archiv Orientalní* 17,3/4 [1949], p. 13, note 18) who mentions the river name *Ḫulana* in his *Recueil d'onomatistique hittite*, p. 74, citing Anitta 67; XXVI 43.1.31. The name is ascribed the meaning 'wool' from IE \**wl̥nā* 'wool' (whence \**wlānā* → Lat. *lana*); Friedrich, *op. cit.* [note 5], p. 74a.

<sup>15</sup> The suggestion was made by Forrer, *loc. cit.* – Professor Gelb (see above, note 6) favors "the identification of the cuneiform 'Green/Blue/Yellow River' with the Greek Ἰρις." The logogram *SÍG* 'wool' (= Akkad. *šipātu*), *SIG<sub>7</sub>* 'yellow, green' (= Akkad. *arqu*), and Hittite complemented *SIG<sub>7</sub>-anza* (nomin. sing.) in KUB 8.6 obv., 5; see Friedrich, *op. cit.*, p. 292b.

The name Ἰρις of the rivers in Laconia and in Asia Minor are discussed by me elsewhere. On *Iris* in Anatolia cf. Garstang and Gurney, *The Geography of the Hittite Empire*, pp. 1,16,23,25.

<sup>16</sup> Garstang and Gurney, *op. cit.*, p. 24, 119.

<sup>17</sup> H. G. Güterbock, "The North-Central Area of Hittite Anatolia," *Journal of the Near Eastern Studies* 20 (1961), 96a. Cf. *Undated Annals of Mursilis*, ed. A. Götze, p. 182ff.; cf. Garstang and Gurney, *op. cit.*, p. 23; O. R. Gurney, "Anatolia c. 1750–1600 B.C.," *The Cambridge Ancient History*, revised ed., vol. II, ch. IV (Cambridge, 1962), p. 20.

## 2. HALUS from IE (= Greek "Αλυς) 'Salt River'

Though a number of brief etymological interpretations of the name *Halys* have appeared,<sup>18</sup> yet the assembling and examination of the pertinent viewpoints about the name and its clarification from a contemporary onomastic point of view seem to be in order.

Even before the Hittites were eclipsed, there were already other Indo-European speaking peoples living in parts of Asia Minor such as the Armenians, the Phrygians, and the Greeks. This second name of the river, *Hálus* – among the Greeks "Αλυς (pronounced *hálus* and in Ionic and Attic Greek *hálūs*, where υ = y = ü) – meant 'Salt River' and survived till most recently and, pronounced *ális*,<sup>19</sup> was used by the Christian natives in Pontus,<sup>20</sup> as recently as 1922, when the Greek population of Pontus was transferred to Greece.

The Name "Αλυς is recorded in Greek literature from the 5th century on: Herodot. 1.6,28,72,75 [he speaks of bridges], 103,130; 5.52; 7.26 (everywhere: "Αλυς ποταμός); Aeschylus, Pers. 865 πόρον . . . "Αλυος ποταμοῖο; Thucyd. 1.16 "Αλυος ποταμοῦ; Skylax 89; etc.<sup>20a</sup>

<sup>18</sup> P. Kretschmer, *Einleitung in die Geschichte der griechischen Sprache* (Göttingen, 1896), p. 208 note 2; E. Schwyzer, *Griechische Grammatik* (Munich, 1939–54), 1.687, 304<sup>2</sup>, 482 (6), 498<sup>2</sup>; H. Frisk, *Griechisches etymologisches Wörterbuch* (Heidelberg, 1954) 1.78f. (s. v. ἄλις); J. Pokorny, *Indogermanisches etymologisches Wörterbuch* (Bern, 1959), 1.878f. (s. *1.sal-*). – On Celtic *hal* 'salt' in English place-names and also in German place-names (while the Germanic place-names come from *sal* 'salt') see Isaac Taylor, *Words and Places or Etymological Illustrations of History, Ethnology and Geography* (London, 1896), p. 252. On Old High German *halhūs* 'salina,' *halle* 'salt spring,' etc., cf. Rudolf Much, "Zur Illyrerfrage," *Mitteilungen der Anthropolog. Gesell. in Wien, SB*, 1917, p. 40f. [In view of *Salz, Saale*, etc., MHG *hal* with *h-* from *s-* must be a more recent cultural term in Germanic derived from the Northern Thracian of the Dacians; I must state, however, that Thracian, retains *s-* but its sub-dialect Phrygian in Asia Minor made the innovation into *h-*.]; E. Schwarz, "Der Salzbergbau in der Ortsnamengebung," *ZNF* 1 (1925), 188; R. Vollmann, "Zur Hall-Frage," *ZNF* 4 (1928), 140; F. Kluge und A. Götze, *Etymologisches Wörterbuch der deutschen Sprache*<sup>11</sup> (Berlin, 1953), 294, s. v. *Halle*.

<sup>19</sup> Eustathius has the form "Αλις for "Αλυς (so H. Kiepert, *Lehrbuch der alten Geographie* [Berlin, 1878], p. 89 note 1) and it is believed by some that "Αλυς is but the hellenization of the local "Αλις, this in turn from Armenian *al* 'salt' (see below with notes 24 and 25). A form "Αλις in Eustathius can mean only that the river name "Αλυς [*hálūs*] was pronounced [*ális*] in the 12th century A.D. Byzantine Greek.

<sup>20</sup> Ioannidis, *loc. cit.* [note 2].

<sup>20a</sup> The name "Αλυς (or "Αλυς) as a name of persons, i.e., of a freedman recorded inscriptionally and of another man in Cyzicus (Val. Fl. 3.5.157) may derive either from the river name or from the river god name, but then the form "Αλυς should be the original one.

The geographer Strabo, born as he was in Pontic Amasia (where he also lived from ca. 7 B.C. until his death [21 or 23 A.D.] of a Greek family that had migrated there from Crete, and knowledgeable of his native country, speaks in his *Geographica* [completed in 18 A.D.] of the Halys (12.3.12): "Thence next one comes to the outlet of the Halys River. It was named from the salt-works (ἄλαί) past which it flows. It has its sources in Greater Cappadocia in Camisene near the Pontic country; and flowing in great volume towards the west and then turning towards the north through the countries of the Galatians and the Paphlagonians, it forms the boundary between these two countries and the country of the White Syrians (i.e., Cappadocians)."<sup>21</sup>

The name "Ἄλυς is obviously of Indo-European origin as its form and meaning lead us to conclude. Indo-European has the stem \*sal-<sup>22</sup> and a further stem \*sal-u-, both of which we easily locate in several IE languages, as the initial phoneme s- is represented in the river name as h-, and the form \*hal-u- with h- could have occurred in Greek, Armenian, Iranian, and Lycian.<sup>23</sup> This phonemic substi-

<sup>21</sup> The translation adapted from *The Geography* of Strabo with an English translation by H. L. Jones (*Loeb Classical Library*; London, 1917-32), vol. 5 (1928), pp. 391f. — It should be noted that ἄλαί in the above passage is not 'salt-works' but 'beds of rock-salt, salt-mines (Germ. *Salzbergwerke*)' (in Herodotus 'salt-mine' is ἄλος μέταλλον); this meaning is explicit in Strabo 12.3.39 (vol. 5, p. 448) ἄλαί [not ἄλαι, as in the Loeb edition]: τῶν ὀρυκτῶν ἄλων, ἀφ' ὧν εἰκάζουσιν εἰρησθαι Ἄλυν τὸν ποταμόν (here the same interpreter translates: "halae" [i.e., "salt-works"] of rock-salt). From the noun ἄλαί derive the place-names Ἄλαί in Attica (demos of Ἄλαί Ἀραφηνίδες and another of Ἄλαί Αἰξωνίδες), city in Boeotia (Strabo, Pausanias), and in Cilicia, etc.; cf. W. Pape — F. Benseler, *Wörterbuch der griechischen Eigennamen* (Braunschweig, 1870; reprinting: Graz, 1959), p. 51. — Strabo's personal knowledge did not extend far beyond the Halys and the brief and perfunctory manner of his description of the interior regions of Asia Minor (i.e., Paphlagonia, Bithynia, Galatia, Phrygia, and Mysia) demonstrates his imperfect acquaintance with those regions; cf. E. H. Bunbury, *A History of Ancient Geography Among the Greeks and the Romans From the Earliest Ages Till the Fall of the Roman Empire*<sup>2</sup> (London, 1883), 2.297. Strabo did not travel through Asia Minor; see W. Schmid, *Geschichte der griechischen Litteratur*<sup>6</sup>, 2,1 (Munich, 1920), 413. Cf. also E. Honigmann, art. "Strabon," *RE* 7 (1931), 76-155 [Strabo lived 63 B.C. to 23 A.D., did not undertake research travels, and completed his *Geography* to a large extent ca. 7 B.C.].

<sup>22</sup> On salt in Indo-European see O. Schrader, *Reallexikon der indogermanischen Altertumskunde*,<sup>2</sup> herausg. von A. Nehring, 2 (1929), 272-279 (s.v. *Salz*).

<sup>23</sup> The phonemic substitution of h- for s- occurred, according to V. Georgiev ("Zur altkleinasiatischen Hydronymie," *BzN* 8 [1957], 153) in (Phrygian-)Ar-

tution, however, was not inherited in common by these languages but came about in each language independently. Thus, Greek ἅλς fem. [*hál̥s*] 'sea water,' masc. 'salt,' and plural nom. οἱ ἅλας [*háles*] and acc. (τοῦς) ἅλας '(table) salt' and figuratively 'wit' (Lat. *sales*), Armenian *at* 'salt.' But the suggestion of S. Bugge<sup>24</sup> that the river name "Ἄλυς in fact represents a Greek transformation of Armenian *ali* 'salt' (adj.) ← Old Armen. (*h*)*alios* ← IE \**saljos* is hardly acceptable, for the *i*-stem is secondary<sup>25</sup> in Armenian, and is not an Indo-European inheritance. Nor is the opinion correct that the change of *s*- to *h*- in "Ἄλυς is Thracian."<sup>26</sup>

The river name, pronounced *hálus* (written "Ἄλυς in Greek, transliterated *Halys* in Latin), is rather Anatolian Indo-European in origin from the stem *halu-* (from IE \**salu-* mentioned above and equivalent to Greek ἅλυ-), originally being either an appellative noun meaning 'salt river' or an adjective which substantivized came to signify 'the salty one.'<sup>27</sup> It is from the same stem that there derives the Greek adj. ἅλιος 'salty' (5th cent. B.C.; ἅλιος [in

menian or at least in certain IE dialects in the first half of the first millennium B.C. It is a fact, however, that this substitution took place in early or common ancient Greek before dialects developed from it, i.e., very early in the second millennium B.C. — See addenda.

<sup>24</sup> Sophus Bugge, "Ἄλυς. Ein Beitrag zur arm. Sprachgeschichte," in his "Beiträge zur etymologischen Erläuterung der armenischen Sprache," *KZ* [= *Zeitschr. f. vergleich. Sprachforschung*] 32 (1893), 81 f.; so Pokorny *op.cit.*, 1.878, s.v. *sal*.; cf. Kretschmer, *Einleitung*, p. 208 with note 2.

<sup>25</sup> Cf. A. Walde and J. Hofmann, *Lateinisches etymologisches Wörterbuch*<sup>3</sup> (Heidelberg, 1938–56), 2.466. On Armen. *at* 'salt,' adj. *ali* 'salt' (adj.) and compds. *atj̄ur* 'salt water,' *alt* (*i*-stem) and *atlk* 'salt deposit,' *atahank* 'salina' and in many compounded names such as *Atalbiur* 'Salt spring,' *Aliovit* (from earlier *Aloy hovit*), *Daranali*, *Mananali*, *Mardali* (from *Mardoy ali*), etc., see H. Hübschmann, "Die altarmenischen Ortsnamen," *IF* 16 (1904), 379, 396 f., 421 note 1, 450 f.; see also his *Altarmenische Grammatik. Erster Teil: Armenische Etymologie* (Leipzig, 1897; reprinted: G. Olms Verlagsbuchhandlung [Hildesheim, 1962]), p. 414. — Indeed, a Greek transformation of Old Armenian \*(*h*)*alios* would be Ἄλιος ("Ἄλιος), not Ἄλυς [*hálus*]; Greek *-us* could not represent Armen. *-ios*.

<sup>26</sup> So Much, *loc.cit.* [note 18].

<sup>27</sup> Schwyzler, *Griech. Gramm.* 1.68<sup>7</sup> ("Ἄλυς wohl = 'Salzfluß'), 304<sup>2</sup> ("Ἄλυς 'der Salzige'?). There are modern Greek toponyms Ἀλμυρός [*almirós*] m. (see Ἱστορικὸν Λεξικὸν τῆς Νέας Ἑλληνικῆς 3 [1942] 96 b, s.v. ἄρμυρός) and Ἀλμυροπόταμο [*almiropótamo*] n., the latter on the island of Carpathos. There is no specific phonologic indication that the name Ἄλυς is of Phrygian (or Thracian) origin. V. Georgiev, *Lingu. balk.* 3 (1961), 41, calls the name Ἄλυς Phrygian with a question mark. See addenda.

Koine since the 1st cent. B.C.: Moeris 27] has the innovation of penetrating suffix *-ικός*);<sup>28</sup> whence, through the medium *άλυκός ποταμός*, there came about the river name "Άλυκος (Halycus) in Sicily (now called *Platáni*<sup>29</sup>); the appellative τὸ ἄλυκόν is perhaps 'salt spring' in the Koine. For the *-u*-vowel cf. also Lithuanian *saldūs* and Old Slavic *sladъkъ* 'sweet' (*sladъ-kъ*).<sup>30</sup> In Greek, beside ἄλυ-κό-ς there is assumed a Greek synonymous adj. \*ἄλυ-ρό-ς [*halurós*] from the same stem ἄλυ- with the suffix *-ρός*; this latter adj.

<sup>28</sup> The adj. ἄλυκός is held to be an *i*-stem (*άλι-ικός*) like Lat. *sale*, *saliva*, and *salī-x*, Irish *sail* (gen. sing. *sailech*), etc., repeating W. Schulze's examples (*Kleine Schriften* 119), by F. Specht, *Der Ursprung der indogermanischen Deklination* (Göttingen, 1944, reprinted 1947), p. 116. Such a viewpoint, however, fails to take into consideration that ἄλυκός is a new form that emerged four centuries after the form ἄλυκός is recorded and that words with *i* for *ü* start in the first cent. A.D.

There is a different appellative ἄλυκός, which probably meant 'belonging to salt, of salt' and which on semantic grounds is obviously a direct derivative of ἄλις (plur. ἄλιες) m. 'salt' with suffix *-ικός*, i.e., ἄλ-ικός. This adjective is reconstructed on the basis of the nouns ἄλυκή f. 'salt tax' (on papyri, 3rd and 2nd cent. B.C.) and ἄλυκόν neut. 'charge for salt' and ἄλυκά neut. plur. 'charges for salt' (Liddell-Scott-Jones, *GEL* s. v. ἄλυκή; C. D. Buck and W. Petersen, *A Reverse Index of Greek Nouns and Adjectives* [Chicago, 1944], p. 644c), substantivized forms of the fem. ἄλυκή and the neut. forms of the adjective.

Different from the above is the adj. 'Άλυκός 'belonging to 'Άλαί,' deriv. of the place-name 'Άλαί (on this see above, note 21), whence come (1) the name 'Άλυκή of a place in the Argolis, deserted at the time of Pausanias 2.36.1 (and called 'Άλυα by Skylax, *Peripl.* 50), with inhabitant name 'Άλυκός, and (2) name of a place and of a mountain 'Άλυκόν neut. Cf. *Steph. Byz.* s. 'Άλαί; Pape-Benseler, *op.cit.*, p. 51, s. 'Άλαί 3; W. Dittenberger, *Hermes* 42 (1907), 3,1 [the writer cannot be correct in identifying 'Άλυκος with 'Άλυκή and the rest].

<sup>29</sup> "Άλυκος is not today's *Salso* or *Salito* (so A. Fick, "Altgriechische Ortsnamen III," *BB* [= *Beiträge zur Kunde der indogerman. Sprachen*] 22 (1897), 52) but *Platáni*, emptying near Capo Bianco and in ancient history forming repeatedly and for a long time the separating borderline between Greek and Carthaginian Sicily; Ziegler, art. "Σικελία," *RE* 2. Reihe 7 (1923), 2479; B. Pace, art. "Sicilia," *Enciclopedia italiana* 31 (1936), 666b. The Italian learned historical name *Alico* (e.g., *la valle dell'Alico*) continues the ancient name.

Another name, "Άλυκος fem., is that of a town in the Argolis recorded in Callimach. *Frag.* 705 (ed. R. Pfeiffer) εἰς Ἀσίνην Ἄλυκόν τε καὶ ἄμ πόλιν Ἐρμιονήων (= *Steph. Byz.* s. "Άλυκος); this "Άλυκος can hardly be identified with 'Άλυκή in the Argolis, as suggested by Dittenberger (see above note 28) and accepted by F. Bölte (*RE* 7 [1910], 2246) and Pfeiffer (*Callimachus*, 1.456).

<sup>30</sup> As an IE *u*-stem is classified also the Germanic adj. stem *salwa-* 'dark-colored' (= Gr. ἄλυ-κός) by W. Schulze, "Etymologisches," *SB. d. Berliner Akad. d. Wiss.*, 1910, p. 796 = *Kleine Schriften* (Göttingen, 1933), p. 119.

became, through blending with ἄλμη f. 'sea water, brine' (i.e., ἄλμη[η + ἄλ]υρός), ἄλυρός 'salt' (adj.) known in Greek since the Odyssey.<sup>31</sup>

To understand the name Ἄλυς in its proper light we should recall similar adjectives in -ύς such as ἡδύς 'tasty; sweet' (IE \**swādús*, early Greek \*σῦδός and Greek ἄδός), βαρύς 'heavy' (Skt. *gurí-*) and \*τανύς (Skt. *tanú-*) in compds. τανυ- 'long' (fr. \**tnú-*). These same adjectives appear in Latin extended in -*ui-* [-*wi-*]: *suāvis* (from \**suāduis*), *gravis*, and *tenuis*; the adj. *suāvis* represents, like *levis*, *gravis*, etc., an ancient adj. in -*u-* (cf. Skt. *svādúh*, fem. *svādvi*, Gr. Ῥδός, fem. Ῥδεῖα, Old Saxon *swōti*, Old High German *swuozī* 'sweet': its root reappears in *suādeō*).<sup>32</sup> However, the assumption, made by F. Specht,<sup>33</sup> that these Latin adjectives extended in -*i-* – so that they appear terminating in -*ui-*, and are common Indo-European on the same level with the Greek adjectives in -ύς, as Skt. *ghṛṣvīh* 'cheerful' stands side by side with Skt. *ghṛṣūh* – has not been convincingly documented.<sup>34</sup>

In the same line with these IE adjectives in -*ús*, it seems to me that an IE adj. \**sálús* (side by side with the aforementioned *saldús*) gave origin to the adj. ἄλύς. Actually, the IE adjectives \**salús* and \**swādús* are antonyms carrying the concepts 'bitter' and 'sweet' respectively.<sup>35</sup> The latter has survived as the name of a place with a

<sup>31</sup> Schwyzer, *Griech. Gramm.*, 1.482,6. – It is perhaps necessary to reject the analysis of ἄλυρός 'salt, briny' (Odyssey) from ἄλμη with suff. -υρός (Liddell-Scott-Jones, *GEL* s.v.; Frisk, *Griechisches etymologisches Wörterbuch*, 1.78; V. Georgiev, "Contribution à l'étymologie grecque," *Lingu. balk.* 1 [1959], 73), for from ἄλμη 'salt water, brine' (also in the Odyssey) we have derivatives: ἄλμηεις 'salt, briny' (Aeschylus), ἄλμια f. 'brine' and ἄλμας (Aristophanes), ἄλμειω, etc. While \*ἄλυρός (beside ἄλύς) is more convincingly likely to produce ἄλυρός by blending with ἄλμη or ἄλμηεις, Georgiev (*Lingu. balk.* 2 [1960], 8) has abandoned his own explanation by connecting ἄλυρός in Dacia with Dacian adj. \**salmur(a)*- (whence *Salmar-ude*), and reconstructing an IE \**salmuros*, which is of very doubtful value and existence, and therefore no longer believes in the Greek derivation ἄλμη- + υρός.

<sup>32</sup> A. Ernout et A. Meillet, *Dictionnaire étymologique de la langue latine. Histoire des mots*<sup>4</sup> (Paris, 1959), s.v. *suavis*; Walde and Hofmann, *Lateinisches etymologisches Wörterbuch*<sup>3</sup>, 2. 611f.

<sup>33</sup> F. Specht, *KZ* 65 (1938), 201f.

<sup>34</sup> Cf. M. Leumann, *Glotta* 29 (1942), 170.

<sup>35</sup> Cf. the listing of the opposing concepts of IE *u*-adjectives: sweet-bitter, thick-thin, heavy-light, fast-slow, wide(broad)-narrow, strong-weak, etc.; F. Specht, *Der Ursprung* [note 28], p. 108.

sanctuary of Ἁθηνᾶ Μητήρ and as that of the river Larisos in Achaia.<sup>36</sup> The IE adj. \**salús* was lost (presumably because new derivative adjectives such as ἄλυκός: *sladsko*, etc., in the split IE languages replaced it), yet this old IE adj. has been preserved for us in the disguise of the substantivized form \**sálus* as the name Ἄλυς. In fact, the paroxytone Ἄλυς is, it seems to me, the result of the substantivization of the adjective \*ἄλύς into Ἄλυς,<sup>36a</sup> as is the rule in Greek; likewise, the proparoxytone name Ἄλυκος (Sicily) from oxytone ἄλυκός is the regular thing. It is, in fact, time to uncover in our materials IE words rather than roots.

About the name Σαλυδησσός and its second form Ἁλυδησσός of the Thracian city at the Black Sea there are differing opinions, i.e., whether it is Prehellenic<sup>37</sup> or Indo-European and, in the latter case, whether it should be analyzed *salmu-*: *halmu-* as in Greek ἄλυμ-ρός or whether it is *salm-* as in the name Σάλμος beside Ἄλμος in Boeotia, Σαλυ-ώνη, etc. According to Dečev, Ἁλυδησσός (and *Halmydes(s)on*) is a Greek form parallel to Thracian \**Salmydessos* (or rather *Salmudessos*),<sup>38</sup> while Georgiev analyzes the name in a different way: Σαλυ-υδησσός from \*Σαλυ-υδεσ-ζός 'salt water': ἔλμη and ὕδος neut. 'water.'<sup>39</sup> However, I would dissociate from Ἄλυς

<sup>36</sup> Βαδύ (i.e. Doric Φαδύ); A. Fick, *BB* 22 (1897), 42; cf. V. Georgiev, "Die altgriechischen Flußnamen, II, Nachträge und Berichtigungen," *Lingu. balk.* 1 (1959), 18.

<sup>36a</sup> The adj. \**halús*, if Greek \*ἄλύς, would have gen. \*ἑλέφος (IE stem *-ǵ-* with the gradation *u:ew*) like βαρύς – gen. βαρέφος, ἄδύς, παχύς, ὠκύς, and so on. When \*ἄλύς became Ἄλυς by substantivization, its declension followed the pattern λυς, gen. λυος (cf. τέρυς, acc. plur. τέρυας Hesych.) because of the greater handiness of this declension with the unchanging stem-vowel. Cf. C. D. Buck and W. Petersen, *A Reverse Index*, 19.

<sup>37</sup> F. Schachermeyr, art. "Prähistorische Kulturen Griechenlands. XI. Die vorgriechischen Sprachreste," *RE* 22,2 (1954), 1516. Schachermeyr sees an Aegean stem *salm-* in a number of place-names such as *Salm-ydessos* (Thrace), *Salm-akis* (Caria), *Salm-on* (Thessaly), *Salm-one* (Elis, Crete), *Salmos* (Boeotia), *Salamis* (in the Saronian Gulf); see F. Schachermeyr, "Zur Frage der Lokalisierung von Achiawa," *Minoica: Festschr. J. Sundwall* (Berlin, 1958), 377 note 48. So V. Georgiev connects IE \**salm-* with Σάλμος, Σαλυμώνη, and Σαλαμής (*Lingu. balk.* 3 [1961], 13).

<sup>38</sup> D. Dečev, "Charakteristik der thrakischen Sprache," *Lingu. balk.* 2 (1960), 163.

<sup>39</sup> V. Georgiev, *Die altgriechischen Flußnamen* (Sofia, 1958) 39, s. Σαλυμώνη; idem, "La toponymie ancienne de la péninsule balkanique et la thèse méditerranéenne," *Lingu. balk.* 3 (1961), 13, 41, 44. On p. 13 the names Σάλμος (Boeotia), Σαλυμώνη (Elis, Crete), and Σαλαμής are derived from IE \**salm-* = Greek ἔλμη

the Thracian name "Άλμος (*Almus*, today's *Lom*) of a tributary of the Danube in N. Bulgaria, which is well understood from IE \**olmos* 'elm';<sup>40</sup> so also "Άλμος, the previous name of the river named 'Αράξις, in Thessaly.<sup>41</sup> I would further accept Kretschmer's suggestion that Σαλμυδησσός and 'Αλμυδησσός present *s*- and *h*- side by side from IE *s*.<sup>42</sup> and, I add, we possibly have *salmu*:- *halmu*- as the first part of the name, which occurs in the Greek adj. ἄλμυ-ρός (explained differently above, p. 204 f.). On "Άλμος see addenda.

Old Prussian *salus* 'torrent' shows *-u-* in the termination *-us*, yet the vowel is not from IE *-u-* but a recent innovation, *-us* having replaced earlier *-os*.<sup>43</sup> Krahe links with this and with Latin *salum*<sup>44</sup> the river name *Salon* in Illyria.<sup>45</sup>

'sea water; brine,' which is a dangerous oversimplification. On p. 41 the Anatolian *Salluwanda*, name of a mountain, is connected with IE \**sal(u)-went-*, as Arcadian Ἐλοῦς is derived from IE \**sal-o-went-s* (p. 46). On p. 44 the name of a gulf, a river, and a place, Σαλμυδησσός, is analyzed as IE \**salm-udes-yo-* 'the salt water.' His analysis of \*Σαλμ-υδες-ιος, however, does not take care of cases such as Μυκαλησσός, which he explains from \*μυκάλη (place-name Μυκάλη); *Lingu. balk.* 3.44. Actually, Prehell. \**mukal-* 'point, peak' was assumed by W. Brandenstein, *ZONF* 11.66; A. v. Blumenthal, *ibid.*, 13.149f. and 247; cf. J. Hubschmid, *Sardische Studien* (Bern, 1953 = *Romanica Helvetica*, vol. 41), p. 51. Μυκαλησσός (Μυκάλη), Καρδαμυλησσός (Καρδαμύλη), Λυρνησσός (Λύρνη) [cf. J. Wackernagel, "Zur griechischen Wortlehre," *Glotta* 2 (1910), 5], and the like are unlike Σαλμυδησσός, for which there is no \*Σαλμυδη; F. Sommer wonders whether Hittite place-names in *-(s)α* have any connection with these *-η-σσός* names (F. Sommer, *Die Ahhiyavā-Urkunden* [Munich, 1932 = *Abh. d. Bayer. Akad. d. Wiss., philos.-hist. Abt.*, N.F., 6], p. 370 note 1 (on p. 371). See also addenda.

<sup>40</sup> V. Georgiev, "Die Herkunft der Namen der größten Flüsse der Balkanhalbinsel und ihre Bedeutung zur Ethnogenese der Balkanvölker," *Lingu. balk.* 1 (1959), 10.

<sup>41</sup> Cf. Georgiev, *Die altgriech. Flußnamen*, p. 5.

<sup>42</sup> P. Kretschmer, *Glotta* 24 (1936), 40.

<sup>43</sup> On *salus*, etc., see R. Schmittlein, "Sur quelques toponymies lituaniennes," *ZNF* 15 (1939), 64; cf. H. Krahe, "Beiträge zur alteuropäischen Flußnamenforschung," *Würzburger Jahrbücher* 1 (1946), 93; idem, "Alteuropäische Flußnamen," *BzN* 3 (1951-2), 242f.; idem, "Die Gewässernamen im alten Illyrien," *BzN* 14 (1963), 17; Pokorny, *op. cit.*, 1.879f., s. v. *salo-*. On *sal-* as a basis for river names see bibliography in Krahe, *BzN* 3.242 note 35.

<sup>44</sup> Lat. *salus* (Ennius) and *salum* (later) 'open sea' is explained as a loan word from Greek σάλος m. 'rolling swell of the sea' and 'tossing on the sea': Ernout et Meillet, *op. cit.* [note 32], p. 591, s. v. *salum*. Others derive it directly from IE \**salo-*; so Pokorny, *loc. cit.* But the connection of Lat. *salus*, *salum* with IE \**s(w)el-* (Walde-Hofmann, *op. cit.* [note 25], 2.471) is not convincing. See also addenda.

<sup>45</sup> H. Krahe, "Alteuropäische Flußnamen," *BzN* 3 (1952), 242f.; idem, *Die Sprache der Illyrier. I.* (Wiesbaden, 1955), p. 93.

There is no room for doubting Strabo's information that the Halys' name had to do with the beds of rock-salt at its sources, a fact that is universally accepted.<sup>46</sup>

A parallel of the concept 'Salt River' is found in the German river name *Saala*: six German rivers were anciently called *Sala*, and in Bavaria flows the river *Sale*.

As a host of river gods often appear on Asia Minor copper coins of the Imperial age (from the 1st century of our era), so *Halys*, the god of this Anatolian stream, is also found on copper coins of Tavion in Galatia with Septimius Severus, and on others of Germanicopolis in Paphlagonia with Julia Domna.<sup>47</sup> That evidence means, of course, the personification and deification of the river, for the rivers had their individual gods.<sup>48</sup> Among literary men, Aristides Rhetor [2nd cent. A.D.] in his *Scholia ad Apoll. Rhod.* 2. 946 mentions the river god Ἁλυς. It seems that the worship and ritual sacrifices to river gods pertain to the Greek religious sphere.

## II. MODERN (TURKISH) NAMES

### 1. *KIZIL IRMAK* 'Red River' (from color)

The present name of the same river in Turkish *Kızıl Irmak*<sup>49</sup> meaning 'Red River,' from *kızıl* 'red' and *irmak* 'river,' must have

<sup>46</sup> H. Kiepert, *Lehrbuch der alten Geographie* [note 19], p. 89: "Steinsalzlager in rotem Tonboden am obern Halys, der davon Geschmack und Farbe annimmt und diesen seine verschiedenen Namen verdankt." Cf. E. Curtius, "Flußnamen," in his *Gesammelte Abhandlungen* (Berlin, 1894), 1.515: "Auf die chemischen Bestandteile des Flußwassers beziehen sich Namen wie Ἁλυς, die auf benachbarte Salzlager hinweisen"; Taylor, *Words and Places* [note 18], 252 note 2: "We find the river *Halys* 'salt water' in Galatia and the river *Halycus* in Sicily." A. Philippson, *Kleinasien* (1918) [see above, note 2], p. 165: "Steinsalz kommt in den gipsführenden Sandstein- und Mergelschichten des Obermiozän des östlichen Kleinasien an einigen Stellen des Halys-Gebietes vor. Salzbergwerke gibt es bei Tusköi NW von Nevsehir . . ." See also addendum.

<sup>47</sup> Waser, art. "Flußgötter," *RE* 6 (1909), 2789, 2798f.; Kurt Bittel, *Kleinasiatische Studien* (Istanbul, 1942 = *Istanbuler Mitteilungen*, Heft 5), p. 35; British Museum, Department of Coins and Medals, *Catalogue of the Greek Coins of Galatia, Cappadocia and Syria* by Warwick Wroth (London, 1899). See also addendum.

<sup>48</sup> On the river gods see Waser, *RE* 6.2774-2815; M. Nilsson, *Geschichte der griechischen Religion*, 1<sup>2</sup> (Munich, 1955), 236-240, 451; L. R. Farnell, *The Cults of the Greek States*, 5 (1909), 420-24; Hastings, *Encyclopaedia of Religion and Ethics*, 9.225-27.

<sup>49</sup> Cf. E. Rossi, art. "Kızıl Irmak," *Enciclopedia italiana* 20 (1933), 218b.

been in use for the last centuries, after the time the Turks appeared and settled in the Anatolian peninsula. The Turkish name was obviously based on the reddish, or rather bright yellow, color of the river's waters owing to the argile strata around its headwaters as are both the ancient name *Iris* of the other well-known river in Anatolia and its modern counterpart with a different color, Turkish *Yeşil Irmak* 'Green River.' (Cf. also the addenda.)

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The question of names of rivers given from color designations is interesting from all three points of view – semantic, linguistic, and onomastic. Many instances of rivers so named have been noted<sup>50</sup> and W. Schulze devoted a brief discussion to river names deriving from color designations, mentioning among others the Indic river names *Śoṇah* 'red' and *Kapiśā* 'reddish, brownish,'<sup>51</sup> while the name Φοῖνιξ for rivers refers also to their reddish color.<sup>52</sup>

The comparative study of river names from color designations is indeed fascinating. There are at least four rivers in the United States that bear the name *Green River* and there are some *Blue Creeks*. As for the concept of *Red River*, this is the name of several rivers in North America, the better known of which are one, 1200 miles long, the *Red River* in the SW United States extending from Llano Estacado, Texas, to the Lower Mississippi in Louisiana; and another, the *Red River (of the North)* dividing North Dakota and Minnesota along the so-called *Red River Valley* and emptying into Lake Winnipeg (Manitoba, Canada).

The Spanish river name *Colorado* (from *Rio Colorado*) is now *Little Colorado* and, in American English, since 1806 *Colorado River*, the name of a river that is usually greenish and was formerly called *Rio Grande (de Buena Esperanza)*.

Similarly, in modern Greek a river is called Κοκκινόποταμος m. [*kokinopótamos*] 'Red River.'

<sup>50</sup> A. Fick, *BB* 22.53.

<sup>51</sup> Schulze, *op. cit.* [note 30], 796–98 = 118–120.

<sup>52</sup> Kretschmer, *Einleitung* [note 18], p. 172; Φοῖνιξ m. is the name of a river in Locris or Thessaly, of another in Achaia (near Aigion), and of a third in Lycia (near Phaselis; also as name of a town there), and name of a fountain near Tegyra; see Pape-Benseler, [note 21], p. 1642a.

Regarding the aforementioned *Red River*, the tributary of the Lower Mississippi, it "is so called from its color, due to the beds of red clay and sandstone over which it flows."<sup>53</sup>

To return to the Turkish name, many geographic names have been given from color designations, such as *Kızıldağ* 'Red Mountain' and *Kızıltepe* 'Red Hill'; and specifically color names of rivers are commonplace. Thus, beside *Kızıl Irmak* there is another river called *Kızıl-su*; further *Ak-su* 'White River' (on account of the calcium content of its water), *Gök Irmak* and *Gök-su* or *Kök-su* 'Sky-blue River,' *Sarı-su* 'Yellow River' (a torrent, and also a village), and *Kara-su* 'Black River'<sup>54</sup> (like anc. Gr. Μέλας, mod. Gr. Μαυροπόταμος).

## 2. *ACI-SU* 'Bitter Water' or 'Salt River' (from the kind of water)

Another Turkish name for the Halys is recorded, viz., *Acı-su* [*ádžisu*] 'Bitter Water,' such a semantic value being closely related to the concept, 'Salt River,' contained in "Αλυσ. First, the Turkish term for 'water' and for 'flowing water, watercourse, river' is *su*, so that there are numerous river names compounded with *su* extant in Anatolia; e.g., the *Ak-su* 'White River,' *Kara-su* 'Black River,' *Gök-su* 'Sky-blue River,' *Sarı-su* 'Yellow River,' etc.<sup>55</sup> Then the Turk. adj. *acı* has the meanings 'bitter,' 'acid,' and 'briny' (the main word for 'salty' being *tuzlu*) and *acı su* means 'bitter water' and 'hard water,' while *acıklı* adj. is 'salty.' In some instances in IE languages words for 'bitter' are also used for 'salt'; e.g., Lettic *sūrs*, mostly 'bitter,' means also 'salty, salt.'<sup>56</sup> This is the case in the contrast of Greek ἀλυκὸν ὕδωρ 'salt water' with ὕδωρ γλυκὸν 'sweet water' (Theophr., H. Pl. 4.3.5); a 'salt spring' is also contrasted with 'sweet water' (James 3.12 οὐτε ἀλυκὸν γλυκὸν ποιῆσαι ὕδωρ 'nor can a salt spring give sweet water') and mod. Gr. ἀλμυρὸ νερὸ [*almiró neró*] 'salt water' versus γλυκὸ νερὸ [*glíko neró*]

<sup>53</sup> Isaac Taylor, *Names and their Histories* (London, 1896), Glossary, p. 233a.

<sup>54</sup> On the above see R. Leonhard, *Paphlagonia. Reisen und Forschungen im nördlichen Kleinasien* (Berlin, 1915), pp. 42, 70, 116; Taylor, *Names and Their Histories*, pp. 315–321 [Part II: Turkish Nomenclature].

<sup>55</sup> See above, with preceding note.

<sup>56</sup> C. D. Buck, *A Dictionary of Selected Synonyms in the Principal Indo-European Languages* (Chicago, 1949), p. 1033 (§ 15.36).

'sweet water.' One can understand, then, Turk. *acı su* 'bitter water' as 'salt water' and see in this the same naming force as that in IE *Halus*.

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Both these Turkish names represent the same concepts as the ancient names *Halus* and *Maraššanda*. Heinrich Kiepert stated in the latter part of the 19th century that in the eastern higher regions there are "rock salt deposits in red clay ground at the Upper Halys, which receives therefrom taste and color and owes to it its various names . . .,"<sup>57</sup> while Isaac Taylor notes<sup>58</sup> that the Halys "brings down great quantities of red mud forming a large delta."

A last observation is this: Since the color of the salt itself is dirty-gray and, in fact, the IE stem *\*säl-* means 'dirty' in Celtic and Germanic,<sup>59</sup> one would logically expect the Halys river to be named 'Dirty-gray river.' But the data tell us a different story and the process of naming is not a mathematical assumption but a complex reality of what did actually happen with the name-givers.

It is fundamental that in the case of rivers the name derives from a certain stretch originally named; this usual practice leads quite often to a multiplicity of names of one and the same river.

The ancient names of the river, Hittite *Maraššanda* 'Red River' and "Αλος 'Salt River' of Indo-European origin, reflect the very same concepts as the modern (Turkish) names *Kızıl Irmak* 'Red River' and *Acısu* 'Bitter (i.e. Salt) River.' From rock salt deposits in an area and from red soil derive both the salt taste of the water and its reddish color and correspondingly also the names for 'Red River' and 'Salt River.' The reconstruction, therefore, of the history of the names of the river is as follows: When the river was named *Maraššanda* and *Maraššantija* by the Hittites sometime in the second millenium B.C. and independently *Kızıl Irmak* by Turkish speakers three millennia later, the naming was based in both cases on the reddish color of the river's water. And when it was named "Αλος in the first millennium B.C. or even earlier and *Acısu* at least two millennia later by Turkish speakers, these designations were based on the fact of the salt taste of the river's

<sup>57</sup> Kiepert, *op.cit.*, p. 89.

<sup>58</sup> Taylor, *Names and Their Histories*, p. 317.

<sup>59</sup> Cf. Schulze, *op.cit.* [note 30], 795f. = 118f. See now J. Pokorny, *Indogerman. etymolog. Wörterbuch* 1.879, s. 2.sal-.

water. Our conclusion, therefore, has necessarily to be that the naming of the river in each of the above four cases was independent from a previous or following one and is each time derived from a specific reason, i.e., the observation made by name-givers, ancient and modern, of the natural features involved.

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ADDENDA

- Note 2. *Bibliography*. After K. Ritter add: G. v. Prittwitz u. Gaffron, "Ein Forschungsritt durch das Stromgebiet des unteren Kisil Irmak (Halys), I.," *Globus* 65, No. 8 (Braunschweig, 1894), pp. 123–130 [with a map on p. 124]; Kannenberg, [same title] II., *ibid.* 65, No. 12 (1894), pp. 185–191.
- P. 199 with note 9. *Marašša* and *Maraššanda*, *Maraššantija*. P. Kretschmer (*Glotta* 28 [1940], 252) considers the place-names with suff. -*ss-* to be pre-Indo-European and old Anatolian, probably pre-Hattic. On the suffix -*ssa* see E. Laroche, "Notes de toponymie anatolienne," *Μνήμης χάριν, Gedenkschrift P. Kretschmer*, 2 (1957), 7; H. G. Güterbock, *Orientalia* 25 (1956), 127 ff. There are seventy names of places in -*assa* and -*issa* among the 2,000 recorded in Hittite records of the 2nd millennium; cf. Laroche, *ibid.* On the stem *Marašša-* (the name *Marašša*: MDOG 75, p. 65f.; KUB XVIII.3.17 [?]) Laroche (above, p. 5) refers to Güterbock's study. In any case, *Marašša* is considered inseparable from the names *Maraššanda* and *Maraššantija* (Laroche, *ibid.*). On the names in -*s(s)a* cf. also note 39.
- P. 202f. *Hálus* ("Αλυς). On "Αλυς (as connected rather with Armenian) cf. Mayer, *Die Sprache der alten Illyrier*, 2.96 [he mentions also lake *Sal-apa* 'Salt water' (H. Krahe, *ZNF* 3.121 ff.) and deriv. *Salap-ia*].
- P. 203, note 27. On the matter of who the namers of the *Hálus* ("Αλυς) were, we may do no more than conjecture. It is important to bear in mind that Thracian, Phrygian, and Armenian are one linguistic group and that initial IE *s-* changed into *h-* in Armenian (*al* for *sal*) and probably in Phrygian and Thracian. Indeed there are some Thracian testimonies of this change: Αἴμος (*Haimos*) is from \**saimo-*, 'Αλυμδησός from Σαλυμδησός, medial -*s-* also changed into -*h-*: Τραυσοί, a Thracian tribe name, has given the river name Τραῦτος and its derivative \**Trausikes* yielded \**Trauhikes* → \**Thrauhikes* → *Thrāihikes* (cf. P. Kretschmer, *Glotta* 24 [1936] 38–41; 26 [1938] 56). From Phrygian we have αεμνοζ (perh. = αἰματος) coming from earlier Phryg. \**haimnos*, *F* in *Fεν*, ἐ*Fε* 'sē' is from \**hw* ← IE \**sw-* (cf. Schwyzler, *Griech. Gramm.* 1.687). The Armenians, who were Φρυγῶν ἄποικοι (Herodot. 7.73), and who had *h-* from *s-* and lost it, e.g. the reconstructed *i*-stem \*(*h*)*alios* (from *sal-*), could hardly have named the river.

I am now inclined to believe that the Phrygians were the givers of the river name. One of the reasons is that the river Halys was a natural borderline between Phrygia and Cappadocia. As is well known, the Phrygians, coming from Thrace in Europe, invaded Asia Minor and this invasion may have taken place during the Aegean Migration ca. 1200 B.C. and perhaps in waves before

and after that date; they are mentioned as *Muški* by the Assyrians ca. 1100 B.C. The empire they developed ended a little after 700 B.C. but Phrygian people continued to live for centuries thereafter. Since the name *Hálus* has an Indo-European appearance of early times with no other change beside the substitution of *h-* for IE *s-*, it has to have come not from Armenian, which was part of Phrygian, but from an early Phrygian stage, i.e. from the period between 1200 B.C. and 700 B.C.

- P. 207 Ἄλυος. On this cf. H. Krahe, "Die Struktur der alteuropäischen Hydronymie," *Akad. d. Wiss. u. d. Liter. Mainz, Abh. d. Geistes- u. Sozialwiss. Kl.*, 1962 (publ. 1963), Nr. 5, p. 298, 311 [with bibliography]; V. Georgiev, "Thrace et Illyrien," *Lingu. balk.* 6 (1963), 72; I. Gălăbov, *ibid.*, p. 76; J. Zaimov, "Quelques particularités des noms thraces en Bulgarie," *ibid.*, p. 84.
- P. 207 OPruss. *salus*, Lat. *salum*. Cf. Lith. *sàlti* 'to flow,' *salà* 'island,' Illyr. \**salōn* 'river': A. Mayer, *Die Sprache der alten Illyrier* (Vienna, 1957-59), 2.98. Cf. also note 45.
- P. 207, note 39. On Μυκάλλη-Μυκαλησσός cf. P. Kretschmer, *Glotta* 28 (1940), 250. Cf. addendum to p. 3 with note 9.
- P. 208, note 46. The salt riches of Anatolia are significant; there was the large salt mine Balibagh near Tshangrı, NE of Ankara and west of Kızıl Irmak. In stretches extensive surface areas of the Kızıl Irmak valley were covered with a thick salt crust. See Kannenberg, *Globus* 65, No. 12 (1894), p. 191a.
- P. 208 and note 47. — In the work of W. Wroth (mentioned in note 47), p. 319 and p. 26 of the catalogue and plate V, No. 9, we see a coin from Tavium of Galatia; on its reverse side a bearded male figure (the River Halys) is depicted reclining and the name AAVC is read underneath the figure.
- P. 209f. *Red River*. — An instructive Turkish inscription of the Hegira 1117 (= 1739 A.D.) praises the Grand Vizir Mehmed Pasha for building a well in Osmandjık, "in order that the inhabitants need no longer drink red water of Kızıl Irmak, which resembles blood and causes many ailments." See Kannenberg, *Globus* 65, No. 12 (1894), 187 note 2.
- P. 202. On Strabo see B. Niese, "Straboniana," *Rhein. Mus.* 38 (1883), 567-602, espec. 577, 581f.

Note 19. Eustath., *Dionys. Perieg.* 784: Ἄλυς.

- P. 203, note 27. — Though Phrygia was far away from Halys' headwaters, where the rock salt deposits are located and the river's name might be thought to have been given by the dwellers at those headwaters and not by Phrygians, yet this reasoning is hardly necessary because the river has salt water in all its course and Phrygia's rule had extended far to the east at some time between 1200 and 700 B.C. — On the dating at ca. 1200 B.C. of the Sea People Migration cf. F. Schachermeyr, *Μυήμητις χάρτιν* [see addendum to p. 139], p. 120f. — On the Indo-Iranian designations of salt cf. also H. Reichelt, *W.-Streitberg-Festgabe* (Leipzig, 1924), 295-98.

On the substitution of *h-* for *s-* in Greek, Armenian, and Iranian cf. H. Pedersen, art. *Armenier*, M. Ebert's *Reallex. d. Vorgesch.* 1 (1924), 221 b; in Greek, Phrygian, and Armenian cf. G. Bonfante, "Les isoglosses gréco-arméniennes," *Mélanges H. Pedersen* (Copenhagen, 1937), 20,21 [here also on Ἄλυς with reference to Bugge].

P.202. "Αλος. While Hittite river names, including *Marassantijas*, can be either masculine or feminine, the Anatolian river names, at least in their transmitted Greek form, are masculine, so ὁ "Αλος; P. Krrtschmer, "Geschlecht der Flußnamen," *Mélanges H. Pedersen*, 79.

Note 28. ἄλικός (from ἄλς) is found in papyri, while Ἀλικός (inhabitant name) is from the name Ἀλιεῖς of a city in the Argolic; W. Dittenberger, *Hermes* 42 (1907), 1-4; cf. A. N. Ammann, *-IKOΣ* bei Platon (Freiburg, Schweiz, 1953), 231.

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