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TIGRIS RIVER
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TIGRIS RIVER, Sum. Idigna, Akk. (I)Diq/gla(t) (Nashef, 1982, pp. 302-3), Elam. Diglat (Vallat, 1993, p. 329), Old Pers. Tigrā- (Kent, *Old Persian,* p. 186), Gk. Tigris/Tigrios, Lat. Tigris, Aram. Diglat, Mid. Pers. Diglit or Arvand (Markwart, 1930, p. 64; Eilers, 1954, p. 313, n. 23), Arabic Dejla (Eilers, 1977, p. 316), Arm. Dglat/Dklat (Hübschmann, 1904, p. 421). The Tigris is a major river arising in the Taurus mountains of eastern Turkey, fed mainly by snow melt, which flows about 2,032 km through eastern Turkey and Iraq to the Persian Gulf (for the conflicting Syriac, Armenian, Arabic and 19th-century European sources on its precise point of origin, see Markwart, 1930, pp. 57-60).

The folk etymology of Old Pers. Tigrā plays on *tigra-* “pointed,” Av. *tigri–* “arrow,” so called because of the river’s speed (Kiepert, p. 134; Hübschmann, 1904, p. 421; Eilers, 1954, p. 313, n. 23; 1982, p. 31; Schmitt, p. 12; *AirWb*., col. 652), a characteristic noted by Strabo (*Geography* 11.14.8: “whence the name Tigris, since the Median name for arrow is tigris”) and relayed by Josephus (1.39, tr. p. 15), who wrote, “Tigris is called Diglath, by that is indicated the swiftness with narrowness.” The speed of the Tigris is illustrated in an anecdote recounted by Herodian (3.9.9), according to whom the troops of the Roman emperor Septimius Severus (r. 193-211), traveling by boat on the Tigris against their will during the second Parthian war, were badly battered by strong, swift currents not far from Ctesiphon (cf. Honigmann, col. 1022). Pliny (*Natural History* 6.127), perhaps drawing on Isidore of Charax (Markwart, 1930, p. 63), calls the upper Tigris Diglitus, a masculine Latin noun echoing Middle Persian Diglit (*Bundahišn* 20.7; Markwart, 1930, pp. 63-64) rather than

the Semitic form (Diq/glat). A spurious verse in the *Šāh-nāma* (ed. Moscow, I, p. 67) is often used as evidence to identify Arvand as the Pahlavi name of the Tigris (Markwart, 1901, p. 150; Pur(-) Dāwud, I, p. 224; Farahvaši; see ARVAND-RŪD)

As it flows south the Tigris receives additional water from four main tributaries: the Greater Zāb (Zāb al-kabir), the Lesser Zāb (Zāb al-ṣaḡir), the ʿAżaym/ʿOẓayyem, and the Diāla/Āb-e Šervān (Rahimi-Laridjani, pp. 228-29). The complete drainage area of the Tigris and its tributaries is ca. 166,000 sq km (Rzóska, p. 44). High-water levels in March and April when the river is in spate may be 6 m above low, summer levels. Consequently, discharge varies between 13,000 cumsecs (cu m of water/second) at Baghdad when the Tigris is in spate to only 158 cumecs in the low season (Potts, p. 7). With a steeper gradient, less loss of water through evaporation, and a greater water budget, the Tigris cuts a much deeper bed than the Euphrates, making gravity-flow irrigation difficult because of the necessity of employing water-lifting devices (Adams, p. 65). The Tigris has traditionally been navigable as far north as Baghdad (*A Handbook* II, pp. 65-113) or, in antiquity, Seleucia (see below), although steamers have been known to reach the area of Sāmarrāʾ (*A Handbook* III, p. 10). In the summer months sharks may swim up from the Persian Gulf and have been sighted as far north as Sāmarrāʾ (Willcocks, 1935, p. 260; for a detailed list of fish species in the region, see Rzóska, pp. 95-106).

The Sumerian narrative composition *Lugal-e* may be regarded as an ancient Tigris creation myth, explaining its origins and annual flooding (Heimpel, 1987), yet until recently the role of the Tigris in ancient Mesopotamia was largely unappreciated. Most scholars, in fact, have long believed that the waterway linking Girsu (Lagash), Umma, and Adab in southern Mesopotamia was an eastern branch of the Euphrates known in Sumerian as the Iturungal (e.g. Jacobsen, p. 177; Edzard, Farber, and Sollberger, pp. 216-17). Recent studies, however, have shown this was almost certainly the Tigris (Sum. Idigna) itself (Heimpel, 1987; idem, 1990; Steinkeller). The Tigris was also identical with the river Zubi of the Ur III period (Wilkinson, p. 89; Gasche and Cole ; Edzard and Farber, p. 296). At the same time, it has long been recognized (cf. Le Strange, *Lands*, p. 26; Mason, 1920, pp. 470-72) that the course of the Tigris has changed significantly over time (e.g., Steinkeller ; Wilkinson, pp. 86, 89-90; and see below).

The Tigris and, in particular its east bank, have long formed a natural corridor for north-south traffic. The Achaemenid Royal Road followed the east bank of

the Tigris northward from central Babylonia until striking westward towards Melitene/Malaṭia on the Euphrates (Kiepert, pp. 134-40; Hewsen, p. 138 and pl. 1; Chaumont, 1986-87). From September through November 401 BCE, Cyrus the Younger's Greek mercenaries, under Xenophon's command, largely followed the Tigris in making their escape from Babylonia after their defeat at Cunaxa (Ainsworth, p. 294 ff.; Delattre, p. 463 ff.; Mason), just as did the forces of Septimius Severus to retire from Babylonia nearly 600 years later (Cassius Dio, 75.9 ff.). In 395 the Huns used the Tigris as a means of raiding the Sasanian capital Ctesiphon (Greatrex and Greatrex, pp. 67-68). According to Zachariah of Mitylene (7.4, tr. p. 159), when Kawād I (r. 488-96, 498/9-531) captured Amida from Anastasius (r. 491-518) in 503, he sent the booty seized "by the river Tigris, which flows past the east of the city and penetrates into their country" (cf. Honigmann, col. 1021). Arrian says that the Achaemenids constructed weirs across the Tigris in order to prevent "any enemy having a superior naval force from sailing up from the sea into their country" (*Anabasis* 7.6.6-7), but Strabo says that Alexander "when he went against them, destroyed as many of them as he could" (*Geography* 16.1.9).

The decision by Seleucus I Nicator (r. 321-281 BCE) in the late 4th century BCE to shift the political center of gravity in Mesopotamia from Babylon to a new capital (Seleucia-on-the-Tigris; see Tscherikower, pp. 90-91) was one of profound importance. In one respect, the Royal Road already meant that the Tigris valley was far more important for northern and western travel than that of the Euphrates. From the Seleucid period onwards, however, the Tigris assumed increased significance as an artery of political and commercial power. Seleucia was founded at the northernmost navigable point on the Tigris (Strabo, *Geography* 16.1.9), which, moreover, was the point at which it was joined by the Nār Šarri "King's Canal" (the later Ar. Nahr-al-Malek , Naarmalcha; *Ammianus Marcellinus*. 24.6.1; Ebn Rosta, p. 182; Ebn al-Faqih, p. 175; Honigmann, col. 1016 ; Van Laere, ; Oppenheimer, p. 196), an important transverse canal attested as early as the mid-2nd millennium BCE (Nashef, p. 311; cf. Zadok, , p. 394 for Neo-Babylonian references) that linked the Euphrates (about 30 km away) with the Tigris. Both Trajan (r. 98-117) and Septimius Severus were later credited with dredging the Nahr-al-Malek in order to enable commercial traffic to continue linking the Euphrates and Tigris (Ammianus Marcellinus, 24.6.1-2). Thus, Seleucia was ideally situated with respect to river and canal traffic and it was, moreover, equally well-placed with respect to the overland routes from Susiana (via the Royal Road) and the Persian plateau (via the Great Khorasan Highway or Silk Route) to the

east (Maricq, pp. 272-75), and from Palmyra to the west (Isidore of Charax, sec. 1; Pliny, *Natural History* 5.21; Schuol, pp. 391-92).

Even after the demise of the Seleucid Empire in the 1st century BCE, Seleucia continued to be a city of importance under the Parthians (McDowell, p. 153). A Palmyrian trading colony at Seleucia is attested by an inscription (RÉS 811) from the Bel temple at Palmyra in 19 CE (Schuol, pp. 48-49), but a revolt there between 35 and 42 CE (Tacitus, *Annals* 2.2) may have led the Parthians to fortify Ctesiphon on the opposite side of the Tigris (Invernizzi, Mancini, and Valtz, p. 87), a place already attested in the 3rd century BCE, if not earlier. For example, Polybius (5.45.4) says that the rebellious Seleucid satrap Molon used Ctesiphon as the winter quarter of his troops in 221 BCE (see Schuol, p. 393; cf. Procopius, *De Bello Persico* 2.28.4, who says Ctesiphon and Seleucia were "built by the Macedonians, who after Alexander, the son of Philip, ruled over the Persians and the other nations there"). Although Ammianus Marcellinus (33.6.24) states that Ctesiphon was founded by Vardanes I (ca. 40-45 CE) and enlarged by Pacorus (II?; ca. 78-105 CE), both Cassius Dio (40.20) and Josephus (18.48-50) suggest that it was already being used by the Parthian kings much earlier (in 53 BCE according to Cassius Dio, and in 10-11 CE according to Josephus). Both Seleucia and Ctesiphon were captured by Trajan in 116 and in 165, and Avidius Cassius razed Seleucia (Cassius Dio, 71.2; Ammianus Marcellinus, 23.6.24). Coche was re-founded by Ardašir I (r. 224-41) as Veh-Ardašir, an enormous city of about 700 ha. Only with the Islamic conquest and the foundation of Baghdad (732) did the importance of the al-Madāʾen (lit. the 'cities', i.e. Seleucia and Ctesiphon, Streck, p. 246) waned (Schuol, p. 393).

Determining the precise configuration of the Tigris in the area of Seleucia, Coche, and Veh-Ardašir has long puzzled scholars. This is not simply because late writers, such as Ammianus, confused Coche with Seleucia (24.6.1-3), but rather because the bed of the Tigris has shifted eastward since the Seleucid period, and now cuts through Coche/Veh-Ardašir, leaving the ruins of Ctesiphon approximately 1 km east of the present course of the Tigris (Fiey ; Oppenheimer, pp. 227-33).

The exploitation of the Tigris for large-scale irrigation and agriculture dates from the Sasanian period when investment was massive in the east Tigris region (Adams, pp. 71-76; Christensen, pp. 67-72; Wilkinson, pp. 92-97). The Nahrawān Canal, known in its upper course as al-Qāṭul al-Kesrawi "Cut of Ḵosrow," the digging of which was attributed to Ḵosrow I Anōširavān (r. 531-79) by Yāqut, was described in detail by Ebn Serapion (fl. ca. 900; Ebn

Serapion, pp. 265-66). It was a 30-50 m wide feeder canal that augmented the Diāla with Tigris water, enabling some 8000 sq km to be brought under cultivation (Adams, p. 76-77; Wilkinson, p. 93). Below Bājesrā its name changed to Nahrawān (modern Sefwa) and continuing south through a number of towns and villages, rejoined the Tigris near Māḏarāya (present-day Kut al-Amāra Ebn Serapion, pp. 266-68; Streck, pp. 33-34; Christensen, pp. 70-71). The agricultural importance of this extensive canal system, which extended over 200 km and was maintained into the early Islamic era, was enormous. As Yaʿqubi observed, “The cities on the east bank of the Tigris consume the water of this river; those on the west bank consume the water of the Euphrates, which is conducted to them by the Nahra-Mālik [read Nahr-al-Malek]” (Yaʿqubi, *Boldān*, p. 321; Adams, p. 74). Ebn Serapion enumerates the principal towns and cities found along both sides of the Tigris from its source to its mouth (Ebn Serapion).

Such a hydraulic system required constant maintenance and investment, and it is clear that floods and neglect could have catastrophic effects. Thus, according to Balāḏori (d. ca. 892), the breaching of a series of dykes on the Tigris during the reign of Kawād I and again under Ḵosrow II Parvēz (r. 591-628) caused the flooding of a vast area south of Wāseṭ and Kufa, creating what was known as al-Baṭāʾeḥ “the Great Swamps” (Balāḏori, *Fotuh*á, p. 292). On the other hand, Ebn Rosta (d. after 903) says that late in the Sasanian era the Tigris shifted its bed from its eastern channel to a western channel (the present Šaṭṭ al-Ḥayy), creating a wasteland toward the east where previously the Tigris had flowed (Ebn Rosta, p. 95; Le Strange, *Lands*, p. 27-28; cf. Christensen, pp. 73-74). The disintegration of this system and the creation of marshes east of the Tigris, through which recognizable remnants of the Nahrawān canal could still be seen in the early 20th century, has been attributed sometimes to the Mongol ruler Hulāgu (Hülegü) Khan (r. 1256-65; see, e.g., Longrigg, 1925, p. 13; Philby, p. 65; Potts, p. 25), but archaeological evidence suggests the al-Qāṭul al-Kesrawi-Nahrawān system had failed in late Abbasid times (Adams, p. 104). Yaqut refers to siltation and the neglect of the Nahrawān canal and its offshoots by the Saljuq sultans; finally, in spite of several attempts to repair damaged dykes, a major breach occurred around 1150, which effectively ended its functionality (Christensen, p. 95).

The Tigris has long played an important role as a boundary as well. During the Achaemenid period, the area between the Zagros Mountains and the Tigris in what is today central Iraq was known by Classical authors as Sit(t)acene, while

during the Seleucid period it became Apolloniatis (Strabo, *Geography* 15.3.12; Pédech, pp. 67-68). Further north, the Tigris formed the western border of Matiene (Herodotus, 5.52; cf. Reinach,), a district belonging to the satrapy of Media, and, in its upper reaches, part of the southern boundary of the Achaemenid satrapy of "Armina" (Hewsen, pp. 130, 138). Following Trajan's annexation of Armenia, Mesopotamia, and Assyria, the eastern Roman *limes* was established along the Upper Tigris (Rufus Festus, *Breviarium* 20, "supra ripam fluminis Tigridis limes est refirmatus;" Dillemann, p. 196; cf. Oates, p. 76), as attested by sites such as Seh Qobba, a small fortified Roman site on a bluff overlooking the river about 100 km northwest of Nineveh (Ball ; Ball and Gill ; Eiland, p. 58). The treaty of 298 between Diocletian (r. 284-305) and the Sasanian Narseh (r. 293-302), which remained in force for forty years, established the upper Tigris as the frontier between the Roman and Sasanian empires (Ammianus Marcillinus, 18.5.3; cf. Chaumont, 1969, p. 121; Lightfoot, p. 519). Late in the reign of Constantius II (r. 337-63) attacks by Šāpur II (r. 309-73) continually threatened the area to the west of the Tigris, as vividly described by Ammianus Marcellinus (330-95), himself an eye-witness to these events (Ammianus Marcillinus, bks. 27, 29; Matthews ;). Finally, following the death of Julian the Apostate (r. 361-63), Jovian (r. 363-64) was forced in 363 to cede areas west of the Upper Tigris (Arzanene, Moxoene, Zabdicene, Rehimene, and Gordyene) to the Sasanians (Ammianus Marcillinus, 25.7.9), although some scholars doubt that the Romans ever occupied these areas effectively (e.g., Dillemann, pp. 216-18; Chaumont, 1969, p. 122). The early 5th-century *Notitia dignitatum*, as well as Procopius' *De bello Persico* and *De aedificiis*, from the mid-6th century, all attest to a series of Byzantine fortresses in the area between in north of the Ṭur ʿAbdin and Nisibis, some of which (Kiphas, Ripaltha, Byrthon, Basileon Phrourion) were located along the west bank of the Tigris, both north and south of Amida (now Diyarbekir in southeastern Turkey; see Dillemann, pp. 224-34).

In the boundary treaty of August, 591 (for the date see Riedlberger, p. 165) between the emperor Maurice (r. 582-602) and Ḵosrow II (r. 590-628) the Upper Tigris became the Sasanians' western border. This probably explains why, in the *Bundahišn* (20.1, 3, 7, 8; tr. pp. 74-75; West, tr., pp. 75-77), the mythical river Arang, Avestan Raŋhā, the great westward-flowing river in later traditions, was assimilated with the Arvand (cf. Av. *aurvant–* "fast, runner"; *AirWb*., cols. 200-1, 1510-11; Markwart, 1930, pp. 9-10; Eilers, 1954, p. 313, n. 23), which was identified with the Tigris (contra Nyberg, p. 324, who suggested that the Arang should be identified with the Lower Ḵābur River

further west), reflecting this new geo-political reality (also tangible in the Pahlavi *Vendidad* 1.19, see Markwart, 1901, p. 163; Gnoli, p. 55, n. 245).

Bridges across the Tigris are attested in a number of early sources. Ḥamza Eṣfahāni (*Taʾrik̲*, p. 31) attributed a stone bridge (*qanṭara*) across the Tigris at Madāʾen (i.e., Seleucia and Ctesiphon) to the mythical king of Iran Jamšēd and claimed that it had been destroyed by Alexander (Streck, p. 269; this may recall the bridge at Opis on the Physcus, which Xenophon , *Anab*asis 2.4.25, describes). According to Ṭabari (959-1058), the Sasanian Šāpur II built a new bridge across the Tigris at Ctesiphon in order to alleviate the congestion on the one then in existence (Ṭabari, I, p. 837, tr. , p. 52). The 10th-century geographers Eṣṭaḵri and Ebn Ḥawqal refer to a baked brick bridge (*jesr*) of Sasanian date at Madāʾen, which was no longer extant in their lifetimes (Eṣṭaḵri, p. 87; Ebn Ḥawqal, p. 245; Streck, p. 269; Oppenheimer, p. 128). The Armenian historian Sebeos (10.75, 39.127; cf. tr. p. 170) twice mentions a pontoon bridge over the Tigris at Vehkavat, south of Ctesiphon, during the reigns of Hormozd IV (r. 579-90) and Ḵosrow II (r. 590-628), which is surely the same one mentioned by Theophanes (*Chronographia* 323, tr., p. 452; cf. Honigmann, col. 1022). This may be the bridge referred to by Ḥamza Eṣfahāni (*Taʾrik̲*, p. 31), who says that, unable to rebuild the Tigris bridge built by Jamšēd, unidentified kings who came after Alexander had to settle for a pontoon bridge (*jesr*) instead (Streck, p. 269).

The location of this bridge is uncertain, for whereas Sebeos clearly uses Vehkavat in the sense of a specific place, its Sasanian counterpart Weh-Kawād refers rather to an administrative district (Gyselen, p. 62) with three main towns: Bābel (Babylon), Froht-i-frodar [Frōd i Frōtar?] (‘lower’ Falluja?), and Ḥolwān-mayānag (?). This area, however, known in the early Islamic era as Beh-qobāḏ, is much too far south (Morony, 1982, pp. 25-27 and esp. Fig. 7; idem, 1984, pp. 147-51) to have been the same place mentioned by Sebeos and Theophanes. Two Talmudic sources mention a *Gisra de-Sabistana* (Yevamot 121a, Berakhot 59b; see Oppenheimer, p. 128 and n. 6) that crossed the Tigris at Māḥōza (i.e., Coche/Weh-Ardašir), while “the second boat of the Mahoza bridge” is attested as well (Gittin 6a, Qiddushin 72a; Oppenheimer, pp. 182, 187). According to the *Seder Olam Zuta*, the Sasanians executed the rebel Jewish exilarch Mar Zutra and the leader of the Māḥōza *yeshiva* on the Māḥōza bridge (Oppenheimer, p. 191). These sources may refer to the same bridge mentioned by the Byzantine authors. In the early Islamic era, according to Ebn Serapion, a number of pontoon bridges (*jesr*), including Jesr Zawārek,

Jesr al-Nahrawān, and Jesr Borān, facilitated the crossing of the large canals in the east-central Tigris region (Ebn Serapion, pp. 265-66) and a road (Šāreʿ-al-jesr) leading to a pontoon bridge on the Tigris is also attested during that period (Streck, pp. 89-90).

Later bridges across the Tigris are also attested. When the English traveler Ralph Fitch visited Baghdad in 1583, he noted that the western suburb of Karḵ and the main settlement of Baghdad, on the east side of the Tigris, were linked by a boat bridge "tyed to a great chaine of yron, which is made fast on either side of the river" (cited in Longrigg, 1925, p. 10). The bridge was still functioning in the 17th century and it led to one of the main gates into Baghdad, appropriately known as the "River gate."

Traditionally, rafts (*kelek*) constructed of a wooden deck supported by inflated goat skins, attested from the Neo-Assyrian reliefs and still in use during the modern era (Oppenheim, pp. 193-96), were the normal type of river craft used on the Tigris. The transformation of the Tigris into a commercial thoroughfare using steam power dates from the early 19th century. A survey of the Tigris and Euphrates was undertaken by Francis Rawdon Chesney on behalf of the British government between 1835 and 1837 , with further work on the Tigris by Lt. H. B. Lynch (1837-39), Commander F. Jones (1847-53), and Commander Selby (1855-62; Saleh, pp. 100-1). In 1859, H. B. Lynch established the Euphrates and Tigris Steam Navigation Company, which, while not the only cargo service operating on the Tigris, had the largest share of the market (Cohen, p. 8; cf. Longrigg, 1925, pp. 293-94). Moreover, although wholly within Ottoman jurisdiction, the Tigris nevertheless played also a vital commercial role for Persia's economy. Apart from goods coming from Russia, all merchandise destined for Persia arrived either at Bušehr, on the Persian Gulf, or Basra. From Basra, goods were transshipped by steamer on the Tigris to Baghdad, and then carried overland by mule or camel via Ḵanaqin to Persia (Champain, p. 136; cf. Longrigg, 1953, p. 13). The Ottoman officials at Basra charged a 1 percent duty for goods deemed to be in transit on the Tigris for Persia (Champain, p. 134).

As part of the intended British participation in the internationalization of the Baghdad railway scheme, the Indian Navy surveyed the Tigris in 1907, and in 1910 the British government demanded that the route of the railway between Basra and Baghdad must follow the Tigris rather than the Euphrates valley in order to further British interests in Ottoman Mesopotamia (Cohen, pp. 69, 91-93). This demand, withdrawn in 1912 along with British participation in the

railway scheme itself, was replaced by a strategy aimed at achieving a British monopoly over Tigris traffic (Cohen, p. 258 ff.). Both enterprises became moot with the outbreak of World War I in 1914.

Following a preliminary visit to Iraq in 1904-05, Sir William Willcocks, a noted British irrigation engineer, was commissioned in 1908 by the Ottoman government to investigate the revitalization of the country's irrigation system (Willcocks, 1917). Willcocks' proposals for the better management and flood control of the Tigris, which involved the construction of dykes and weirs (Willcocks, 1935, p. 265), were viewed with hostility by the British government, which felt that any such works would impede Tigris river traffic (then almost exclusively in British hands) by having "first claim on all the available water in Mesopotamia" (Cohen, p. 155) and make impractical the Tigris Valley route for the proposed railway which it favored (Cohen, pp. 106-09).

Over the centuries, the course of the Tigris has functioned as an international boundary on more than one occasion. Under the Treaty of Qaṣr-e Širin, concluded on17 May 1639, the Ottoman Empire and Persia demarcated a 160 km-wide boundary zone between their respective territories, the western edge of which was formed by the Tigris (Hurewitz, I, pp. 25-28; O'Shea, p. 52). The Four Party Border Commission of 1914 failed to clearly demarcate the boundary between Persia and Ottoman Iraq (see BOUNDARIES i.), with the result that both states claimed some of the same territory along several of the eastern tributaries of the Tigris (McLachan, p. 60). In the 1980s, these conflicting claims resurfaced during the Iraq-Iran war.

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