currency: The Muslim mints issued golden (dinars), silver (dirhams), and bronze coins inscribed in Arabic on both sides, which did not immediately replace or supplant local money in circulation, though. Moreover, the *dinar* (from denarius) imitated the respective Byzantine gold coins, and the *dirham* (from drachma) rivaled the Sassanian silver money, which had been particularly highly esteemed in CA and China (Davidovich and Dani 1998, 391; Ponting 2001, 355). This bimetallism gave rise to the presence of money changers (djahbadh) across the empire, who often became real businessmen, sometimes bankers. Apart from Chinese silk, which continued to function as money, the currencies of the Islamic world started to dominate Eurasian trade (Burlot 1995, 79).

With the expansion and increasing economic integration of the caliphate, Muslim businessmen either introduced or adopted and perfected a number of institutions and rules for accessing capital, for generating business partnerships, for reducing risks, and for enabling interregional cashless payments. The specialized banker did not (yet) exist in the caliphate. Instead, the functions of banker and wholesale businessman were connected with each other. Although usury was banned, Islamic merchants devised numerous credit instruments such as letters of credit and promissory notes to facilitate their trade. They also developed the accounting techniques to keep track of these transactions. Given distances and dangers on SR territory, the transfer of funds constituted an important challenge. In the eighth century, the bill of exchange (lettre de change) emerged, an instrument providing for a third party to pay a sum due to a person. Deferred transfer (or "shakk," from where "check" is apparently derived) was another technique adopted (Burlot 1995, 81; Ponting 2001, 358).

## 3.2.2 SR Trade Obstructed by Hostilities, but Arabs Transmit Key Chinese Know-How (Paper, Compass) Westward (ca. 750–800)

## 3.2.2.1 Battle of Talas and An Lushan Rebellion Set Stage for Chinese Withdrawal from West Turkestan and for Arab Acquisition of Key Know-How

The Battle of Talas in 751 and the An Lushan rebellion (755–763) profoundly changed the political framework of business in CA and altered SR trade itself. The major military conflict that took place near the town of Talas (modern Taraz/Dzhambul) between the ruling Eurasian powers of Tang China and the Arab caliphate ended in the defeat of the Chinese forces. The revolt a few years later, led by the Turko-Sogdian military leader An Lushan, triggered unrest in large parts of China and destabilized Tang rule. The

dynasty reached out for its militarily superior Uighur allies, who then intervened and crushed the rebellion. The two capitals of the Tang era, Changan and Luoyang, were brutally cleansed of rebels. There was a high price for this help: The Uighurs demanded and received the right to loot the captured cities. In 765 the Tang had to pay the Uighurs a special subsidy of 100,000 pieces of silk to make them leave the capitals. Under the guise of gift-giving and trade, Chinese tributary payments to the Uighur Empire were ratcheted up. A kind of asymmetric alliance emerged between the two players: China fulfilled lavish and increasing Uighur demands for payment of subsidies, in exchange for which the nomads occasionally intervened to prop up Tang authority in the Middle Kingdom (Barfield 1989/1992, 151–153; Golden 2011, 44).<sup>21</sup>

At the Battle of Talas, the Arabs had gained lots of booty and a large number of prisoners, among who were skilled silk weavers, papermakers, and gold- and silversmiths. The weavers were sent to the caliph's textile workshops in Kufa (Iraq). Mulberry trees soon spread as a commercial crop all the way from CA to North Africa and Southern Spain. The papermakers were installed in Samarkand to establish a paper industry which subsequently played a major role in the development of book production in the Muslim world (Bolshakov 1998, 31). Thus, Samarkand became the Islamic world's leading center of paper production, before yielding that place to Baghdad, then to Damascus, which later became the prime paper supplier of the Christian world (via Spain and Italy) until the era of the crusades. Not before the beginning of the second millennium CE were papyrus and parchment gradually replaced by paper in Europe (Boulnois 2009, 52).

The Chinese eventually (around 760) had to retreat to their military bases in the Tarim Basin including Kashgar; the Western Turk Khaganate collapsed. In 766, the Khaganate of the Karluks (Turkic nomads from the northern foothills of the Tienshan and Zhetysu), established two decades earlier, became independent. The Oghuz (also nomadic tribes of Turkic origin) living in the steppes around the lower reaches of the Syr Daria and near the Aral Sea also attained independence. Despite their victory over the Tang, the Arab conquerors were unable (or unwilling) to move beyond the southern fringes of the Zhetysu area; furthermore they did not venture into the Eurasian steppe, though they remained in CA (Abazov 2008, Map 15).

Around 750, for obvious reasons, the price of silk doubled from 14 to 28 dirhams between Dunhuang and Samarkand. In the aftermath of the Battle of Talas, SR trade, without grinding to a halt, became segmented. The only silk available immediately was produced locally (Gumppenberg and

<sup>&</sup>lt;sup>21</sup> Thus, it could be argued that China had turned into a giant de-facto Uighur protectorate.

Steinbach (eds) 2004, 248; de la Vaissière 2004, 161, 243). It is improbable that the Sogdians were able to reconstitute their commercial links and supply lines before the end of the eighth century. However, since the secret had slipped out of China back in the sixth century, the general know-how (though not all the finesses) of silk production had already spread across large parts of Eurasia. Regardless of their military collision in the mid-eighth century, China and the caliphate coexisted on friendly terms for most of the time (Zhang 2005, 94; Schottenhammer 2015, 37–38).

Notwithstanding the victory of the Islamic armies at Talas, turmoil and instability did not even spare the C Asian provinces of the caliphate. A series of uprisings inflamed the region between the 750s and the early 800s. As a consequence, a large number of Buddhist, Manichean, and Zoroastrian clergy moved to lands further east unconquered by the Arabs. Buddhist communities expanded their influence in East Turkestan and Tibet, where Buddhism even achieved the status of official religion in 787. 22 Rebellions in Khorassan were put down by the caliphal governors, who reorganized the spheres of tax assessment and water use, where things had apparently gotten out of hand. Thus, governor Sulayman al-Tusi (783–787) lowered the level of the kharaj (land tax), which had been raised under the previous governor al-Musayab. The new governor also put an end to misuse of water by the newly installed elite, which had seized extra shares of the precious resource in the Merv oasis in order to direct it to their fields; the use of water in other areas was also subjected to stricter regulation (Bolshakov 1998, 38).

But the frequent tensions and conflicts with the locals had weakened the caliphate, and, eventually, the Islamic rulers agreed to include the local nobility in the highest positions of Asian (provincial) governments. In Mavarannahr (Transoxiana), a large number of C Asians, including many people in the traditional urban elite, began accepting Islam and benefited from the strong and comprehensive education system (Abazov 2008, Map 16). Gradually, Arabic became the language of government, law, science, and art in Muslim CA. Given the more difficult trade and economic exchange with China in the aftermath of the Battle of Talas, the oasis economies of West Turkestan, including those of Khorassan, Khwarazm, Mavarannahr, and Bactria, somewhat reoriented their commercial relations toward the rest of the caliphate. Despite recurrent instability, trade west of the Tienshan expanded. As Roudik put it, eventually local C Asian lords became tax and rent collectors for the Arabs—in exchange for de-facto political autonomy/independence (2007, 32).

## 3.2.2.2 Tibet Conquers Part of the SR, While Khazaria and the Caliphate Are at War

During a phase of Tang weakness, Tibet in 770-780 conquered most of the Tarim Basin (particularly the south) and of Gansu from China and attempted to gain control of the SR. Markets in Dunhuang reverted to a pure barter economy; money largely disappeared. Commercial exchange of a Sogdian type went through a very difficult period in the second half of the eighth century. Large-scale overland trade regressed for a least one or two generations (de la Vaissière 2004, 277). The Tibetans had allied themselves with the Arabs and were able to hold sway over some parts of the SR for almost a century. However, Caliph Harun-al-Rashid (768–809) in the early ninth century switched his preferences in favor of China. Near the other end of the SR, the Khazars had been involved in wars against the Arabs during almost the entire eighth century. The Arabs were eventually able to take Derbent (on the western shore of the Caspian), which controlled north-south routes toward Transcaucasia and Iran. Around 750, the Khazar capital was transferred from the Northern Caucasus to Itil (or Atil) on the Volga delta, where a sedentary center of their seminomadic state was erected (Maps 3.2 and 3.3) (Dmitriev 2009, 45–47).

Due to the strong influence of the Arab-Muslim civilization, for example, through colonization and settlement activities in the oases of Western CA from the early eighth to the late ninth century, the influence of mounted warrior nomads and of the nomadic way of life in these sedentary centers was temporarily driven back. The only exception was the militarily extremely valiant Turkic slave soldiers that had been acquired in the northern steppe regions. These (former) steppe dwellers were to support the armed forces of the caliphate in its center Baghdad as well as in Mavarannahr and other regions but in some cases created eventually independent powers (see below). On the other hand, the Chinese withdrawal from West Turkestan (following the Battle of Talas) indirectly strengthened the influence of the nomadic civilizations to the north of the oases (e.g., the Uighurs of Mongolia, the Karluks of Semirechie, and the Oghuz of the steppes near the Aral Sea). In any case, some regions like Ferghana and partly also Khorezm seem to have featured a striking picture of symbiosis of nomad and sedentary cultural components (Chvyr 1996, 404).

From the middle of the eighth century, when the Tang dynasty gradually lost control of Turkestan and SR connections became more tenuous, the importance of sea travel increased again (Fang 2014, 27–28).<sup>23</sup> In this respect

<sup>&</sup>lt;sup>22</sup> The Tibetan state had been established and consolidated by a few strong monarchs already in the seventh century, who had militarily unified a number of tribes on the plateau of Tibet and conquered some adjacent regions, also at the fringe of China.

<sup>&</sup>lt;sup>23</sup> According to Vogelsang, the weakening of the Tang Dynasty also coincided with a worsening of the climate which became drier and colder (2013, 66, 274).