Babylonian Roots of Talmudic Logic. The Analysis of Reasoning in Business Correspondence and Trial Records in Akkadic and Aramaic

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The legal tradition of the Talmud is a continuation of the Babylonian tradition. In the Bible we can find out the following three ways of law formulations which are typical for non-Jewish Aramean texts, also: (1) "casuistic": 'if/when (non-Jewish Aramaic: *hn* or *'m*) this or that occurs, this or that action must be undertaken or this or that punishment must be inflicted'; (2) "apodictic": 'thou shall not... (non-Jewish Aramaic: prohibitions in the second person singular of the imperfect, sometimes by using the negative particle *'l*)'; (3) "relative": 'the man who… (non-Jewish Aramaic: *'īš zī* or *gəbar zī* or *'enāš zī*)' or 'whoever … (non-Jewish Aramaic: *zī* or *mn*)'. Hence, the Hebrew legal style was integrated in the broader context of Near Eastern juridical terminology. This terminology was thought up by the Sumerians first in the law codes which were first over the world: Ur-Nammu (c. 2100 B.C.); Lipit-Ishtar (c. 1900-1850 B.C.), and later by their successors, the Akkadians: Hammurapi (1728-1686 B.C.). The casuistic law formulation: 'if/when (Akkadic: *šumma*) this or that occurs, this or that must be done' allowed the Akkadians to build up a theory of logical connectives: "... or… ", "… and…", "if…, then…" that must have been applied in their jurisprudence. The apodictic and relative law formulations allowed them to differ general cases/notions from particular cases/notions and to use a naïve set theory. The analysis of Old-Babylonian and New-Babylonian business correspondence and trial records shows us many examples of difficult logical schemata as results of applications of some inference rules to law codes. The main idea of Babylonian trial was that any trial must be final in problem decision and its verdict must be complete and be inferred from the list of arguments (facts and documents): 'if facts and documents, then a trial verdict'. In case the set of arguments is not complete for inferring a final decision, the court takes a conditional verdict: 'if facts and documents, then if an additional document that is missing, then a trial verdict' (that is logically equivalent to the following sentence: 'if facts and documents and an additional document that is missing, then a trial verdict'). For instance: "Five branded sheep were seen in the flock of Kīnaya. Zēriya testifies against Kīnaya, proving that Kīnaya stole three of the sheep. The assembly decrees that Kīnaya must repay those sheep thirtyfold. Kīnaya claims that the remaining two sheep were given to him by a shepherd. Kīnaya must present the shepherd to the administrators of the Eanna. If he does not present the shepherd, then Kīnaya must repay the Eanna thirtyfold for those two sheep, as well"

(Shalom E. Holtz, 2014 [29 October, 547 B.C.]). After the detailed analysis of Babylonian business correspondence and trial records we can assume that the Babylonians used inference rules which are analogous to the Talmudic *middot* (logical rules), first of all to the Hillel rules. Thus, we can claim that formal logic appears first not in Greece, but in Mesopotamia and this tradition was grounded in the Sumerian/Akkadian jurisprudence and the Talmud preserves this tradition for us until today. One of the first law codes of the Greeks that is excavated recently is the Gortyn Code (Crete, 5 c. B.C.). It is analogous with the Babylonian codes by its law formulations; therefore, we can suppose that the Greeks developed their codes under the direct influence of the Phoenicians: the Code as the words of the stele and the courts as logic applications to these words. In this way the Greek logic was established within a Babylonian legal tradition, as well. Hence, a Sumerian-Akkadian 'logic' was first over the world.