A Note on the Quantitative Analysis of Ḥadīth

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Abstract

Hiroyuki Yanagihashi observes how recent developments make the quantitative analysis of Ḥadīth a “promising” endeavor. The question then becomes: why and how the text of certain Ḥadīths, taken literally, appear to contradict established Sunnī legal doctrine? The logical presumption is that either traditionists transmitted the jurisprudence of ancient legal systems that were eventually replaced by later-derived fiqh rulings or they reformulated the Ḥadīths in the process of transmission to develop the rulings underlying those later legal systems. By way of example, and to investigate these possibilities, Yanagihashi proposes quantitative analysis to trace variations within the texts of two prominent Ḥadīths over the course of more than a century. His analysis yields conclusions that corroborate other work in Ḥadīth-related studies from recent years (e.g., those of Behnam Sadeghi on a larger scale in his “Traveling Tradition Test,” and Intisar Rabb with respect to a select Ḥadīth in her evaluation of the doubt canon, and others): an increase in textual variation does not necessarily correspond to a change in legal doctrine; the number of variants can increase over time, even after the compilation of Sunnī Islam’s six canonical Ḥadīth collections. His methods represent and propose new directions for quantitative analysis at the intersection of Ḥadīth and law in early Islamic history.
Nowadays, it is easy to deal with a large quantity of data on a personal computer, which makes a quantitative analysis of *ḥadīth* promising. In fact, it is not rare that an unexpected outcome is obtained from a quantitative analysis. In this essay, I apply this methodology to the question of whether traditionists retained or developed a legal system in parallel with the *fiqh* system represented by that of the four Sunnī schools of law, to show its utility and caveats.

We know that according to Sunnīs the Prophetic Sunna is the second source of Islamic law. However, many researchers of Islamic law must have felt from time to time that this is not always the case. There are many *ḥadīths* which, at least taken literally, contradict positive solutions adopted by jurists. (Conversely, in many cases jurists invoke *ḥadīths* that are not recorded in *ḥadīth* collections, as well.) Suffice it to cite an example. According to a *ḥadīth* (*ḥadīth* 1) recorded in al-Bukhārī’s *Ṣaḥīḥ*, ‘ʿAmr b. al-Sharīd, a Successor living in Taif, narrated:

Al-Miswar b. Makhrama came and put his hand on my shoulder. I went to see Saʿd [b. Abī Waqqāṣ] with him. Abū Rāfiʿ said to al-Miswar, “Don’t you tell this man to buy from me my house which is in my yard?” Saʿd said, “I will not pay more than four hundred either in cash or in installments. Abū Rāfiʿ said, “I was offered five hundred in cash, but I refused. If I had not heard the Prophet saying, ‘A neighbor is more entitled to his nearness,’ I would not sell it to you.”

No less than fifty-three *ḥadīths* referring to the same event are recorded in nineteen works including al-Bukhārī’s *Ṣaḥīḥ* (two *ḥadīths* to the same effect are recorded there) and the *Sunan*s of Abū Dāwūd, Ibn Mājah, and al-Nasāʾī. According to the opinion unanimously held by Sunnīs, if one of the co-owners of an undivided immovable property sold his share to a third party, the other co-owners can exercise the

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right to pre-emption (ḥaqq al-shufʿa) to repurchase the share by paying the buyer the same amount that the latter spent, i.e., the price and any associated expenses. The right is established also in other circumstances according to some jurists, as suggested by this hadīth. The four Sunnī schools of law unanimously assert that the pre-emption right is established only after the object has been sold, and do not require the one who intends to sell an immovable property or his share to offer a sale to the pre-emptors or to inform him of his intention to sell his share. This is to say, their opinion contradicts this hadīth.2

This is not an isolated case. There are many legal hadīths whose content contradicts the corresponding fiqh rule, as noted. The question then arises why traditionists recorded such hadīths. Many researchers may be inclined to infer that traditionists made it a rule to transmit hadīths to subsequent generations that they deemed to be authentic or at least that they did not deem to be inauthentic, even if those hadīths were actually abandoned or disregarded by jurists. This inference implies that traditionists, or those among them who were versed in jurisprudence, retained and transmitted hadīths inspired by ancient legal systems that were eventually overshadowed by the fiqh of the four Sunnī schools of law. However, we can conceive of another scenario, that is, traditionists did not only retain the ancient legal systems, but also developed their own legal systems.

To verify whether traditionists passed on hadīths inspired by an ancient legal system or they developed their own legal system(s) up to a certain period, let us examine the changes over time in the number of variants of two groups of hadīths recorded in fourteen works including the six canonical hadīth collections and Mālik’s Muwatta’, i.e., those related to pre-emption and those related to several prohibited transactions such as muzābana, muḥāqala, etc.3 (Let us call these Groups 1 and 2, respec-

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3 Muzābana denotes buying something whose measure, weight, and number are unknown for something (of the same kind) whose measure, weight, or number is known, whether it is wheat, dates, or whatever food, or goods of wheat.
Ninety-one hadiths belonging to Group 1 are divided into seven sub-groups each of which comprises a number of hadiths that seem to have derived from the same original hadith, judging from their isnāds and matns. In contrast, it is difficult to classify over three hundred hadiths belonging to Group 2, for most of them are composite hadiths, into which two or more hadiths of different origins were incorporated.

The problem is determining the main that a hadith had during a particular period of time. One method is to identify it with the one contained in a hadith whose isnād ends with a transmitter (i.e., the teacher who passed on this hadith to the author of a text recording that hadith) who died during that period. For example, according to a hadith (hadith 2) recorded in al-Shāfiʿī’s Umm which has the isnād Sufyān b. ʿUyayna←al-Zuhrī←Sālim b. ʿAbd Allāh, Ibn ʿUmar narrated, “The Prophet forbade the sale of dates before they became mature.”4 It is not certain that this narration ascribed to Ibn ʿUmar was identical with the original main of this hadith, but it is almost certain that this was the main (variant) that Sufyān b. ʿUyayna related to al-Shāfiʿī, although we cannot exclude the possibility that the latter changed what he heard from his teacher. Thus, the year 198/814, when Sufyān died, is the terminus ante quem of its generation, i.e., the date by which this main (variant) must have been put into circulation. But let it be identified with the date on which this main (variant) was put into circulation, for the sake of analysis.

This method poses a practical problem, that of defining

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a variant. Let us define it as a matn that contains a particular set of constitutive elements that are juristically meaningful. To take the example of the above-cited hadith 1, the phrases contained in Abū Rāfi‘’s statement “my house which is in my yard” (as distinct “my house” without further qualification, as in many other similar hadīths) and the statement of the Prophet that “A neighbor is more entitled to his nearness” are such elements, but not the phrase that “al-Miswar b. Makhrama came and put his hand on my shoulder,” among others. As a suggestion, eight hadīths including hadith 1 are recorded in various works that share exactly the same set of elements, that is, this variant comprises eight hadīths.

Figure 1 represents the changes over time in the number of variants of hadīths belonging to Group 1 ($N_v (1, Y)$) and that of variants of hadīths belonging to Group 2 ($N_v (2, Y)$) for the period from 150/767-768 to 260/874-875. (I start from 150, for few hadīths have an isnād ending with a transmitter who died before 150, for the extant earliest sources that record a substantive number of hadīths are the Muwatta’ of Mālik (93-179/711-795) and the Āthār of Abū Yūsuf (b. 113/731-732; d. 182/798).) This figure indicates that $N_v (1, Y)$ did not cease to slowly grow until 250 A.H., and that $N_v (2, Y)$ constantly increased, the pace at which it grew being higher from 190 onwards than before. It follows, phenomenally, that traditionists continued to reformulate hadīths at least during the period from 150 to 250.

Verifying whether this was actually the case is beyond the reach of this essay. Suffice it here to refer to two points. First, there are cases in which the earliest work that records a hadīth belonging to a particular variant was composed much later than the period in which the legal opinion underlying that variant was put forward. For example, according to a hadīth recorded in the Sunan of Ibn Mājah (d. 273/886), the Prophet stated, “The right of pre-emption is like loosening the knot (that restrains the camel).”

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Roundtable on Islamic Legal History & Historiography

The Prophet said, “The right of pre-emption is established neither for an absentee nor for a minor nor if a co-owner exercises it before another co-owner. The right of pre-emption is akin to loosening the knot (that restraints the camel).” The two ḥadīths are inspired by the idea that it is necessary to restrain the exercise of pre-emption right, for it can be harmful to the buyer. This idea is attributed to Ibrāhīm al-Nakhaʿī (Kufa, d. 97/715-716) and ʿUthmān b. Sulaymān al-Battī (Basra, d. 143/760-761), but Ibn Mājah’s Sunan is the first writing that records a ḥadīth inspired by this idea. Generally speaking, growth in the number of variants does not necessarily mean a corresponding legal development.

Secondly, the rapid growth in $N_v$ (2, $Y$) is due primarily to a combination or an extraction of existing mats. For example, ḥadīth no. 14294 recorded in Ibn Ḥanbal’s Musnad reads that the Prophet forbade muḥāqala, muzābana, mukhābara, muʿāwama, and thunyā. Ibn ʿUlayya (d. 193/808-9) is the first transmitter who related a variant that refers to the prohibition of all of these five transactions to an author (Ibn Ḥanbal in this case) who recorded this variant, while variants referring to two to four among these transactions are related by earlier transmitters. Apparently, this ḥadīth is a composite ḥadīth in which existing ḥadīths were combined and was not generated by a change in legal doctrine. Conversely, Ibn Mājah received ḥadīth no. 2455 (isnād: Muḥammad b. Yahyā←Muṭarrīf b. ʿAbd Allāh←Mālik←Dāwūd b. al-Ḥuṣayn←Abū Sufyān), which reads that Abū Saʿīd al-Khudrī narrated, “The Messenger of God forbade muḥāqala. Muḥāqala is a lease of land.”

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8 Ibn Mājah, Sunan, 3:517, no. 2455. Mukhābara is a kind of sharecropping contract. This name is often said to have derived from Khaybar, where a sharecropping contract was concluded between the Prophet and the Jews who
corded in Mālik’s *Muwaṭṭa* (isnād: Mālik←Dāwūd b. al-Ḥuṣayn←Abū Sufyān), which reads that Abū Saʿīd narrated, “The Messenger of God forbade *muzābana* and *muḥāqala*. *Muzābana* is selling ripe dates for dried dates while they were still on the trees. *Muḥāqala* is lease of land in exchange for wheat.”

Apparently, many variants referring to one or more of these prohibited transactions were generated by combining or extracting from existing *ḥadīths*. This is why $N_v$ grows rapidly.

Therefore, it is premature to draw some definite conclusion from this figure. It should be complemented by a close examination of individual *ḥadīths*. It is not rare that an unexpected outcome is obtained from a quantitative analysis, as noted. I did not expect that the pace at which the number of variants of *ḥadīths* belonging to Group 2 would increase during the period from 200 to 260, i.e., the lifetime of the authors of the six canonical *ḥadīth* collections, as shown by Figure 1. I expected that the pace would have slowed down, for the authors compiled *ḥadīth* collections because they believed that the *matns* they received from their teachers were definite and should not be reformulated, that is to say, they compiled *ḥadīth* collections to fix the *matns*. The quantitative approach is revealing in this sense, but the meaning of its outcome is not always immediately evident.

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Figure 1. Changes in the number of variants over time