## Parallel Thinking Part 4: Information Theory and the Oral Law

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God's revelation at Mount Sinai was a unique event, which began the communication of His Torah to the Jewish people. The written Torah was accompanied by a set of oral instructions, from God to Moshe, which form the basis of Jewish law.

This was necessary; the complete written Torah contains the source of all of the mitzvot, but the instructions for Jewish living cannot be derived solely from the written text. It does not usually detail the practical requirements of Jewish observance. For example, when commanding us to place a mezuzah on our doorposts, the Torah instructs: "write these words on your doorposts" (Devarim 11:20). Yet the Torah does not specify which words should be included, which doorposts require them or how we are to write them. All of these details are explained in the Oral Law. The same is true for all of the 613 commandments; their source is in the Written Torah, but the practical instructions and real-world applications are not.

Therefore, it is clear, both logically and textually, that God related the practical laws of Jewish living to Moshe orally. These instructions were passed on from teacher to student (see Shemot 24:12). The Talmud (Berachot 5a) relates that this transmission continued orally until approximately 200 CE, when Rabbi Yehudah HaNasi compiled a concise summary of the legal teachings and discussions of leading Sages into the Mishnah. Approximately 300 vears later. Ravina and Rav Ashi compiled the Gemara, which developed the Mishnah. The two are studied together as the Talmud; this forms the foundation text of applied Jewish legal principles and debate. The first Mishnah in Pirkei Avot (Ethics of the Fathers) describes this chain of transmission (see green siddur p.524).

The Talmud contains many arguments (machlokot) between Rabbis. A machloket may indicate a degree of 'noise' in the transmission process. However, the Oral Law contains internal methods of analysis which correct any error, by testing every opinion against other established facts, in an attempt to decipher the correct approach. Sometimes, the Talmud will ascertain that one position is incorrect and refute it.

On other occasions, it will assert that both positions presented in a *machloket* are equally acceptable. It is only when these positions are applied that practical differences emerge, such as in determining the time of sunset when calculating Shabbat times. Is 'sunset' when the sun starts to set or when it has finished setting? The application of these equally valid positions will yield radically different results. This is relevant to defining when Shabbat starts and ends. In this case, we are forced to operate within the most stringent position; we use the earlier time for the beginning of Shabbat and the later time for the end.

The next article will examine the special function of the Ten Commandments, viewed from the perspective of Information Theory.

