

A Categorization of Errors Encountered in the Study of Zemanim

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Introduction

To begin, I feel obligated to address my motivation for writing an essay focusing on the errors regarding *zemanim* one encounters throughout rabbinic literature. My motivation is at least three-fold:

1. For theorists in the development of *halakha*, these examples provide valuable information for analysis.
2. Without errors identified and accounted for, mastery of this vast and critical area of rabbinic literature will remain difficult even for accomplished *halakhists*. One need only read the revealing *teshuvah* in *Minhat Yitzhok*¹ to observe the (self-reported) challenges faced by one of the last century's celebrated *poskim*.
3. On occasion, the erroneous reasoning provided in a *teshuvah* provides the basis on which others construct their rulings. This has caused practical errors usually, but not always, by lesser authorities.

Throughout, I do not cite multiple *teshuvot* where an error occurs; with a few exceptions, one example suffices. Normally, a footnote will specify a source where an error can be found. Most illustrated errors were made by *poskim* living after the 19th century, when almost all needed science was widely available.

The errors that I list are focused on the rationale or structure of the arguments regardless of whether the resulting *psak* may still be reasonable. As a result of the errors, however, many *pesakim* are not well-founded. Furthermore, many who study and then apply those arguments may use the rationale as a basis for an erroneous *psak*.

¹ *Minhat Yitzhok* (4:53).

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The area of *zemanim* is one where elementary mathematics and not-so-elementary science play a key role. While there are examples in other areas of *halakha* as well, I do not believe that other areas have been responsible for such an extensive list of issues.² Also, attempts to justify erroneous prior opinions or render consistent conflicting views may themselves result in errors. These may even include rare logical errors.

My suspicion is generations of Talmudic masters and *poskim* perceived as disrespectful addressing the erroneous reasoning behind various positions, identifying fundamental changes in positions that have occurred across centuries, or identifying and adjusting for an error made by a prior *posek*. As a result, a variety of errors have become difficult to isolate; some have become institutionalized and even given canonical status. Further adding to the complexity, the nature of the errors themselves changed, sometimes appreciably, over time.

One final introductory remark. Anyone who subsequent to reasonably accurate examination of observable events acts accordingly has little reason to worry. However, if one extrapolates from a given day at a specific location to another location and/or another season, then knowledge about how *zemanim* are impacted by changing location or season becomes critical. Many *poskim* did not consider the dependency of all *zemanim* on both location and season; that, coupled with the inability to calculate their effects correctly even when the dependence is recognized, is characteristic of many errors.

But this gets worse; the feedback effect of poor *psak* and other factors, such as clock use, reduced dependence on the very thing that was required—accurate observation.³ In fact, as we will illustrate, the very ability to observe knowledgeably has probably declined, perhaps appreciably. There are positions maintained by current *poskim* that are contradicted by observation, most often concerning the time of *alot ha-shahar*.⁴

This essay assumes basic familiarity with the two fundamental areas in *zemanim*.

² This includes other areas like *Kinnim*, which require more complex logical and mathematical reasoning.

³ Telling someone to go outside and observe frequently engenders this sort of response: “Who should I believe: the *psak* received, or my lying eyes?” I find it impossible to understand many relevant *sugyot* without accurate observation of Middle Eastern skies.

⁴ The *psak* of various *gedolim* on *alot ha-shahar* and the times for the end of *Shabbat* provided in various publications are given as examples in Category 5 below, which addresses fixed time intervals.