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Charting the Sea of the a fortiori

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Charting the Sea of the *a fortiori*

Review of the book

About: Ury, Yisrael, *Charting the Sea of Talmud. A Visual Method for Understanding the Talmud*, Mosaica Press, Jerusalem, 2011.

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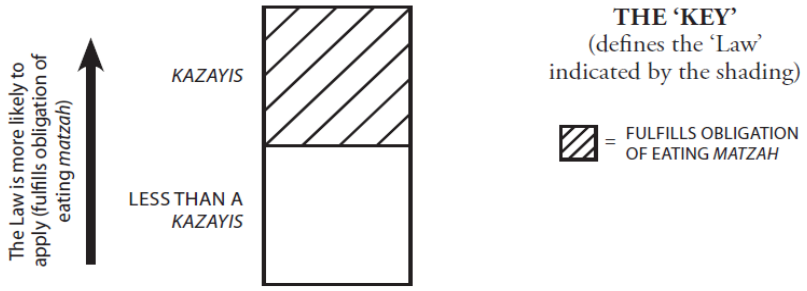
The Talmud is a sea, a sea into which one can dive or be drowned in or simply observe carefully from the shore.[1] And this is not any sea, but one of the most opaque seas. Indeed, one definitely should be accompanied in the sea of Talmud. This is the purpose of this excellent book. However, while methods of explaining the Talmud are usually textual, Yisrael Ury's method is different; he creates Diagrams[2] to explain difficult topics.

Why change the medium, though? Isn't explaining texts through images, making things more complicated? In fact, it makes things easier: "Vision is the sense that conveys information most clearly" [17]. The objective of this book is "to introduce the Talmud Diagram, a novel visual tool, which simplifies the tracking of connected facts in the Talmud" [18]. It is not just a way of visually illustrating what happened at the time of the Talmud or depicting objects that are talked about in Talmudic texts. Indeed, there are already many books that visually represent the situations described in the Talmud: Ury's goal is "to visually represent the **logic** of the Talmud since this is often the hardest part of the *sugya*[3] [Talmudic discussion] to understand" (20).

How does it work exactly? The main tool is the so-called "Talmud Diagram." "The Talmud Diagram is a unique type of table where placement has meaning and helps explain a *sugya*" (20). Before explaining the typical Talmudic Diagram, let us take an example of a simple Diagram: in order to fulfill the obligation of eating *matzah* on Pesach, it is necessary to eat a volume of *matzah* the size of a *kazayis* (an olive). This implies that if you ate less than this volume, you did not fulfill the obligation.



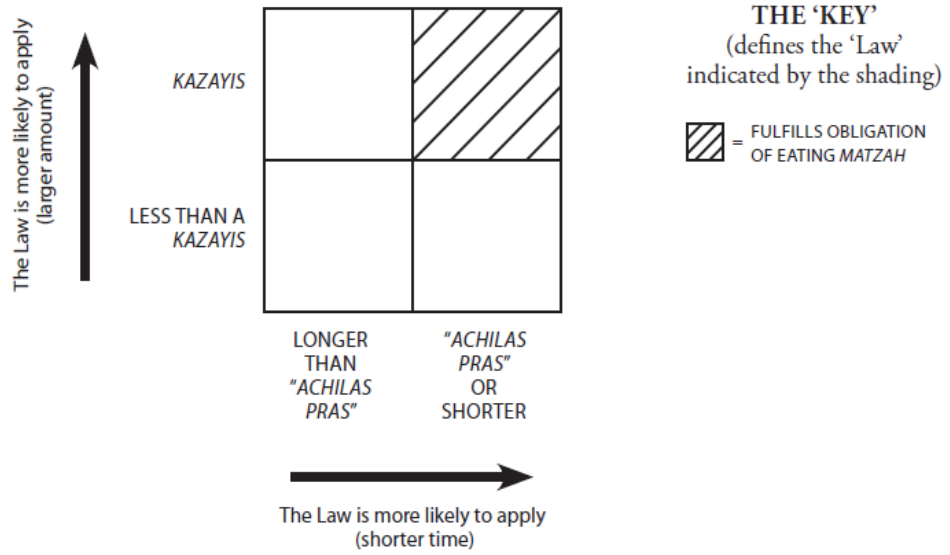
A Diagram that describes how much matzah *must be eaten to fulfill one's obligation. The upper box represents a case where it is more likely that the obligation is fulfilled. Only the upper box is shaded to indicate that the obligation is fulfilled only if a* kazayis *is eaten.*

The box that is not shaded indicates a situation in which the obligation is not fulfilled, whereas the shaded box indicates a situation in which a *kazayis* is eaten and thus the obligation is fulfilled. This representation is useful for any sort of legal statement: above a certain threshold, the Law applies and beneath it does not. The Key, represented by the arrow, tells us the direction (conventionally upwards) of the stringency of the Law. So let us say that the lower box was shaded and you were looking for the solution of the upper box, the solution is self-evident: it should be shaded too. Similarly, if the upper box was blank, you can deduce that the lower box is blank as well. This is the core of the method. Here, when only parameter is taken into account, the added value of the visual method is rather limited. It becomes worth the effort when two (or more) parameters come into the picture. We therefore move to the typical Talmudic Diagram, which is two-dimensional.

> "The different shading patterns in a two by two Diagram tell us about the significance of the two factors as they relate to the Law in question." (29)

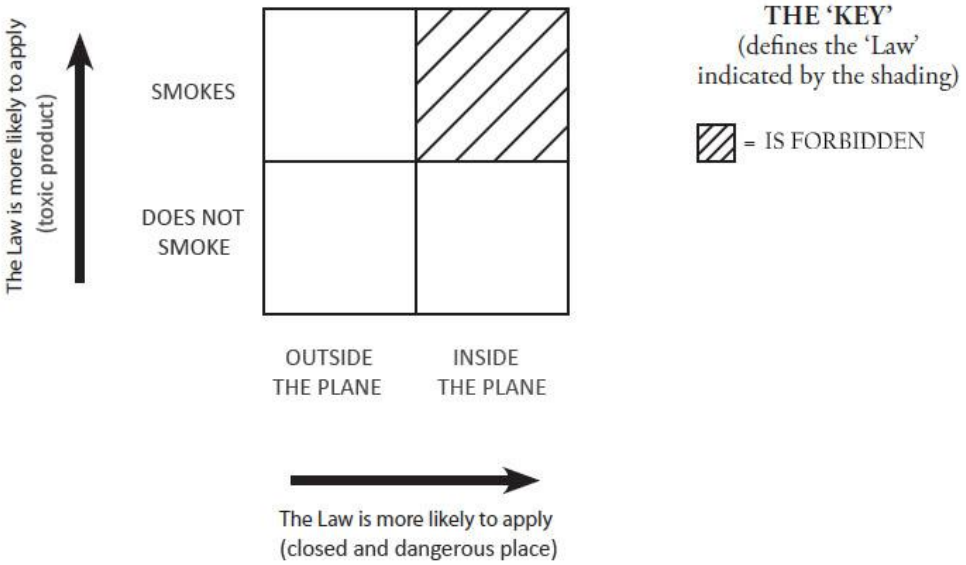
It includes two parameters, four boxes and two arrows. The arrows are conventionally directed upward and from left to right.

> "A Talmud Diagram consists of rows and columns just like an ordinary table, but the boxes within the table each correspond to a specific 'case' within the Talmud. The rows and columns are arranged according to a specific plan dictated by the logic of the Talmud and the boxes formed at the intersection of the rows and columns are shaded to indicate whether a specific Law applies to that case or not. By examining a Diagram you can see at a glance to which cases that specific Law applies just by seeing if the box is shaded, or not." (20)



The second parameter is the time it takes to eat half a loaf of bread. Thus, it is not enough to complete the obligation to eat a certain amount, but you also need to do this within a certain amount of time.

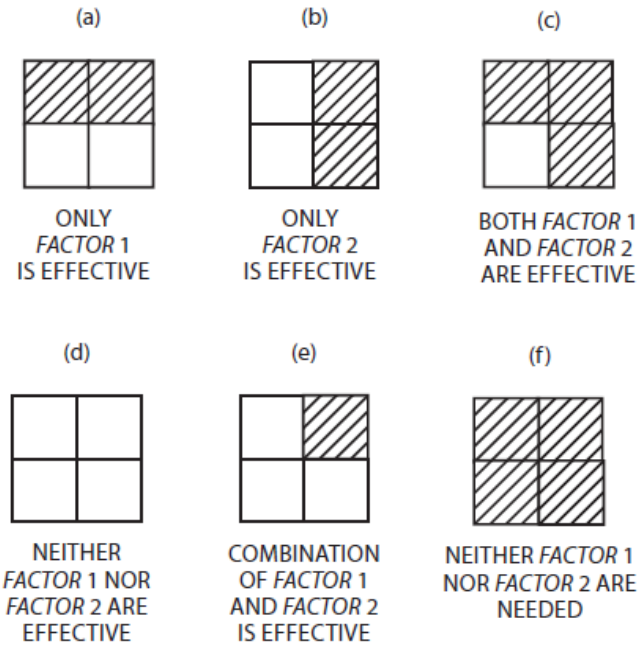
To take another example, if the driver drinks alcohol and takes drugs, and if either of them is forbidden, it is all the more forbidden to consume both. It could also be the case that each behavior is authorized by itself but it is forbidden to do both simultaneously. For example, it is not forbidden to smoke and it is not forbidden to take the plane, it is, however, forbidden to do both at the same time.



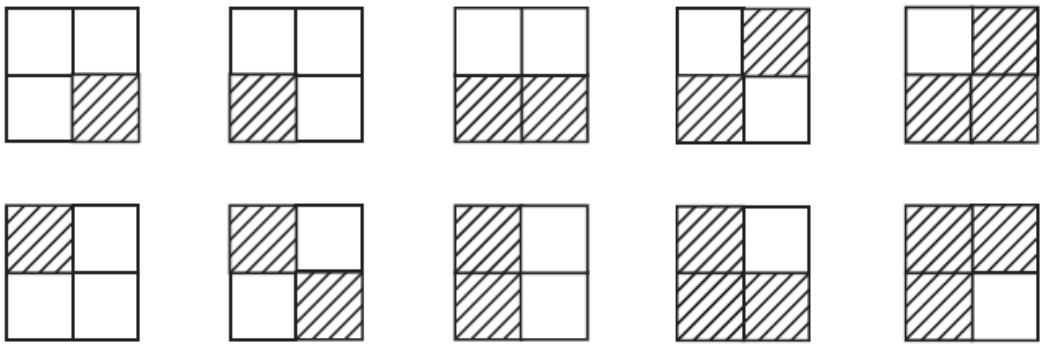
This is a valid Diagram. A Diagram is valid when it respects the Shading Rule:

"**The Shading Rule: In a Diagram if a box is shaded, all boxes above it and to its right are also shaded. If a box is blank, all boxes below it and to its left are also blank**". (27)

According to this rule, out of the sixteen possible patterns of two-dimensional Diagrams, only six ‘make sense’:

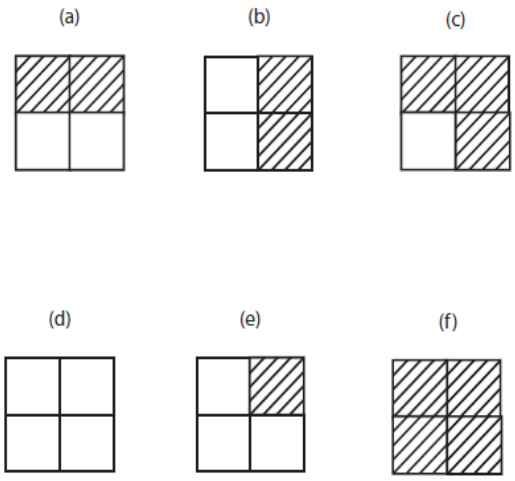


On the contrary, these ten Diagrams are not valid (30), as they do not respect the Shading Rule:



As the author puts it: “Theoretically there are sixteen possible patterns of shading for a two by two Diagram. Some of the patterns ‘make sense’ while others don’t. The six patterns shown in Figure 1.5 ‘make sense’ because they obey the Shading Rule, namely that whenever a box is shaded, all boxes above it and to its right are also shaded.” (30)

This distinction between valid and invalid Diagrams is very helpful to better visualize the relationships between necessary and sufficient conditions. Indeed, here is the wording of each valid Diagram. Let us say the vertical arrow bears on whether you speak Dutch (upper boxes) or you don’t (lower boxes). The horizontal arrow indicates whether you speak English (right boxes) or not (left boxes). You have four possibilities: you speak none of them, you speak Dutch but not English, English but not Dutch, you speak none of them. You can hereby visually represent the conditions to get a job:



(a) It is necessary and sufficient to speak Dutch
(b) It is necessary and sufficient to speak English
(c) It is sufficient to speak either Dutch or English
(d) It is not sufficient to speak Dutch and/or English
(e) It is necessary and sufficient to speak both Dutch and English
(f) It is not necessary to speak either Dutch or English

The Diagram method can also be used to represent disagreements. As you cannot possibly contend that your opinion is (represented by) one of the invalid Diagrams, you need to offer another view (literally) of the situation and a new – valid – Diagram. Once you have the two opposing Diagrams, you can see what the difference is. Usually the difference will depend upon.
The main steps in the making of Diagrams are the following (pages 27 and 34):

- Step 1: "Create a Diagram that contains all the relevant cases, arranged in order of likelihood that the Law applies, with likelihood increasing up and to the right";
- Step 2: "Using the style of shading shown in the Key, shade the boxes corresponding to cases where you know the Law applies. Leave boxes blank where you know the Law does not apply. Mark all remaining boxes with a question mark";
- Step 3: "Use the Shading Rule to determine the shading status of as many of the remaining boxes as possible";
- Step 4: "Create separate Diagrams for separate opinions".

The four steps are summarized at the end of the book and accompanied by Diagrams (148-149). Two remarks are made about these steps (27). First, "**A Diagram with its pattern of shaded boxes represents an opinion**": you should not represent two different opinions within the same Diagram but rather use one Diagram to represent each opinion. Second, "**The value of using Diagrams is to succinctly represent an opinion using a pattern of shaded boxes**". The shaded boxes are a direct indicator of the opinions, but one should also pay attention to the fact that two opinions may differ only in the names of the variables but have the same boxes shaded. All the elements are therefore relevant.

The book is structured in a pedagogic way. It starts from simple cases and moves towards more difficult examples. You are asked questions to check if you properly understood the content of each chapter. The answers are at the end of the book. These are the chapters:

- Chapter 1: Constructing Diagrams
- Chapter 2: Disputes, Proofs and Refutations
- Chapter 3: The Language of Diagrams

- Chapter 4: Dealing with Time
- Chapter 5: Diagrams with Multiple Shadings
- Chapter 6: The *Kal Vachomer*
- Appendix: Three Dimensional Diagrams
- Answers to Questions
- The Four Steps

As is visible from the list of the chapters, it ends up with a chapter on the argument *a fortiori* (*kal vachomer*). This is how Ury defines this type of argument:

> "The *kal vachomer* is a logical argument that proves a proposition to be true under one set of circumstances based on it being true under a less compelling set of circumstances." (95)

The question of the link between the *kal vachomer* and the very technique of Talmudic Diagram is to be raised here. Is the *a fortiori* any sort of argument that the Talmudic Diagrams displays? Is it just one the many arguments that are visualized here? The answer is negative. The argument *a fortiori* rather seems to be not only part and parcel of Talmudic Diagram but is even the central if not unique argument that the methods depends on. These boxes are indeed organized in such a manner to deduce cases through the argument *a fortiori*: if the lower is shaded, the upper box must certainly be shaded, if the upper case is blank, the lower case must certainly be blank. Ury states:

> "The principle of the *kal vachomer* is built into the fabric of Diagrams. Every time we completed a Diagram we did so using the principle of the *kal vachomer*, and the Shading Rule itself can be viewed as nothing more than a restatement of the principle of the *kal vachomer*." (95)

The whole method is using the argument *a fortiori* visually to resolve cases of uncertainty. Whenever a box is left with a question mark and its status is to be determined, either an argument *a fortiori* leads to its solution or no solution at all is found. If no solution is found, it is no problem at all: we know that we don't have the information to answer the case. In other words the argument *a fortiori* solves all the problems that can be solved. The other problems remain unsolved.

Two additional remarks on the argument *a* fortiori. First, although the whole method is founded on the argument *a fortiori*, the book does not enter all the technicalities of the device: "Notably missing in this chapter are the important concepts of *dayo* and *tzad hashaveh*" (95). Maybe in a future publication, Ury will tackle these problems.

Second, there is an interesting comment upon the argument *a fortiori*. The author says that one should not reduce this argument to a purely logical one. This could mean different things. It could mean that the argument *a fortiori* implies linguistic features such as scalarity, i.e. the interrelation between concepts. For example, if a drink is hot, it is at least warm. You could also say: the drink is warm *or even* hot. But you could not possibly (at least not easily) say: *the drink is hot *or even* warm. The reason why some statements are acceptable and some are not lies in the fact that words in natural languages, including English, are oriented: "warm" is oriented towards "hot". The keywords that link these words are *at least*, *or even* and the like. To sum up, to say that the argument *a fortiori* is not purely logical could mean that it requires those keywords that are typical of natural languages. This happens to be our opinion. The other finds another reason why the argument *a fortiori* is not purely logical:

> "The *kal vachomer* is valid because it is one of the Thirteen Hermeneutic Principles by which Torah Law is derived, not simply because of 'logic'. The *kal vachomer* is distinct, for example, from the logical certainty of *Bichlal Ma'asaim Maneh* – the principle that states that 200 contains 100." (95)

Of course, maybe the author would say this about the *kal vachomer* and not about a mere argument *a fortiori*.

It is important to recall the disclaimer of the author:

> "There is no intention here to replace an understanding of the *sugya* with the manipulation of Diagrams. Rather, we use Diagrams and the language of Diagrams to follow and remember the workings of a *sugya*." (47)

The method is not made to replace but to complement the study of the Talmud. It is our claim that it works very well. By the way and independently of the hypothetical structural difference between the argument *a fortiori* and the *kal vachomer*, the method made up in this book is extremely useful in general legal argumentation and not only in Talmudic discussions. One would do well to deepen the comparison between legal argumentation in Continental law and Common law and that in Talmudic argumentation. This book surely helps the reader advance on this topic, too.

Notes:

1. I would like to thank Jennifer Nigri for having helped me with the graphs and Tal Binyamin Polon for his comments.
2. I stick to Ury's capitalizing words like Diagram, Key or Law.
3. I stick to Ury's transcriptions of Hebrew.