

What exactly is the “lobe of the liver” (יִתְרֵת)?

Peter Schmidt. 2019.

The Hebrew data

יִתְרֵת *yōteret* is commonly translated as “lobe / appendage (of the liver)”. A “lobe” is “a roundish projection or division, as of an organ or a leaf” (dictionary.com).

יִתְרֵת *yōteret* comes from the root יִתַּר *ytr* “to leave over”, from which also the word יֵתֵר *yeter* “rest / remainder” is derived; literally, it means “surplus”.

To be precise, the term occurs in three variations:

- יִתְרֵת הַכֶּבֶד *yōteret hakkābēd* in Ex 29:22; Lev 8:16/25; 9:19
- יִתְרֵת מִן־הַכֶּבֶד *yōteret min-hakkābēd* in Lev 9:10
- יִתְרֵת עַל־הַכֶּבֶד *yōteret ‘al-hakkābēd* in Ex 29:13; Lev 3:4/10/15; 4:9; 7:4

According to Levine (JPSTC, 1989), they all refer to the same thing. Milgrom (Leviticus 1–16, AB, 1991) does not differentiate them either, except for translating with “of the liver” and “on the liver” respectively.

Houtman (Exodus, vol. 3, HCOT, 1996/2000) expresses the commentators’ consensus, when he says regarding יִתְרֵת *yoteret* (on Ex 29:13):¹

... denotes the appendage or lobe of the liver, the *lobus caudatus* ... This interpretation has the support of the ancient versions (except Vulg.) and early exegesis. The interpretation ‘caul’ (KJV, LuthV) goes back to the Vulg. (*reticulum*) and mediaeval exegetes (Rashi for one). [Footnote referring to TWAT and G. F. Moore].

This probably means that Harrison’s (TOTC, 1980) explanation is outdated. He said (on Lev 3:4):

appendage of the liver ... the reference being to the sheet of fatty tissue in the animal’s front quarters. The term ‘caul’ is now of infrequent use, but in medicine it is still employed occasionally to describe the great omentum and certain other structures.²

Sklar (TOTC, 2013) follows Milgrom. Milgrom explains (on Lev 3:4, p. 208):

caudate lobe. yōteret, from *yeter* ‘excess, protuberance’, identified with the *lobus caudatus* or *processus pyramidalis*, a fingerlike projection from the liver, close to the right kidney, termed *ubānu* in Akkadian (*AHW* 1399a, no. 7), *ḥašra*’ in Aramaic (Tgs., ad loc.) and *’ešba*’ in Rabbinic Hebrew (*m. Tamid* 4:3) – all meaning “finger (of the liver).” This lobe was significant in ancient hepatoscopy [= divination based on liver examination, PS]: its imperfections were a dire warning of forthcoming disaster (e.g., Goetze 1947, 1957). The identification was first made by G. F. Moore (1906: 761ff.). The caudate lobe protrudes conspicuously from the liver, as can be seen from the Babylonian clay model (fig. 3). ...

HALOT’s entry says:

the surplus, the **appendage of liver**, found with cow, sheep, or goat, but not with humans: *Lobus caudatus*, (Elliger *Lev.* 52; GFMoore *Fschr. Nöldeke* 761ff; Rost

¹ Cf. Wenham (NICOT, 1979) (tentatively), Levine, Hartley (WBC, 1992) [referring to L. Rost, ZAW 79 [1967] 35-41], Milgrom.

² The “omentum” is “a fold of the peritoneum connecting the stomach and the abdominal viscera forming a protective and supportive covering.”

The “caul” or “greater omentum” is “the peritoneal fold attached to the stomach and the colon and hanging over the small intestine.” (Both from dictionary.com).

ZAW 79 (1967):35-41 important when examining the liver, Meissner Bab. Ass. 2:267ff; Reicke-R. Hw. 1061).

The remark “but not with humans” is in this form incorrect. While there are differences in the design of the caudate lobe in humans and in animals, a human liver has this part as well.

Hieke (Levitikus: 1–15, HThKAT, 2014) (on 3:4, p. 217) also speaks of *lobus caudatus*, but strangely describes it as “das Fett zwischen Leber und Zwölffingerdarm” (= the fat between liver and duodenum).

Now what is this so-called caudate lobe exactly, and how can it be named in languages where a specific term is not in use?

Anatomy³

The liver consists of four parts. In human-beings, there is the right and the left lobe of the liver. In ruminants like sheep and cattle, these are matched by an upper and a lower part. (This is due to the fact that most of the left side of the abdominal cavity is occupied by the rumen (the first stomach).⁴ In addition, two more lobes or appendages can be identified: the “quadrate lobe” (which is irrelevant for our discussion), and the “caudate lobe” (Latin: *lobus caudatus*). “Caudate” means “having a tail or taillike appendage“ (dictionary.com).⁵ Thus the caudate lobe can be likened to a tail on the liver. The caudate lobe itself is divided into two parts.

As far as the issue at hand is concerned, the anatomy of cow, sheep and goat is very similar. The model in Figure 1 shows some of the sheep’s organs.

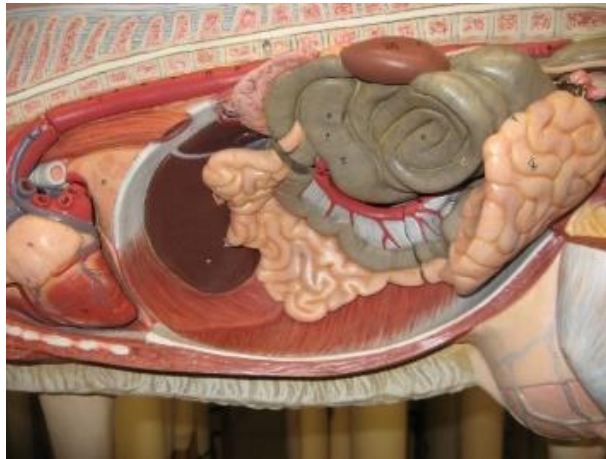


Figure 1: The position of the liver in a sheep

The view in this model is from the left side, but the large first stomach, which normally takes up most of the left side, is removed, thus giving way to viewing the organs on the right side.

The liver is the dark brownish/purple organ left from the center of the picture. It has a more or less vertical position and can be seen as having an upper and a lower part (in contrast to the liver in human-beings, which lies in a more horizontal position, having a right and a left wing). In this picture, the caudate lobe itself cannot be identified.

³ I did my best to understand the matter, but I cannot exclude misunderstandings. So my explanations are tentative.

⁴ On the position of the liver in ruminants, cf. e.g. [https://flexikon.doccheck.com/de/Leber_\(Wiederk%C3%A4uer\)](https://flexikon.doccheck.com/de/Leber_(Wiederk%C3%A4uer))

⁵ Dictionary.com gives this definition for “caudate lobe” [probably foremostly referring to a human’s liver]:

A small lobe of the liver situated posteriorly between the sulcus for the vena cava and the fissure for the venous ligament. Spigelius' lobe.

Figure 2 shows a liver, looking at it from the back of the animal. I turned the original picture (2a) by 90 degrees (2b), because this way it shows the position in a living, standing animal (*in situ*). The caudate lobe is labelled # 3 and consists of two parts.

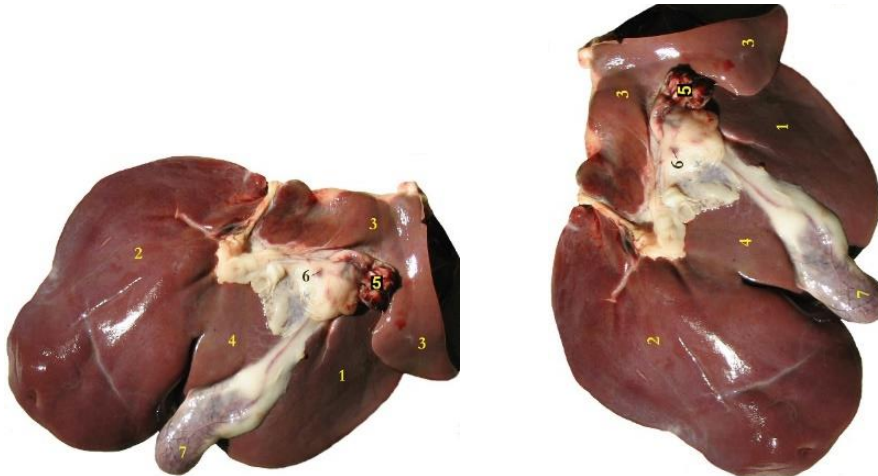


Figure 2a: The liver of a sheep⁶

Figure 2b

Legend: 1 right lobe, 2 left lobe, 3 caudate lobe, 4 quadrate lobe, 5 hepatic artery and portal vein, 6 hepatic lymph nodes, 7 gall bladder

Referring to [Figure 2b](#), we see the lower (“left”) lobe and the upper (“right”) lobe. **On the top there is the “caudate lobe” (*lobus caudatus*, # 3).** The two numbers “3” refer two two distinct parts of it: the caudate lobe consists of the “caudate process” (*processus caudatus*) on the very top, and the “papillary process” (*processus papillaris*) in the top left corner. The papillary process is fairly small. The caudate process is comparatively large, and prominent in ruminants. It lies in “dorsal position”, i.e. close by the dorsal vertebrae. That it looks so even and flat at the top is not due to any “cutting”, but is due to its natural position: above it sits the omentum, which confines the extent of the liver.^{7, 8}

From the literature, it is not entirely clear whether Hebrew *yōteret* refers to the whole caudate lobe, or only to the top part, the “caudate process”.⁹ The latter is more likely.

Significance

Milgrom continues to explain (*loc. cit.*):¹⁰

⁶ commons.wikimedia.org, accessed 19-05-27.

CC BY-SA 3.0. creativecommons.org/licenses/by-sa/3.0/.

⁷ The livers of some other animals show more clearly the separation into several lobes. E.g., a dog’s liver looks more intersected than a cow’s liver.

⁸ Levine’s comment (on Lev 3:4) “The “protuberance” (*yoteret*) was not at the top of the liver.” is unhelpful, because he does not state from which perspective he looks at it.

⁹ To complicate things, there seem to be shifts in the terminology: Milgrom equates *lobus caudatus* and *processus pyramidalis*. The latter term seems an outdated term. According to Wikipedia.org and other websites, it normally has to do with the palatine bone or the thyroid gland. Encyclopedia Britannica 1911[!] (s.v. omen, in its discussion of hepatoscopy), while using the same term, applies it to the counterpart of the *processus papillaris*; *processus pyramidalis* would then be what is nowadays called the *processus caudatus*, thus only one part of the *lobus caudatus* (<https://theodora.com/encyclopedia/o/omen.html>, accessed 19-12-07):

The two appendixes attached to the upper lobe or *lobus pyramidalis*, and known in modern nomenclature as *processus pyramidalis* and *processus papillaris*, were described respectively as the “finger” of the liver and as the “offshoot.”

Also, another name for the caudate lobe is Spigelian lobe.

... Hepatoscopy was also practiced in Canaan, as evidenced by the finds at Gezer and Hazor of models of animal livers containing lines similar to a palmist's guide (see Cook 1930: pl. xxiii, fig. 2; *EM* 4.3). Why the caudate lobe was reserved for the deity is unknown. Nevertheless, the reason for this decision could not have been in order to prevent its use in divination; if so, then the rest of the liver – employed just as much as the long lobe in divination (hepatoscopy) – would also have been consigned to the altar.

Translation

The Hebrew phrases are all right in their own ways. The caudate lobe is named *yōteret hakkābēd* “the lobe of the liver”, because it is really a part of the liver, not an organ by itself. The caudate lobe can also be described as *yōteret min-hakkābēd* “the lobe from the liver”, because it can be seen as a distinct part, extending from the liver. Finally, it is called *yōteret 'al-hakkābēd* “the lobe on/at the liver, because it sits on top of the liver (when the animal is in standing position).

There is no need to distinguish between these three phrases in translation.

The English versions translate with “lobe / appendage / protuberance of the liver”.

Some versions, e.g. NIV, say “the long lobe of the liver”. This might be in order to denote the caudate process specifically, as opposed to the papillary process. The caudate process is larger. Another way of identifying it is by speaking of the “lobe on top of the liver”. CEV's rendering as the “lower part of the liver” is not fitting.

GNTD speaks of the “best part of the liver”. The *Handbook on Leviticus* (UBS, Péter-Contesse and Ellington, 1990) supports that when it says (on Lev 3:4):

The appendage of the liver: among certain neighboring tribes of the Israelites, the liver was used in divination rites. Possibly this is why Jewish legislation required that it be burned. But it is also true that, like the fat, this particular part of the liver referred to as the appendage was considered a delicacy and was therefore appropriate to be set aside for God. In many languages it is best to render it as “the choicest part of the liver.” since that will probably communicate the meaning better than the name of a particular part of the organ.

I find this suggestion questionable, because I could not yet find confirmation for this part being so valued.^{11, 12} Therefore, rather than being interpretive, I prefer to **keep a reference to the anatomy and translate as something like “appendage of the liver”**.

GECL translates “Fettlappen an der Leber” (= fatty lobe on/at the liver). But although the *yoteret* is mentioned alongside other fatty parts of the animal (e.g. in Ex 29:22), this rendering lacks factual support. In healthy ruminants, the liver is not an organ that contains much fat anyway, and **the tissue of the caudate lobe does not differ from the tissue of the rest of the liver**.¹³ Unfortunately, Sklar also speaks of the lobe as “fat”. Hieke (p. 222) quotes Watts (Leviticus 1–10, HCOT, 2013) as thinking of a delicacy, and saying “the kidneys and part of the liver like the fat were burned to present the best of the animal to God”. Again, if the tissue of the caudate lobe is not different from the one of the rest of the liver, I do not see why it could be more of a delicacy than the other parts. At least I would not press this point in translation.

¹⁰ For further details on liver divination in Mesopotamia, see <http://factsanddetails.com/world/cat56/sub402/entry-6400.html>.

¹¹ Something that speaks against it is the high susceptibility of the caudate process for parasites, which is why it is given special attention in meat inspection today. [Pers. communication, pending confirmation.].

¹² The comment in the *Handbook on Exodus* (UBS, Osborn and Hatton, 1999) on Ex 29:13 is even more problematic:

And the appendage of the liver, literally “the redundance over the liver,” probably refers to the extra lobe of the liver found in cattle, sheep, and goats, but not in humans. So CEV has “lower part of the liver.” Some, however, have understood this to mean “the fatty mass over the liver” (NJB), traditionally translated as the “caul” (KJV, ASV). Since this part of the liver is singled out for burning on the altar, TEV calls it “the best part of the liver.” Another way to express this is “the choicest part of the liver.”

While some contested points are touched upon, explanations and evaluations are lacking.

¹³ Personal communication with veterinarians.

Additional remark: the fat on the kidneys

Lev 3:4 also speaks of the “**two kidneys with the fat that is on them, which is on the loins**”. This is a complex phrasing. Figure 3 can help to show how the mentioned parts relate to each other.



Figure 3: Model of a sheep’s hind parts (seen from the left)

The left kidney is the brown organ slightly left from the center of the picture (marked with “VIII”). Although the fat on the kidney is not represented as a separate part, the picture illustrates why this fat can be described both as “fat on the kidneys” and as “fat on the loins”: The loins (or lumbar spine) are the general area where the kidney is situated.