

Abstract

This paper studies some aspects of the Shroud of Turin in relation to Jewish funerary customs: the analysis is based on scientific literature on the subject, on ancient sources and on archaeological finds. After discussing a few specific characteristics of the Turin Shroud fabric, we delve into talmudic and traditional references to Jewish burial shrouds and into some linguistic observations (also presenting a Hebrew textile terms glossary).

The Shroud of Turin appears to be a traditional Jewish burial shroud; the only really peculiar feature is the exceptional value of the cloth (which is however consistent with the range of possibilities allowed by Jewish laws).

Keywords: Turin Shroud, Jewish Shrouds, Funerary Customs, *sha'atnez*, Talmud

Introduction

The following pages are devoted to discussing some aspects of the Shroud of Turin in relation to Jewish funerary customs from the Second Temple Period onwards, basing on scientific literature and on ancient sources¹, besides archaeological finds.

1.1. The Cloth: absence of sha'atnez

Scientific papers related to the Shroud of Turin's cloth² describe a Z-twist thread consisting

¹ List of abbreviations: M = Mishnah; T = Tosefta; TB = Talmud Bavli (Babylonian); TY = Talmud Yerushalmi (of Jerusalem).

List of editions:

Mishnah: *The Mishnah Translated from the Hebrew with Introduction and Brief Explanatory Notes* by H. Danby, Oxford University Press, H. Milford, London 1964 (First ed.: Oxford University Press, London 1933), known as *The Mishnah Danby*; moreover, see <http://www.emishnah.com> (from *The Mishnah: a New Integrated Translation and Commentary*, based on Rabbeinu Ovadiah M'Bartenurah, also known as *Milstein Mishnah*), and <http://www.jewishvirtuallibrary.org/jsourc/Talmud>.

Talmud Bavli (Hebrew-English): *The Babylonian Talmud*, ed. I. EPSTEIN, The Soncino Press, London - New York 1983-1990 (First Ed.: The Soncino Press, London 1935-1948), also known as *Soncino Talmud*; a few other tools are available on-line at <http://www.israelect.com/Come%2Dand%2Hear/talmud> and (in Hebrew) at <http://www.mechon-mamre.org>.

Talmud Yerushalmi (or Jerusalem or Palestinian, in French): *Le Talmud de Jérusalem*, ed. M. SCHWAB, 6 voll., G.P. Maisonneuve, Paris 1960; useful to reconstruct some quotations from different texts, can also be P. SCHÄFER - H.J. BECKER, *Synopse zum Talmud Yerushalmi*, 4 Bd., Mohr Siebeck, Tübingen 1991-1995 (in Hebrew).

Tosefta: *The Tosefta Translated from the Hebrew*, edd. J. NEUSNER - R.S. SARASON, Ktav Publishing House, New York-Hoboken (USA-NJ) 1979-1986.

Catholic Bible: *The New American Bible*, Catholic World Press - World Bible Publishers, USA 2000.

Hebrew Bible (in Hebrew): *Biblia Hebraica Stuttgartensia*, edd. K. ELLIGER - W. RUDOLPH, Deutsche Bibelgesellschaft, Stuttgart 1990.

Jewish Bible (in English): *The Jewish Bible. Tanakh. The Holy Scriptures. The New JPS Translation According to the Traditional Hebrew Text. Torah - Nevi'im - Kethuvim*, The Jewish Publication Society, Philadelphia-Jerusalem 1985.

New Testament (interlinear): *Nuovo Testamento interlineare. Greco-Latino-Italiano*, Edizioni Paoline, Cinisello Balsamo (Mi) 1998; *The Greek New Testament*, edd. B. ALAND - K. ALAND - J. KARAVIDOPOULOS - C.M. MARTINI - B.M. METZGER, Deutsche Bibelgesellschaft, Stuttgart 2009.

Septuagint (in Greek): *Septuaginta. Editio altera*, edd. A. RAHLFS - R. HANHART, Deutsche Bibelgesellschaft, Stuttgart 2006.

Vulgate (in Latin): *Biblia Sacra Vulgata iuxta Vulgatam Versionem*, ed. R. WEBER, Deutsche Bibelgesellschaft, Stuttgart 1983.

² I here refer to papers authored by the textile experts who analysed the Shroud's fabric: V. TIMOSI, *La*

of a variable number of fibrils (70 to 120), weaved in a herringbone pattern.

One of the most relevant features of the Shroud is the absence of wool fibrils³, which leads to the conclusion that the Sindonic fabric has been weaved using a loom subject to the laws of Jewish cleanliness, i.e. intended for weaving flax only, according to the prohibition of *sha'atnez* deriving from Dt 22:11⁴ (explicitly forbidding to wear clothes with the illegal mixture of wool and linen)⁵.

Since *sha'atnez* is an exclusively Jewish issue⁶, alien to every other cultural milieu, its absence can be considered a strong evidence of the Jewish making of the Shroud of Turin's fabric.

The Matthean notion of «clean linen cloth» expressed in Mt 27:59 (ἐν σινδόνι καθαρῷ) ought to be therefore interpreted in a distinctive Jewish way, that is as ritual purity or cleanliness (absence of *sha'atnez*), as already suggested in previous papers⁷: besides, it

Santa Sindone nella sua costituzione tessile. Analisi e ricostituzione tecnica del Sacro Lenzuolo, Berruti, Torino 1942; G. RAES, *Appendix B - Rapport d'Analyse*, in *La S. Sindone. Ricerche e studi della Commissione di esperti nominata dall'Arcivescovo di Torino Card. Michele Pellegrino nel 1969*, Supplemento alla *Rivista Diocesana Torinese* (gennaio 1976), pp. 79-83; G. RAES, *The Textile Study of 1973-1974*, in *Shroud Spectrum International* 38/39 (March/June 1991) pp. 3-6; M. FLURY-LEMBERG, *Sindone 2002. L'intervento conservativo. Preservation. Konservierung*, ODPF, Torino 2003, pp. 49-54. See also the recent work by P. VERCELLI, *La Sindone nella sua struttura tessile*, Effatà, Cantalupa (To) 2010: especially noteworthy the comparisons with Egyptian mummies' fabrics, see pp. 41-57.

³ Raes sample, though, contains a few traces of cotton: according to Raes, this would mean that the loom used to weave the Shroud had also woven some cotton fabrics (G. RAES, *Appendix B - Rapport d'Analyse cit.*, pp. 82-83); recent studies, instead, proved that the unexpected presence of cotton in that particular area of the Shroud (bottom-left corner of the ventral image) is due to medieval mending: see R. ROGERS, *Studies on the Radiocarbon Sample from the Shroud of Turin*, in *Thermochimica Acta* 425/1-2 (20 Jan. 2005) pp. 189-194; J.G. MARINO - M.S. BENSON, *Discrepancies in the Radiocarbon Dating Area of the Turin Shroud*, in *Chemistry Today* 26/4 (July-August 2008) pp. 4-12.

⁴ See also Lv 19:19 and the prohibition to wear garments woven with two different kinds of thread.

⁵ The notion of *kilayim* (law of the diverse kinds), is widely dealt with in a specific Talmud tractate. The exceptions allowed are listed in M *Kilayim* 9:1-4: there is no prohibition of *kilayim* regarding mattresses, pillows, hand towels, Torah covers, bath towels (though R. Eliezer disagreed), shrouds for the dead and packsaddle of donkeys.

⁶ According to rabbinical interpretation, this is a *Chok*, i.e. a law that cannot be explained, a *mitzvah* that has no readily evident reason (the opposite of a *Mishpat*, which is a logical law). Two are the main hypotheses about the origin of this prohibition: Maimonides writes that idolaters used to wear such garments; Rosh (Rabbi Aharon HaLevi from Barcellona), in the 13th century, maintains that no dress or cloth destined to common use can be similar to the holy *Parochet*, i.e. a separating curtain in the Temple, made from a mixture of wool and linen; the same author claims that such a mixture destroys the pattern of Creation; according to others, the linen-wool issue derives from the murder of Abel, who offered his sheep – and thus their wool –, while Cain offered the products of the earth – flax-linen probably included – (see Gn 4 and the corresponding *midrash* in the *Bereshit Rabbah*); finally, a passage from the Zohar could also be quoted: *sha'atnez* can be split in two words, *Satan Az*, i.e. «Satan is strong» or «reckless Satan». The above mentioned quotations can be found in the answer provided in 1995 by one of Ohr Somayach International Rabbis at <http://ohr.edu/ask/ask055.htm>, and in that by Rabbi Simmons at http://judaism.about.com/library/3_askrabbi_o/bl_simmons-clothing.htm; both rabbis refer to Maimonides' *Moreh HaNevuchim* (better known as *The Guide of the Perplexed*), part 1, ch. 36, to Rabbi Aharon HaLevi's *Sefer HaChinnuch*, n. 551, and to the Zohar, *Vayikra*. About the origins of *sha'atnez*, it's also necessary to mention a classic like G. SCHOLEM, *La Kabbalah e il suo simbolismo*, Einaudi, Torino 2001, p. 92 (Orig. Ed.: *Zur Kabbala und ihrer Symbolik*, Rhein Verlag, Zürich 1960).

⁷ I will only refer here to papers expressly dealing with this specific aspect: R. JACKSON, *Hasadeen Hakadosh: The Holy Shroud in Hebrew*, in *L'identification scientifique de l'homme du linceul Jésus de Nazareth. Actes du symposium scientifique international (Rome 8-12 juin 1993)*, ed. A.A. UPINSKY, De Guibert, Paris 1995, pp. 27-33 (in particular pp. 29-30); EAD., *Jewish Burial Procedures at the Time of*

cannot be neglected the fact that such a detail is pointed out only in Matthew's Gospel, the one especially addressing the Judaeo-Christian nucleus of the primitive Church.

Such ritual cleanliness, *per se*, is not strictly requested for a burial shroud (M *Kilayim* 9:4; TB *Pesachim* 40b): for this reason, several scholars suggest that the Shroud's cloth was originally weaved for some other purpose; the hypotheses are numerous and different and I will not discuss them here⁸.

1.2. Some textile features of the Shroud: absence of hems

The dimensions of the Shroud of Turin are about 439.5 / 442 x 110 / 112.3 cm (I refer to the measurements published by Metchild Flury-Lemberg after 2002 restoration)⁹: these are average dimensions, considering the elasticity of the linen cloth and the tractions it underwent on many occasions (including the removal of the Holland cloth in 2002).

The Shroud of Turin doesn't carry selvages nor hems on the short ends, and there are no woven borders: this characteristic indicates that the Shroud was never actually finished or

Christ. A Jewish Cultural Approach, in *El Sudario del Señor. «Sudarium Domini». Actas del I Congreso Internacional sobre El Sudario de Oviedo (Oviedo, 29, 30 y 31 de Octubre de 1994)*, edd. J.M. RODRÍGUEZ ALMENAR - J. CHIRIVELLA GARRIDO, Servicio de Publicaciones Universidad de Oviedo, Oviedo 1995, pp. 309-322 (in particular pp. 314-316); M.L. RIGATO, *Il Titolo della Croce di Gesù. Confronto tra i Vangeli e la Tavoletta-reliquia della Basilica Eleniana a Roma*, Roma 2003 (Tesi Gregoriana. Serie teologia, 100), pp. 212-213.

⁸ In this respect, various hypotheses have been put forward: if it's been scholarly suggested that the Shroud could be a sheet connected with the ritual immersions of the High Priest on Yom Kippur (see RIGATO, *Il Titolo* cit., pp. 206-207), other conjectures are rather curious, as the one identifying the Shroud with Jesus' *tallit* (see J.N. LUPA, *The Ancient Jewish Shroud At Turin*, 2010 at <http://www.reginacaelipress.com>), or that concerning the garment worn by the young man running away naked in Mk 14:51-52 (A.A.M. VAN DER HOEVEN, *The Seam and Missing Corners of the Turin Shroud as characteristics of John Mark's Temple Garment* at <http://www.jesusking.info>). Finally, Rebecca Jackson and her husband John proposed to identify the Shroud of Turin with the tablecloth used at the Last Supper: see J. JACKSON - R. JACKSON, *La Sindone di Torino fu anche la tovaglia dell'Ultima Cena?*, in *Il Volto dei Volti* III/2 (luglio-dicembre 2000) pp. 56-71, also available at http://www.nostreradici.Sindone_liturgia.htm. As for this theory, it's of course impossible to demonstrate whether the Shroud, before wrapping Jesus' body, could have been actually used as the tablecloth of the Last Supper (leaving apart, though, the complex problem of Jewish customs of the time, which is all but an easy matter). Yet, it's interesting to underline a logical passage the Jacksons point out: according to them, the ancient tradition of calling «sindon» the white linen cloth draped over the altar where Holy Communion is celebrated, could be a clue that the Apostles might have used Jesus' Shroud as a tablecloth during the agape, after the Resurrection. I will only add that such a use of the Shroud as an actual tablecloth is very much unlikely: but we cannot absolutely exclude that the Shroud could have been draped over other tables, during the agape, in a kind of *ante litteram* ostension. As for objections against the Jacksons' theory, see for instance M. LOCONSOLE, *La Sindone di Torino non è stata utilizzata come tovaglia per l'Ultima Cena*, in *Sindone 2000* (Atti/Proceedings Congresso Mondiale/Worldwide Congress, Orvieto 27-29 agosto 2000), edd. E. MARINELLI - A. RUSSI, Gerni, San Severo (Fg) 2002, pp. 531-535.

⁹ These dimensions are those reported in VERCELLI, *La Sindone* cit., p. 34. For other in-depth examinations I refer to the following works: M. FLURY-LEMBERG, *Die Leinwand des Turiner Grabtuches zum Technischen Befund*, in *The Turin Shroud. Past, Present and Future* (Proceedings of the International Scientific Symposium of Turin, 25 March 2000), edd. S. SCANNERINI - P. SAVARINO, Effatà, Torino 2000, pp. 21-43; EAD., *Un tessuto di preziosità incalcolabile*, in *Le due facce della Sindone: pellegrini e scienziati alla ricerca di un volto*, ed. G.M. ZACCONE, ODPF, Torino 2001, pp. 137-142; EAD., *The Linen Cloth of the Turin Shroud: some Observations in its Technical Aspects*, in *Sindone* 16 (dicembre 2001) pp. 55-76; EAD., *Sindone 2002* cit., p. 120 (with the measurements taken after the restoration: 439.5 / 442 x 110 / 112.3 cm).

meant to have the dimensions we know, and, moreover, that it was cut from a bolt¹⁰. It must be pointed out that the Shroud's measurements are perfectly consistent with ancient techniques¹¹: many specimens of linen textiles of similar dimensions are very well known; I will only recall the works by British archaeologist Wallis Budge (Egyptian mummies wrapped in a single cloth, as an outer wrapping)¹², by Italian Schiaparelli (linen sheets definitely larger than the Shroud: 4 by 4 m and 1.58 by 5.20 m, respectively)¹³, besides a few recent studies such as those by Andrews (Egyptian burial shrouds 4.5 m long and 1.2 m wide, knotted behind the mummy's head and feet)¹⁴.

Moreover, it should be mentioned the case of a burial shroud found in 1993 in the Warrior's Cave north-west of Jericho (in the lower area of Wadi el-Makkukh), dating back to circa 4000 B.C. and which dimensions are 7 by 2 m¹⁵.

Let us now briefly examine the edges of the Shroud¹⁶.

Along one of the long sides of the Shroud of Turin (on the anatomical left side of the ventral image) runs an 8-cm long side strip (the width actually varies between 7.8 and 8.4 cm)¹⁷, stitched to the adjacent main Shroud with great accuracy by a flaxen sewing thread (0.4/0.5 cm wide)¹⁸.

According to textile expert Flury-Lemberg, who had access to the Shroud as supervisor of

¹⁰ This conclusion is maintained by several authors: here it will be enough to quote FLURY-LEMBERG, *The Linen Cloth* cit., p. 56.

¹¹ There is an ample bibliography on this subject. On textile techniques in general, see R.J. FORBES, *Studies in Ancient Technology*, vol. 4, Brill, Leiden 1956 [=Brill, Leiden 1987]. Other helpful observations can be found also in FLURY-LEMBERG, *The Linen Cloth* cit.

¹² Wallis Budge reported a few finds discovered near Asyût and dating back to the Xth and XIst Egyptian Dynasties (circa 2160-1994 B.C.): the mummies were «wrapped in a single large sheet of brownish yellow linen», i.e. a sort of burial shroud laced up the back, cfr. E.A. WALLIS BUDGE, *The Mummy: a Handbook of Egyptian Funerary Archaeology*, Cambridge University Press, Cambridge 1925 [=Cosimo, New York 2011], p. 211.

¹³ E. SCHIAPARELLI, *La tomba intatta dell'architetto Cha nella necropoli di Tebe*, AdArte Publishing, Torino 2007 (Orig. Ed.: Torino 1927). The Italian archaeologist here describes the apparel found in 1906 in a XVIIIth Dynasty tomb (circa 1550-1292 B.C.) near Deir el-Medina, today at the Museo Egizio in Turin: see catalogue and photographs at <http://www.museoegizio.it> (S. 8472 and S. 8449: two linen sheets, respectively 400 x 400 cm and 158 x 520 cm).

¹⁴ C. ANDREWS, *Egyptian Mummies*, The British Museum Press, London 1984 [=Harvard University Press, Harvard 2004], p. 26. Further observations in J. TYRER, *Looking at the Turin Shroud as a Textile*, in *Textile Horizons* (Dec. 1981) pp. 20-23, especially the conclusions on pp. 20-21; P.C. MALONEY, *Science, Archaeology, and the Shroud of Turin*, in *Approfondimento Sindone* II/1 (1998) pp. 67-10; D. FULBRIGHT, *Akeldama repudiation of Turin Shroud omits evidence from the Judean Desert*, in *Proceedings of the International Workshop on the Scientific approach to Acheiropoietos Images*, ENEA Research center of Frascati (Italy) - 4-6 May 2010, ed. P. DI LAZZARO, ENEA, Roma 2010, pp. 79-85 (also available at <http://www.acheiropoietos.info/proceedings/FulbrightAkeldamaWeb.pdf>).

¹⁵ T. SCHICK, *The Cave of the Warrior: a Fourth Millennium Burial in the Judean Desert*, Jerusalem 1998 (Israel Antiquities Authority Reports, 5); since I couldn't read this paper directly, I rely on the accurate review by A.H. JOFFE, Review of T. Schick, *The Cave of the Warrior: a Fourth Millennium Burial in the Judean Desert*, in *Bulletin of the American Schools of Oriental Research* 317 (February 2000) pp. 76-78.

¹⁶ Where not specified, I will refer to the data published on the official site of Turin Diocese: http://www.sindone.org/santa_sindone/scienza/00024000_Il_tessuto.html.

¹⁷ Approximately 8 cm according to FLURY-LEMBERG, *The Linen Cloth* cit., p. 56. A width between 7.8 and 8.4 cm is reported by L.A. SCHWALBE - R.N. ROGERS, *Physics and Chemistry of the Shroud of Turin. A Summary of the 1978 Investigations*, in *Analytica Chimica Acta* 135 (1982) pp. 3-49, in particular pp. 41-42). A shorter width (6/7 cm) was formerly indicated by Gilbert Raes (see G. RAES, *Appendix B - Rapport d'Analyse* cit., p. 79).

¹⁸ G. RAES, *Appendix B - Rapport d'Analyse* cit., p. 82; SCHWALBE - ROGERS, *Physics and Chemistry* cit., p. 41.

2002 restoration, the free edge of the Cloth has a selvedge, whereas the other is cut; identical characteristics are observed on the side strip as well (one side carries a selvedge, the other one is cut): the cut edges are joined by a seam parallel to the selvages¹⁹.

In the 1970's, Gilbert Raes, after a thorough examination, had already concluded that the side strip fabric has the same textile features as the rest of the Shroud, even though the linen yarn of the first is apparently a bit thicker; he therefore didn't exclude that the two fabrics came from the same piece of cloth, or that they were made of different though very similar fabrics²⁰.

Instead, recent examinations performed by Flury-Lemberg seem to confirm that the main cloth and the side strip are part of the same bolt of fabric, as Schwalbe and Rogers already suggested in the 1980's, basing on X-ray analysis²¹.



Fig. 1. Ancient loom (http://www.templeinstitute.org/beged/priestly_garments-3.htm)

As for the width of such a bolt, Flury-Lemberg suggests the original fabric might have been cut along the long axis to obtain two or more strips: the two outer strips (each one with selvedge on only one side, the other side being cut) would be, respectively, about 104 cm (103 + 1 for the seam) and 9 cm (8 + 1) wide; these two might have been used for the Shroud and for the side strip, whereas the remainder might have been used for some other purpose²².

These, however, are only conjectures.

To recapitulate: on the grounds of our present knowledge, it's most likely that the side strip comes from the same bolt of fabric as the main part of the Shroud; the side strip appears to

¹⁹ FLURY-LEMBERG, *The Linen Cloth* cit., p. 56. In the past, instead, it was considered possible that there could be a selvedge also on the other edge, where the side strip is attached: for a closer examination, see G. VIAL, *Le Linceul de Turin - Étude technique*, in *Bulletin du Centre International d'Étude des Textiles Anciens* 67 (1989), pp. 11-24; EOD., *A propos du Linceul de Turin*, in *Bulletin du Centre International d'Étude des Textiles Anciens* 69 (1991) pp. 34-35; EOD., *The Shroud of Turin: a Technical Study*, in *Shroud Spectrum International* 38/39 (March/June 1991) pp. 7-20; EOD., *The Seam of the Side Strip* (a videorecording of this lecture, read at the congress by another person, is available at <http://www.ShroudUniversity.com/rome93.php>).

²⁰ G. RAES, *Appendix B - Rapport d'Analyse* cit.

²¹ Schwalbe and Rogers analysed STURP X-rays taken in 1978: since the weft threads in the main area of the Shroud are continuous across the seam into the edging strip (and so are the fabric's irregularities) on both sides of the seam, they came to the conclusion that both main Shroud and side strip come from the same bolt of fabric. On this subject, see SCHWALBE - ROGERS, *Physics and Chemistry* cit., pp. 41-42.

²² FLURY-LEMBERG, *The Linen Cloth* cit., p. 58. As for ancient fabrics cut from very large rolls, I refer to the already mentioned linen sheets kept at the Museo Egizio in Turin (S.8449 and S.8472): both carry a selvedge along only one of the long sides (see <http://www.museoegizio.it>).

have been sewn to the latter very early, for reasons impossible to determine²³.

According to another hypothesis, the side strip might have been used to fasten the Shroud around the body wrapped in it²⁴: yet, as we will see further, such a fastening doesn't seem to be very much consistent with Jewish burial customs.

1.3. *The Shroud's dimensions*

A most disputed point is that of the possible relations between the Shroud's dimensions and some units of measurements known and used in ancient times.

This is a very delicate matter, that ought to be approached with due caution: first of all because Hebrew measurements have always been object of halachic debates among Rabbis; second, because the dimensions of the Shroud, made of linen fabric which underwent multiple stresses during many centuries, are to be considered as average measurements, not exact *per se*.

This problem, brought to light by Rebecca Jackson²⁵ and others, got a wide echo and is still a matter of heated controversy²⁶.

According to Jackson, the Shroud of Turin's dimension are multiples of an alleged «Syrian cubit» (21.7", i.e. 55.1 cm)²⁷: 8 cubits of width and 2 of length, that is 4.408 by 110.2 m, which are in fact pretty close to the Shroud's dimensions. This alleged Syrian cubit is sometimes quoted as Philetarian cubit, adopted by Philetæus king of Pergamon (4th-3rd cent. B.C.): by the way, it actually corresponds to a different measure²⁸.

The debate about ancient cubits is no easy matter: the length of common cubits varies between 44.5 and 45.7 cm and that of royal cubits between 50.3 and 52.4 cm²⁹; as for the «Syrian cubit», more correctly called Assyrian cubit, its measure is uncertain just as much, and it seems therefore unwise to identify it at all costs with a submultiple of the Shroud's

²³ Direct observations made by Flury-Lemberg seem to actually contradict other theories put forward in the past, see FLURY-LEMBERG, *The Linen Cloth* cit., p. 59. Other researchers are open (or have been opened) to other possibilities: see the sum-up in A.D. ADLER - A. WHANGER - M. WHANGER, *Concerning the Side Strip on the Shroud of Turin*, in *Actes du IIIeme Symposium Scientifique International du CIELT - Nice 12-13 mai 1997*, available at <http://www.shroud.com/adler2.htm>. As for other hypotheses, for instance the one considering the side seam as not such but as a sort of seam-like thickening instead, see TYRER, *Looking at the Turin Shroud* cit., p. 22; A.D. WHANGER - M. WHANGER, *Radiological Aspects of the Shroud of Turin*, 2005, p. 2, at <http://www.shroud.com/pdfs/whanger.pdf>.

²⁴ G. ZANINOTTO, *L'enigma della striscia cucita sul bordo laterale della Sindone*, in *Collegamento Pro Sindone* 86/4 (maggio-giugno 1986) pp. 7-29; detailed description on pp. 7-8.

²⁵ JACKSON, *Jewish Burial* cit., p. 313.

²⁶ For instance, see A. LOMBATTI, *La Sindone e il giudaismo al tempo di Gesù*, at <http://www.cicap.org/new/stampa.php?id=273770>.

²⁷ Such «Syrian cubit» was suggested to Rebecca Jackson by Ian Dickinson (JACKSON, *Jewish Burial* cit., p. 313): yet again, no source is quoted (the Syrian cubit hypothesis is supported also by B. FRALE, *La sindone di Gesù Nazareno*, Il Mulino, Bologna 2009, p. 75). However, it's uncertain whether such unit of measurement was actually used in ancient Israel or not. The closest measure to such an alleged Syrian cubit (which would be more correct to call Assyrian) is the *ammah* 21" ¼, i.e. 53.975 cm (yet, multiplying by 8, we don't even reach 432 cm, whereas the Shroud is longer): according to R. Moshe Feinstein – one of the major halachic authorities of the 20th century, along with R. Chaim Naeh and the Hazon Ish also known as R. Avraham Yeshayahu Karelitz – this would be the most reliable measure of the *ammah* (as in *Iggerot Moshe* OC 1:136 e YD 3:66. I'm thankful to Ronnie Figdor for this quotation).

²⁸ See the work of Egyptologist W.M. FLINDERS PETRIE, *Measures and Weights*, Methuen, London 1934, p. 5, where such a cubit is defined as 3/2 of the 35.1 cm (13,8") foot, that is 52.65 cm.

²⁹ It will be enough to remember R.B.Y. SCOTT, *Weights and Measures of the Bible*, in *The Biblical Archaeologist* 22 (1959) pp. 22-40.

dimensions³⁰.

As far as the Hebrew cubit is concerned, it measures about 45.7 cm³¹ and corresponds to the *ammah*³², the Biblical cubit; in addition, Jewish sources often mention the biblical and talmudic *gomed*³³, which, according to some, is actually shorter than the *ammah*; furthermore, in the Mishnah we can find two other cubits (M *Kelim* 17:9). Thus, we can say that Rabbinical knowledge basically deals with two cubits, the Mosaic cubit, 45.7 cm long, and a longer one, which varies between 56.018658 and 58.352 cm³⁴.

In the Jewish tradition, cubit is indeed used for textiles, but it's definitely more often used in architecture or to evaluate distances in general: fabrics, as in other cultural environments, are typically measured in units referring to the human body (fingers, hands and arms: fingerbreadth, handbreadth and ell).

Now, if one wishes to go further and find questionable correspondences between the Shroud's dimensions and Hebrew units of measurements, it could even be noted that the side strip's width, about 8 cm, is actually very close to 7.8 cm, which is the *tefach otzev*, i.e. the Hebrew handbreadth (considering the width of the palm, measured along the 4 knuckles)³⁵.

Thus, the Shroud's length would be 56 *tefachim* (436.8 cm) and its width 14 *tefachim* (13+1, that is 109.2 cm = 101.4 + 7.8 cm); on the other hand, always keeping in mind that these measurements are approximate, we could also evaluate the Shroud's dimensions by the *tefach sochek* (9.33 cm), and we would obtain even more interesting numbers: 47 *tefachim* (438,52 cm) by 12 *tefachim* (11+1, i.e. 111.96 cm = 102.63 + 9.33 cm).

This line of reasoning certainly suggests great caution: playing with numbers, any result can be achieved³⁶.

³⁰ For instance, see the dimensions of different Assyrian cubits: 51.5 to 55 cm, as claimed in E. GURALNICK, *Sargonid Sculpture and the Late Assyrian Cubit*, in *Iraq* 58 (1996) pp. 89-103. According to others, Assyrian cubit must be considered 53-54 cm long, see for example M. PAYNE, *Urartian Measures of Volume*, Peeters, Louvain 2005, p. 31, where at least two other cubits are mentioned.

³¹ This is the worldwide acknowledged length of the biblical cubit: see, for instance, the website of the Temple Institute in Jerusalem at <http://www.templeinstitute.org>, where the 18" long cubit is mentioned.

³² Gn 6:15, 16; Gn 7:20; Ex 25:10, 17, 23; Ex 26:2, 8, 13, 16; Ex 27:1, 9, 12-14, 16, 18; Ex 30:2; Ex 36:9, 15, 21; Ex 37:1, 6, 10, 18, 25; Ex 38:9, 11-15, 18; Nm 11:31; Nm 35:4, 5; Dt 3:11; 1Sm 17:4; 2Sm 8:1; 1Kgs 6:2, 3, 10, 16, 17, 20, 23-26; 1Kgs 7:2, 6, 10, 15, 16, 19, 23, 24, 27, 31, 32, 35, 38; 2Kgs 14:13, 25; 2Kgs 25:17; Jer 51:13; Jer 52:21, 22; Ez 40:5, 7, 9, 11-15, 19, 21, 23, 25, 27, 29, 30, 33, 36, 42, 47, 48, 49; Ez 41:1-5, 8, 9-15, 22; Ez 42:2, 4, 7, 8; Ez 43:13-15, 17; Ez 45:2; Ez 47:3; Zec 5:2; Neh 3:13; Is 6:4; Est 5:14; Est 7:9; 1Chr 11:23; 2Chr 3:3, 11, 12, 15; 2Chr 4:1, 2, 3, 8, 11, 13; 2Chr 6:13; 2Chr 25:23.

³³ Jgs 3:16; TB *Baba Batra* 100a-b.

³⁴ In general, see *Jewish Encyclopedia*, vol. 12, Jerusalem 1906, under *Weights and Measurements*, pp. 483-490, in particular pp. 486-487.

³⁵ There are two different *tefachim*: the *tefach otzev*, which is the clenched fist measured along the 4 knuckles, and the *tefach sochek*, with the fist unclenched. Different measurements depend on different halakic schools (the three main schools being those, respectively, of R. Chaim Naeh, of the Hazon Ish also known as R. Avraham Yeshayahu Karelitz and of R. Moshe Feinstein): the *tefach otzev* can be 7.62 cm, 8.996 cm or 9.62 cm and the *tefach sochek* 7.77 cm, 9.18 cm or 9.81 cm. For a complete analysis of these complex subject I refer to a paper by Jerusalem Institute of Technology teacher A. GREENFELD, *Linear Measurement in the Halacha*, in *Crossroads: Halacha and the Modern World*, vol. 2, Zomet, Jerusalem 1988, pp. 43-55, in particular charts on pp. 51-52 (the full text is available also on <http://www.avakesh.com/files/LinearMeasurementHalacha.pdf>). Other tools are available also at <http://www.dafyomi.co.il/general/info/units-of-measurement.pdf> (by Ronnie Figdor, whom I thank for his help).

³⁶ This line of reasoning is highly questionable and could lead practically anywhere. For instance, the

2. Jewish customs related to burial shrouds in the Second Temple Period

In general, this topic has been studied from both archaeological and historical/literary standpoints: in the first case, the main reference is Rachel Hachili's work (and related massive bibliography), published in 2005³⁷; in the second case, the reference work is Safrai's study dating to 1976, extremely useful, though not very recent³⁸. Crucial is also the analysis of talmudic sources, which I will abundantly refer to³⁹: since the roots of talmudic literature, which was fixed in writing in the first centuries of the Christian era, actually date back to the 4th century B.C. (that is, during the Babylonian exile of the People of Israel), it would be unwise to consider them as late or secondary sources. Besides, it's also necessary to point out that the very few references contained in ancient literature, sometimes quoted as sources to study Jewish funerary customs, are actually very vague and don't give any solid contribution⁴⁰.

In a nutshell, the ritual operations to perform on a corpse to honour the dead (*Kevod HaMet*) can be thus summarized: the family of the dead had to take care of funeral and burial within the day when the death occurred, before sunset, because it's not allowed leaving a body unburied overnight⁴¹; the body has to be constantly watched and those who keep vigil are free from precepts and prayers⁴²; the first thing to do is to close the eyes of the dead⁴³ (possibly by the firstborn, remembering Gn 46:4)⁴⁴, then the jaw and every orifice⁴⁵; the preparation of the body is generally a women's duty and consists of cleansing and anointing the corpse with oils and perfumes, washing it with water⁴⁶, trimming the hair,

Shroud is allegedly 12 *tefachim* wide: and 12 is the Gematric value of *Cohen HaGadol*, i.e. the High Priest! More, the Shroud is also 47 *tefachim* long: and 47 is the Gematric value corresponding to several very interesting Hebrew terms, such as «pure», «sepulchre» and even «cubit»!

³⁷ R. HACHILI, *Jewish Funerary Customs, Practices and Rites in the Second Temple Period*, Brill, Leiden - Boston 2005 (Journal for the Study of Judaism Supplement Series, 94).

³⁸ S. SAFRAI, *Home and Family*, in *The Jewish People in the First Century. Historical Geography, Political History, Social, Cultural and Religious Life and Institutions*, II, edd. S. SAFRAI - M. STERN, Van Gorcum, Assen - Amsterdam 1976 (Compendia Rerum Iudaicarum ad Novum Testamentum, 1), pp. 728-792. See also M. LAMM, *The Jewish Way in Death and Mourning*, Jonathan David Publishers, New York 2000 (Orig. Ed.: New York 1969).

³⁹ For a brief though exhaustive summary of the history of the Talmud, see the *Foreword* by J.H. HERTZ in *The Babylonian Talmud*.

⁴⁰ For instance, HACHILI, *Jewish Funerary Customs* cit., p. 479, quotes a few passages by Flavius Josephus: but it should be pointed out that they deal only with some aspects of mourning rituals, as processions, lamentations and burial: *The Jewish War* I, 33, 8 (673) and III, 9, 5 (437); *Jewish Antiquities* XV, 196-200 (it can also be added *Jewish Antiquities* XVIII, 199); *Against Apion* II, 205. This list ought to be completed with a few New Testament pericopes: the funeral procession carrying the widow's son in Nain (Lk 7:12,14), the scene of Lazarus' tomb and funerary garments (Jn 11:38,44), Jesus' burial (Mt 27:59-61; Mk 15:46; Lk 23:53,56; Lk 24:1; Jn 19:39-40), Anania's death (Acts 5:6,10) and Tabitha's death (Acts 9:37).

⁴¹ See TB *Sanhedrin* 47a: «if he kept him overnight for the sake of his honour, to procure for him a coffin or a shroud, he does not transgress thereby».

⁴² See TB *Berakoth* 18a: the people who keep watch over the dead are exempt from observing the positive precepts and from reciting *Shema*, for example; further details in TB *Semahoth*, the Talmud tractate expressly devoted to mourning.

⁴³ Which must be absolutely done after death: see M *Shabbath* 23:5 and TB *Semahoth* 1:4 (closing the eyes of a dying man would be considered as taking his life).

⁴⁴ Jacob was assured that his eyes would be closed by Joseph, the firstborn of Rachel, his favourite wife.

⁴⁵ A dead man can be placed for instance on sand, in order that he may be able to keep until the burial (M *Shabbath* 23:5, TB *Shabbath* 151a-b, TB *Semahoth* 1:3).

⁴⁶ From time to time, someone raises the following objection: the Shroud shows abundant traces of

and wrapping it in a burial shroud meant to «keep» the body⁴⁷; candles are sometimes lit at the head or feet of the body and spices are often placed upon the shroud, to be burnt during the funeral procession leading to the burial place or to be spread on the bier⁴⁸ (as for Jesus' times, see the σοφοῦ upon which the son of Nain widow was laid in Lc 7:14)⁴⁹; in some cases the body, wrapped in a shroud, could also be finally laid in a wooden coffin upon arrival to the burial site⁵⁰; on the third day (at any rate within three days), the relatives have to visit the tomb⁵¹ to verify if the dead is actually such, to avoid the risk of apparent death⁵², and, if necessary, to complete the burial procedures; if the relatives of the deceased couldn't afford a rock-hewn tomb with chambers, they could bury the body underground: rich people's bones were usually transferred to ossuaries after one year.

biological material, blood included, and this implies that the body of the Man of the Shroud was not washed before burial, which seemingly stands in contrast to Jewish laws. In the past, one of the most common explanations was that the body remained unwashed just because there was no time to do it, since deposition and burial took place on Shabbat's Eve (*Shabbat HaGadol* but also *Erev Pesach*, i.e. Passover's Eve). The truth is that the corpse was not washed in perfect compliance with Jewish law, because the deceased was victim of a violent death and a certain amount of his blood has to be anyway buried with the body: I refer to B.B. LAVOIE - G.R. LAVOIE - D. KLUTSTEIN - J. REGAN, *The Body of Jesus Was Not Washed According to the Jewish Burial Custom*, in *Sindon* 30 (dicembre 1981) pp. 19-29, and to some observations by Rebecca JACKSON (JACKSON, *Hasadeen Hakadosh* cit., p. 30; EAD., *Jewish Burial Procedures* cit., pp. 316-318). See also S. GANZFRIED, *Kitzur Shulchan Aruch*, Lamed, Milano 2001, ch. 197 (a handy Hebrew-English version with links to the single chapters is available at <http://www.yonanewman.org/kizzur/kiz-index2.html>). Again on the subject of burial on Shabbat's Eve, it's interesting to remind a passage of the Tosefta recounting the story of a burial which took place in Beth Dagon of Judaea. Because the burial took place on the eve of Passover and the men had to avoid incurring impurity, the women took care of everything and even tied ropes around the entrance boulder, so that the men could pull while remaining outside (see T *Oholoth* 3:9; since I couldn't read the text directly, I rely on SAFRAI, *Home and Family* cit., p. 781).

⁴⁷ In this respect, it's appropriate to quote TB *Nazir* 51a and TB *Nidah* 27b: a corpse buried naked in a marble sarcophagus or on a stone floor is a corpse which produces corpsemould; if it's buried in a shroud or in a wooden coffin or on a brick floor, it's a corpse which doesn't produce corpsemould that can defile. The wrapping in shrouds musn't be excessive and the coffin, if present, needs holes in the bottom, as requested by Jehudah HaNasi, see TY *Kilayim* 6 («Rabbi raccomanda encore de ne pas accumuler sur son cadavre les vêtements funéraires et de laisser un trou à la partie de la bière tournée vers le sol»); see also archaeological finds reported in HACHILI, *Jewish Funerary Customs* cit., p. 487.

⁴⁸ Sometimes funerary biers or stretchers were made with textiles, sometimes they were simple leather mattresses filled with twigs: whatever they were made of, they were finally buried, because they were unclean by coming into contact with the dead body. TB *Mo'ed Katan* 27a-b explains that a certain point all funerary biers became alike, out of deference to the poor: formerly, they would carry out the rich in a state bed or fancy litter called *darghesh* (דרגיש) and the poor on a common bier or stretcher, often made of wooden boards or tree branches tied together. In the Bible, see the mention of Abner's bier in 2Sm 3:31 (בִּמְטָה). In *The Testament of Simeon*, 8, we read that the patriarch was buried in Hebron in a wooden coffin (or in a sarcophagus), see R.H. CHARLES, *The Apocrypha and Pseudepigrapha of the Old Testament*, vol. II, Clarendon Press, Oxford 1913): the *Testament of Simeon* is part of *The Testaments of the Twelve Patriarchs Sons of Jacob* (the most ancient textual stratum dates back to the 2nd century B.C. and was further developed around 40-30 B.C.; a subsequent Christian stratum follows).

⁴⁹ Today's versions of the New Testament usually translate this term to «coffin», but it would be more appropriate to use other words, such as «bier» or «catafalque»: the young man, raised by Jesus, evidently rose from a kind of open funerary bier or stretcher; *per se*, the Greek term *soros* corresponds either to a bier or to a funerary urn (the latter being obviously out of the question). *Soros* appears also in the Septuagint, with different meanings: in Gn 50:26 is Joseph's coffin in Egypt (anyway, the Hebrew ארון is a generic term referring to a container or receptacle, even a cupboard), whereas in Job 21:32 stands for tombs (Hebrew קברות: in modern Hebrew, קבר still means tomb).

The specific talmudic tractate about funerary customs is *Semahoth*, also known as *Ebel Rabbati*, a late tractate, yet containing ancient customs and traditions)⁵³: the greatest part of the references pertaining to burial shrouds, though, is to be found in other tractates⁵⁴.

As we will see in further detail, talmudic quotations of burial shrouds are numerous: the material they have to be made of, instead, is very seldom mentioned (also because in many circumstances the dead were wrapped in the clothes they used to wear), except to note that burial shrouds weren't absolutely required to be ritually clean (i.e., they might not observe the aforementioned prohibition of *sha'atnez*, since fabrics containing both wool and linen are considered illegal).

The material whereof the shroud is made is clearly specified only in one case: Rabban Gamaliel II asked to be buried in a simple linen shroud, and his example was then followed by everyone, as we will see (TB *Ketuboth* 8b). In another case – but not dealing with a burial shroud, strictly speaking – the Talmud refers to a fine-wool robe covering a corpse (TB *Yebamoth* 66b)⁵⁵.

The usual word to mention burial shrouds in the Talmud (and in modern Hebrew as well) is *takrik* / *takrikim* or *takrikin* (תכריכים / תכריך, also תכריכין)⁵⁶: in the whole Bible there's a single occurrence of this word, in the Book of Esther (8:15) and it refers to a fine linen cloak (the fabric is indicated as *בוץ*, a term which, as we will see further, stands for byssus, i.e. a particularly valuable linen).

The Bible doesn't refer to burial shrouds when narrating the Patriarchs' burials. The only detailed burials are that of Jacob, embalmed in order to be buried far away, in the Land of

⁵⁰ The use of coffins is not very ancient and goes back only to the Second Temple Period (HACHILI, *Jewish Funerary Customs* cit., p. xxxviii); on the contrary, wooden coffins dating to the 2nd-1st century B.C. are the most common primary burial in 'En Gedi (but also body wrapped in shrouds and directly laid on the floor; secondary burials were in wooden coffins or ossuaries): yet, archaeologists are not absolutely sure this was actually a Jewish cemetery (though it's very likely, on the grounds of comparisons with analogous finds in Jericho and Jerusalem), see *ibid.*, p. 13 and pp. 466-467. Jerichos' excavations, directed by Hachlili, demonstrate that rock-cut loculi tombs between 1st century B.C. and 1st century A.D. were first designed and used for primary, that is, permanent burial in wooden coffins (HACHILI, *Jewish Funerary Customs* cit., p. 11).

⁵¹ This is the typically Jewish reason why the pious women went to Jesus' tomb on the third day with spices and ointments: the so-called myrophores were supposed to go there for a secondary anointing, that is the final treatment of the body.

⁵² TB *Semahoth* 8:1. «We go to the cemetery and examine the dead within three days»; «it once happened that [a man who was buried] was examined [and found to be living], and he lived for twenty-five years and then died».

⁵³ Scholars assert the original core was composed in Lidda by Rabbi Eleazar ben Zadok in Gamaliel II's times, i.e. 1st-2nd century A.D.: further developments followed until 8th century A.D., see *Encyclopaedia Judaica*, vol. 14, Jerusalem 1971, under *Semahot*, coll. 1138-1139.

⁵⁴ Talmudic occurrences of «burial shroud/shrouds»: M *Kilayim* 9:4; M *Ma'aser Sheni* 5:12; TB *Shabbath* 114a; TB *Shabbath* 150b; TB *Shabbath* 151b; TB *'Erubin* 41b; TB *Pesachim* 40b; TB *Beitzah* 6a; TB *Megilah* 26b; TB *Mo'ed Katan* 27b; TB *Yebamoth* 74a; TB *Ketuboth* 111b; TB *Nazir* 51a; TB *Baba Bathra* 137a; TB *Sanhedrin* 46a; TB *Sanhedrin* 47a; TB *Sanhedrin* 47b; TB *Sanhedrin* 48a; TB *Sanhedrin* 48b; TB *Avodah Zarah* 17a; TB *Avodah Zarah* 65b; TB *Menachoth* 41a; TB *Nidah* 20a; TB *Nidah* 27b; TB *Nidah* 37a; TB *Nidah* 61b; TB *Kelim* 27b (M *Kelim* 24:14).

⁵⁵ The aforementioned robe was part of a widow's dowry: the sons, upon their father's death, took it and spread it over the corpse; thus, the robe became property of the deceased and no living person could ever derive any benefit from it (see also TB *Sanhedrin* 47b).

⁵⁶ In modern Hebrew, burial shrouds are often referred to only in plural, i.e. *takrikim* (תכריכים). Other transliterations can also be *takhrikhim*, *tachrichim*.

Canaan, and that of Joseph, likewise embalmed and laid in a coffin in Egypt (his bones would be later brought to the Promised Land)⁵⁷.

The very few Biblical examples we can consider to know something about funerary garments, definitely suggest they were clothes worn in life: as in 1Sm 28:14, where the Prophet Samuel rises from the tomb wrapped in his cloak (מְעִיל).

In another text, known as *The Testament of Judas*, part of the *Testaments of the Twelve Patriarchs Sons of Jacob*, Judas asks his sons to be buried in Hebron and demands to be wrapped in plain, inexpensive clothes (*The Testament of Judas*, 26:3)⁵⁸.

It can also be quoted, as a likely testimony of 1st century customs, the so-called *Testament of Abraham*, ch. 20. In this apocryphal text, the Patriarch's soul is brought to Heaven by the hands of Archangel Michael in a «heavenly-woven sheet» («ἐν σινδόνι», i.e. a burial shroud), while angels take care of the body with anointments and perfumes; the angel then keep watch for three days, before the burial near the Oaks of Mamre⁵⁹.

According to the scholars, this work, known to us through a very semitizing Greek text (besides a few Ethiopian, Slavonic and Romanian recensions), was originally written in Hebrew: the actual date of composition is still disputed, but it is considered a fact that the text depends on sources dating back to 1st century B.C. - 2nd century A.D.⁶⁰.

2.1. *Jesus' burial shroud according to Jewish customs: a linen sheet*

Much has been written to explain and interpret the challenging Gospel pericopes recounting the Lord's burial, especially about the ambiguous terms σινδόν and ὀθόνια. I will not discuss here the many technical debates about the meaning of those two words, and I will mainly refer to Ghiberti's synthesis (and bibliography)⁶¹, on the one hand, and to the recent work by Maria Luisa Rigato, on the other⁶²: in my personal opinion, the two terms are definitely compatible and, once put aside any effort of concordism, it is correct to go further and study the text without focusing too much on these details.

Some of the questions arising from the Gospels will probably never get an answer, simply because every observation is based on the Greek text: yet, Greek was no mother-language for anyone of the Evangelists (most likely, the Gospels were not even originally written in Greek, especially Matthew's Gospel)⁶³: that is why is so important to trace the possible

⁵⁷ It can be useful to mention here a few examples. In Gn 23 Abraham buries Sarah in a cave he bought from the Hittites; Abraham is then buried in the same place by Isaac and Jacob (Gn 25); the narration of Rachel's burial mentions just a tomb (Gn 35:19), and Isaac's burial is recounted even more vaguely; in Gn 50, Joseph orders to embalm Jacob to carry his body to the place Israel himself chose for his burial, in the land of Canaan, near Abraham's tomb; Gn 50:26 recounts that Joseph was embalmed and then buried in Egypt; totally lacking in details are also the burials of Miriam (Num 20:1), Eleazar (Jo 24:33), Joshua (Jgs 2:8-9), Gideon (Jgs 8:32), Jephthah (Jgs 12:7), Samson (Jgs 16:31) and David (1Kgs 2:10).

⁵⁸ «Let no one bury me in a costly apparel [...] and carry me up to Hebron with you», see *The Testament of Judah*, in CHARLES, *The Apocrypha and Pseudepigrapha* cit.

⁵⁹ F. SCHMIDT, *Le Testament grec d'Abraham. Introduction, édition critique des deux recensions grecques, traduction*, Mohr Siebeck, Tübingen 1986.

⁶⁰ The imagery used by Jesus in Mt 7:13-14 (and in Lk 13:24), referring to the narrow gate leading to Heaven and to the broad gate leading to damnation, might suggest that the apocryphal Testament of Abraham was well known in the 1st century A.D.: see the interesting observations recently put forward by an Israeli blogger (aka Judas Maccabaeus, see <http://themaccabeebest.blogspot.com/2011/10/maccabee-jesus-christ-mentions.html>).

⁶¹ G. Ghiberti, *La sepoltura di Gesù. I Vangeli e la Sindone*, Marietti, Roma 1982, pp. 35-47.

⁶² RIGATO, *Il Titolo* cit., pp. 198-213.

⁶³ The problem of the many semitisms in the Gospels is still debated. Here it will be enough to refer to

Hebrew words used in Jerusalem in that period.

In this respect, traditions handed down in strictly Jewish environments are to be considered with great respect, maybe even more than Christian exegetes' interpretations, I dare to say. On Greek terms, I will recall just a few considerations.

The first problem is related to the plural *othònia*, apparently contradicting the idea of a single shroud.

According to some, the dilemma can be solved considering the form *othònia* an emphatic plural, to emphasize the matter⁶⁴: according to others, the plural *othònia* could actually refer both to the burial shroud *per se* (the Shroud of Turin), and to other pieces of cloth intended to fasten the main cloth, as Zaninotto suggests⁶⁵.

Last but not least, the plural *othònia* could be a very immediate and practical way to describe a long shroud folded in two.

On the other hand, there are also textual variants of great interest, as the one of the Beza Codex, where the occurrence of that word in Jn 20:7 is very interestingly rendered as *lentiamen* (after seeing the «lentiamina posita», the disciple notices the sudarium, «non cum lentiamine positum»)⁶⁶: *lentiamen* might derive from ancient traditions which it would be very interesting to fathom more deeply.

According to Blinzer, the two words don't contradict each other: *sindòn* could be related to the textile material of the burial shroud (flax or cotton) and *othònia* to the woven fabric⁶⁷.

Furthermore, according to Vaccari and Lavergne, *othònia* ought to be interpreted as a general term (probably made of flax, used for clothes and even for sails) embracing all kinds of funerary garments, including maybe also strips or bandages for the binding⁶⁸.

As for alleged strips to bind the body wrapped in a shroud, it must be pointed out that there's no specific Jewish prescription about it: if it's certainly possible that, while carrying the corpse, strips of fabric⁶⁹ or ropes were used to avoid any movement of the limbs (the arms were typically laid along the sides and the feet kept together), the edges of Jewish burial shrouds were (and still are) kept together by means of a temporary, loose stitching.

As far as the disposition of arms and legs is concerned, the regular Jewish custom was to

J. CARMIGNAC, *La naissance des Évangiles Synoptiques*, De Guibert-Oeil, Paris 1984.

⁶⁴ For example, see A. FEUILLET, *L'identification et la disposition des linges funéraires de la sépulture de Jésus d'après les données du quatrième Évangile*, in *La Sindone e la scienza (Atti del II Congresso Internazionale di Sindonologia, Torino 7-8 ottobre 1978)*, ed. P. COERO BORGA, Edizioni Paoline, Torino 1979, pp. 239-251, in particular p. 243.

⁶⁵ G. ZANINOTTO, *Giovanni testimone oculare della resurrezione di Cristo? (Gv 20, 1-8)*, in *Collegamento pro Sindone* 86/1 (gennaio-febbraio 1986) pp. 10-49, in particular pp. 31-33.

⁶⁶ Cod. Bezae Cantabrigiensis, f. 177a. The quotation is from the text available at <http://www.mondosindone.com/dss001.html> (ed. G. BERBENNI OFM Cap.).

⁶⁷ J. BLINZLER, *Zur Auslegung der Evangelienberichte über Jesu Begräbnis*, in *Münchener Theologische Zeitschrift* 3 (1952) pp. 403-414.

⁶⁸ A. VACCARI, *Archeologia e scienze affini di fronte al sacro testo dei Vangeli*, in *La Santa Sindone nelle ricerche moderne. Risultati del Convegno Nazionale di Studi sulla Santa Sindone (Torino 1939)*, LICE, Torino 1950², pp. 141-152; C. LAVERGNE, *La preuve de la résurrection de Jésus d'après Jean 20,7*, in *Sindon* 5 (aprile 1961) pp. 7-32; EOD., *Le sudarium et la position des linges après la résurrection*, in *Sindon* 6 (settembre 1961) pp. 6-13; EOD., *Le corps glorieux et la preuve que Jésus est ressuscité*, *Ibid.*, pp. 14-30.

⁶⁹ As for such possible pieces of cloth, they could either be thrown away or, alternatively, kept by the disciples (and maybe later identified with the several unspecified shrouds and bands recorded by medieval pilgrims?)

bury the dead with the legs stretched and the arms straight along the sides⁷⁰: sometimes, though, the hands were folded on the pelvis or on the chest⁷¹. Folded arms were found in a few cases in Qumran cemetery, for example (the right hand and the left are sometimes in different positions: e.g. the right on the pelvis and the left on the heart)⁷².

Moreover, in the Middle Ages, Jews used to bury their dead either with the arms stretched along the sides, or folded in various positions (hands on the pelvis, on the heart, even on the shoulders), but never crossed or folded as in prayer (probably because that was done by Christians)⁷³.

According to a rabbinical (though not very ancient) tradition⁷⁴, if the arms are folded, the right hand has to cover the left (the right hand being supposed to invoke divine Mercy⁷⁵, to soften divine Justice, symbolized by the left hand⁷⁶): as Barbara Frale remarks⁷⁸, the Man of the Shroud's hands are arranged exactly contrariwise, as if the people in charge of his burial believed that he did not need to ask for mercy, being perfectly just and righteous.

Yet again, it's not very much likely that this way of arranging the limbs implied any sort of strips or bandages: first of all, because of known Jewish funerary customs; second, because the image of the Man of the Shroud has no interruptions which could explain such a binding.

⁷⁰ HACHLILI, *Jewish Funerary Customs*, p. 457; SAFRAI, *Home and Family* cit., p. 780.

⁷¹ See TY, *Nazir*, 39:3 («on appelle un mort “couché comme d'ordinaire”, celui dont les pieds sont étendus et les mains repliées sur le corps»).

⁷² R. HACHLILI, *The Qumran Cemetery: A Reconsideration*, in *The Dead Sea Scrolls Fifty Years After Their Discovery. Proceedings of the Jerusalem Congress, July 20-25, 1997*, edd. L.H. SCHIFFMAN - E. TOV - J.C. VANDERKAM, Israel Explorations Society in collaboration with The Shrine of the Book, Israeli Museum, Jerusalem 2000, pp. 661-667 (p. 661 and fig. 3); HACHLILI, *Jewish Funerary Customs* cit., p. 76; see also S.G. SHERIDAN - J. ULLINGER - J. RAMP, *Anthropological Analysis of the human Remains from Khirbet Qumran: The French Collection*, in *Khirbet Qumrân et 'Ain Feshkha. Volume II: Studies of Anthropology, Physics and Chemistry*, ed. J.B. HUMBERT - J. GUNNEWEG, Academic Press and Vandenhoeck & Ruprecht, Fribourg - Göttingen 2003, pp. 133-173, in particular p. 142 (fig. 9, T5 e T7). For Qumran tombs and a few examples of Medieval cemeteries, see E.M. LAPERROUSAZ - G. NAHON, *La position des bras des squelettes dans les tombes de Qoumrân et d'Ennezat (Puy de Dôme)*, in *Revue des Études Juives* 154/1-2 (1995), pp. 227-238; see also former studies by R. DE VAUX, *Fouille au Khirbet Qumrân. Rapport préliminaire*, in *Revue Biblique* 60/1 (janvier 1953) pp. 83-106, in particular p. 102.

⁷³ LAPERROUSAZ - NAHON, *La position des bras* cit., p. 234 ff.

⁷⁴ LAPERROUSAZ - NAHON, *La position des bras* cit., p. 237, refer to the teachings of R. Haim Vital (16th-17th century), the very well-known disciple of Ari (R. Isaac Luria) and author of *Shaar HaKavanot* and *Shaar HaMitzvot*, as quoted by M.G. Abitbol, *Usages et rites funéraires des juifs en Espagne médiévale d'après les responsa et la recherche archéologique (XIIe-XIVe siècle)*, thesis presented in 1982 (Section des Sciences religieuses de l'Ecole Pratique des Hautes Etudes): «le mort a les mains ramenées sur le coeur, la droite recouvrant la gauche... D'après Haïm Vital cette position est lourde de sens puisque la main droite symbolise la miséricorde et la gauche la stricte justice: en recouvrant la gauche de la droite, on demande à Dieu que le défunt soit jugé avec clémence et non avec grand rigueur».

⁷⁵ According to Jewish *Kabbalah*, in fact, the right hand is associated to *Hesed*, the *sefirah* of divine mercy: it's the *middah* celebrated on Kippur.

⁷⁶ The left hand is instead associated to *Gevurah* (or *Din*), the *sefirah* of divine justice: it's the *middah* celebrated on Rosh HaShana.

⁷⁷ «Our Rabbis taught: Let the left hand repulse but the right hand always invite back» (TB *Sanhedrin* 107b). While reciting the daily prayer *Shemoneh Esreh* (the 18 – and then 19 – blessings of the *Amidah*, which means «standing»), one has to stand with the feet firmly together, eyes lowered, facing Jerusalem, his right hand clasped over the left hand, over his heart (thus calling upon divine mercy, before invoking divine justice). The same could also be said about the Catholic *Mea culpa* (the right hand beating the chest, to ask for forgiveness and mercy).

⁷⁸ FRALE, *La sindone* cit., pp. 199-200.

Back to the issue of how a burial shroud was wrapped around the body, traditional Jewish customs forbid hems and knots in the shrouds (knots are forbidden both in the threads and in the cloth); the edges of the shroud must be sewn in a loose way and without knotting the thread's ends: a temporary stitching, meant to represent impermanence.

It would certainly be very interesting to have a chance to examine the long edges of the Shroud of Turin, in order to look for traces of such a stitching: but it must be clear that not finding any could not be considered a negative proof, because such a simple thread could have been sewn and then removed in the linen pattern without leaving a trace (flax is very elastic).

Another feature of traditional Jewish funerary shrouds is the absence of hems: as we already observed, along one of the long sides of the Shroud of Turin there is a selvedge (that edge of the Shroud is the very same edge of the bolt of fabric, just as it came out of the loom), whereas the observation of the other side is not easy because of the side strip sewn lengthwise.

3. Linguistic observations

It's very helpful to examine more closely some passages of the thorough analysis Maria Luisa Rigato gave on textile terminology: besides Greek terms, she also studied some specific Hebrew words (even though basing on the sole Mishnah: she evidently limits her analysis to that for the sake of caution, being the Mishnah the most ancient talmudic *corpus*: it's however necessary to examine, at least for a comparison, the whole Talmud; firstly because in ancient times changes were very slow; second, because in the peculiar case of Jewish knowledge, the meticulous reference to tradition has always been a strong deterrent to any kind of modification or evolution; I will therefore add to her list a few other references)⁷⁹.

According to Rigato's theory, the Shroud of Turin is a very specific kind of fabric in use in the Temple: extraordinary because made of flax (in her opinion flax was not used to wrap the dead – but I dare say this is a prejudice –), sacred because woven by a loom which never wove any wool and therefore ritually clean and, finally, of exceptional value.

Let us examine this line of reasoning in reverse, recalling a few elements we will discuss in further detail: the topic of the exceptional value of the fabric is an undeniable evidence; questionable, instead, the issue of ritual cleanliness, since, in general, every textile had to abide by that rule (there's a whole Talmud tractate about it, containing a very precise case record): burial shrouds weren't absolutely required to be ritually clean, but it would be incorrect to say that they had to be unclean; again on the absence of *sha'atnez* for priestly garments used in the Temple, it must be underlined that those very priestly garments are in several cases an exception to the rule (along with the Temple Veil); as for flax being not allowed for burial shrouds, this is a wrong assumption: first of all because of archaeological evidence (finds of linen fabrics used as burial shrouds, dating back to the 2nd century B.C.), second because we know that, after Jesus' death and burial, that is between 1st and 2nd century A.D., plain, linen shrouds became the burial shrouds *par excellence* (to recall the importance of moderation, against a tendency to excessive luxury); as a consequence, Jewish tradition regards linen shrouds so typical that in Western languages the specific term *takrikim* – which, *per se*, doesn't say anything about the material the cloth is made of – is commonly translated precisely to «linen shrouds».

⁷⁹ RIGATO, *Il Titolo* cit., pp. 198-213.

Rigato's analysis of the funerary cloths described in the Gospel begins with the controversial Greek word *keriai* (Jn 11:44) to define Lazarus' «burial bands» (which always led to the idea of a «mummy-like» wrapping, which is totally inconsistent)⁸⁰.

Rigato maintains a generic interpretation of *keriai*. She reminds Plutarch who, in his *The Parallel Lives, The Life of Alcibiades*, ch. 16, tells about some soft cloths Alcibiades lay on (described as *keriai*), and therefore suggests that this word has the same meaning as Hebrew *marbadim* (this equivalence is derived from a Hebrew-Greek comparison of Prv 7:16), which is close to «carpets», «large drapes»: Rigato concludes that the most reasonable translation of Lazarus' *keriai* is «soft cloths» and not «bands»⁸¹.

Again on the Greek *keriai*, after stating that it's a synonym of Hebrew *marbadim* (carpets), Rigato proposes a complex linguistic interpretation of a verse contained in Prv 31, in order to demonstrate that *marbadim* must be made of wool, in opposition to *sadin*, which, in this same verse, has to be regarded as a fine linen (*shesh*)⁸².

Rigato also insists on pointing out that *keriai* could never be made of flax and, in the same line of reasoning, excludes this possibility for *takrikim* as well (*takrikim*, as we already mentioned, is the typical term used to identify burial shrouds at least from the Talmud onwards). This exclusion is actually derived from a misunderstanding of a few Mishnah passages (Rigato correctly quotes M *Kilayim* 9:4, M *Ma'aser Sheni* 5:12, M *Shabbat* 23:4 e M *Sanhedrin* 6:5, to which I would add also a line from the Tosefta, T *Nedarim* 2:7). On the contrary, in the aforementioned passages there is not written that a burial shroud must be made of flax: it's simply stated that burial shrouds «could» (not «had to») be exempt from the prohibition of *sha'atnez*.

Instead, for some reason, Rigato keeps on affirming that, in a Jewish environment, flax-derived materials are never used for the dead⁸³. According to her, in fact, only Jesus' burial shroud was made of flax: this feature is thus interpreted as not due to its being a typical Jewish burial shroud dating to 1st century A.D., but, on the contrary, to its being an extraordinary valuable cloth used under likewise extraordinary circumstances (whereas the exceptional character of the Turin Shroud lies in its value, definitely not in its material, i.e. linen).

According to Rigato, the material of the shroud wrapping Jesus' body is not suggested by the Synoptics' generic *σινδών*, which gives no clue about the nature of the fabric (as the likewise generic Hebrew *sadin*, סדין, that we will discuss further): the idea of linen is on the contrary suggested by John's and Luke's ὀθόνια (Jn 19:40, Jn 20:5-7 and Lk 24:12). Rigato emphasizes that *σινδών* is a generic term, exceptionally used to describe Jesus' burial cloth, and she states that only Luke give us a chance to actually say that *σινδών* and ὀθόνια have the same meaning; only this passage, in her opinion, allows us to say that

⁸⁰ According to Lavergne, the notion of bands is not related to funerary garments in general, but to alleged bands or strips meant to prevent feet and arms from moving during the transportation of the body (LAVERGNE, *La preuve* cit., p. 14).

⁸¹ RIGATO, *Il Titolo* cit., pp. 198-201.

⁸² Rigato suggests that the words «wool» and «flax» mentioned in verse 13 should be referred, respectively, to the covers (Hebrew *marbadim* - Greek *dissas chlainas*) and to the linen clothing (*shesh* - *byssou*) of verse 22; in verse 24, «wool» and «flax» would correspond, respectively, to the cloak (*sadin* - *sindonas*) and to the girdles/aprons. See RIGATO, *Il Titolo* cit., pp. 200-201.

⁸³ RIGATO, *Il Titolo* cit., p. 210 («in ambito giudaico il lino con i suoi derivati non è mai adoperato per un morto»), as already stated on p. 206 («Mai lino o bisso sono per un morto»): according to Rigato, linen and byssus are never used for the dead.

Jesus' funerary cloths were made of linen⁸⁴.

This general meaning of *sindòn*, indicating both a large piece of fabric and, in other contexts, cloths and garments in general, has to be considered a valid point.

As for *othònia*, after mentioning Erodotos' description of Egyptian embalming procedures, where mummies' bands are called *sindònos byssines*, Rigato discusses the use of *othònia* in medical texts of Hippocrates' times, in Ptolemaic papyruses and more⁸⁵; she then explores the concept of *hè othonè* in Philo of Alexandria, meaning a linen fabric⁸⁶, and examines first the words *byssos* and *sindòn* in Flavius Josephus, as he describes the Temple both in the *Jewish Antiquities* and in *The Jewish War*, and finally the idea of *othònia* made of byssus⁸⁷. It could also be observed, in addition, that the clothes described in Hos 2:5 (7) and 9 (11) as made of פְּתִיחַי, are translated to Greek ὀθόνιά: this should prove that such a term implied that the fabric was made of linen; however, *othònia* is, once more, a generic term, used to describe clothes as well as sails⁸⁸.

Finally, it's interesting to underline that in Jerome's Vulgate *othònia* is translated to *lintea* (Jn 19:40) and *linteamina* (Jn 20:5-7): the tendency of modern languages to use «bands» or similar words to render *othònia* is anyway relatively recent (less than two centuries), whereas, in the past, the sensible and cautious idea of generic linen cloths used to prevail⁸⁹.

3.1. *Sadin* (סדין)

The Hebrew *sadin* (סדין), obviously the origin of σινδόν, is a likewise generic term (as in modern Hebrew). This word is to be found only 4 times in the Hebrew Bible⁹⁰ and modern versions, both Jewish and Christian, translate the 3 occurrences in just as many different ways: «linen tunics» in Jgs 14:12-13 (two identical occurrences), simply «cloth» in Prv 31:24 – further details are added in some versions of traditional prayer *Eshel Chayel*⁹¹ – and «linen vests» in Is 3:23.

I leave behind any discussion about extra-biblical Greek literature, as not relevant in this case, and I will only refer to the aforementioned works by Ghiberti and Rigato⁹².

⁸⁴ RIGATO, *Il Titolo* cit., pp. 201-202.

⁸⁵ RIGATO, *Il Titolo* cit., pp. 202-204.

⁸⁶ RIGATO, *Il Titolo* cit., pp. 207-210. In *De Somniis* I, 217, we read about a fine linen (made of pure byssus) priestly garment to wear on Yom Kippur (λινῆν δὲ ἐτέαη βύσσου τῆς καθαρωτάς); *othone* appears in *De vita Mosis* II, 90 (curtains thin like sails), *De specialibus legibus* I, 84 (clothes made of flax, which is not derived from animals) and *De vita contemplativa*, 38 (shawl or linen cloak for the summer).

⁸⁷ RIGATO, *Il Titolo* cit., pp. 208-209. See *Jewish Antiquities* XII, 117.

⁸⁸ See also LAVERGNE, *La preuve* cit., pp. 12-20.

⁸⁹ FEUILLET, *L'identification* cit., p. 244.

⁹⁰ It would be very helpful to know the original Hebrew term used in the passage of 1Mc 10:62 where Jonathan was divested of his garments (in Greek ἱμάτια) to be clothed in purple. This book, however, is not a part of the Jewish Bible and we know only its Greek text: in the Vulgate, Jerome translates to Latin *vestimenta* (which, in general, often corresponds to Hebrew סדין, i.e. generic garments).

⁹¹ The second section of Prv 31, where we read the term *sadin*, is one of the traditional Jewish prayers to be recited on Friday evening, before the beginning of Shabbath (this particular hymn is known as *Eshet Chayel* («A Woman of Valor»), i.e. the first two words of Prv 31:10; see for example L.A. HOFFMAN, *My People's prayer Book. Traditional Prayers, modern Commentaries. Volume 7. Shabbat at Home*, Jewish Lights Publishing, Woodstock [US-VT] 2004, p. 75). In the Jewish translation of this traditional hymn, the term סדין of verse 24 is rendered in several ways: «cloak», «linen garments», «linen» (sometimes «linens», meaning household linens, usually made of flax, though also of cotton).

⁹² See also a few interesting linguistic observations proposed by P.A. GRAMAGLIA, *L'uomo della Sindone non è Gesù Cristo. Un'ipotesi storica finora trascurata*, Claudiana, Torino 1978, pp. 43-73 (in particular

It's far more interesting to analyse the notion of *sadin* in the Talmud, where this word is widely used to indicate a generic garment (as in modern Hebrew), with no hints whatsoever to the material; to similar conclusions leads also Mk 14:51-52 («a young man wearing nothing but a linen cloth about his body»).

In the renowned Jastrow's Dictionary, the main meaning of *sadin* is «sheet» («usually of fine linen») and related to Greek σινδών⁹³. Among other quotations, Jastrow lists the sheet the High Priest was supposed to use during Kippur (i.e. the *sadin shel buz* we will discuss, see *M Yoma* 3:4), a linen cloak with fringes and canvas sheets for painting: the most interesting reference to recall here is the occurrence in TY *Kilayim* 9:32b, where we read of a Rabbi buried «in one linen shroud (without any other garments)», as we will see in further detail⁹⁴.

It will be helpful to remind some other passages of Rigato's investigation of the occurrences of *sadin*-related terms in Flavius Josephus, proving the generic character of this word (being Josephus a 1st century Greek-speaking Jewish author, this is an extremely relevant point)⁹⁵.

For instance, it's very interesting to analyse Josephus' description of the Temple Veils or Hangings of God's Dwelling (the whole passage is a Greek paraphrase based on Exodus)⁹⁶: the Hebrew hangings of Ex 27:9 (קַלְעִים) and Ex 26:36 (מַסְךְ), for example, i.e. fine linen twined (that *shesh mushzar* / שֵׁשׁ מְשָׁזָר we will discuss further), in Josephus become precisely σινδόνος (it will be enough to quote σινδὼν δ' ἐκ βύσσαν)⁹⁷.

It's therefore reasonable to conclude that, for a Greek-speaking Jew of the 1st century, the idea of *sindeon* could also be used for a large cloth as the Temple Curtain.

Again on *sadin* as a generic garment, Josephus himself, when paraphrasing Jgs 14:12-13 in *Jewish Antiquities* V, 27, 290, translates Hebrew *sadinim*, indicating the cloths that Samson promises to whom will solve his riddle, to Greek *othonas* (ὀθόνας), instead of σινδονας as in the Septuagint; moreover, I would like to point out, *a fortiori*, that the following στολας (the other garments Samson promises as a prize), is, instead, identical both in Josephus and in the Septuagint.

3.2. *Takrik* (תַּכְרִיךְ)

The analysis of *takrik* / *takrikim* (also *takrikin*) is worth a detailed discussion. Rigato's interpretation of this notion as a soft, wrapping cloth, is also confirmed by TB *Semahoth* 12:10 («a man bandages and binds [the limb] of a man but not of a woman: a woman bandages and binds both a man and a woman»).

The Hebrew term תַּכְרִיךְ (plural תַּכְרִיכִים, often also תַּכְרִיכִין), in fact, always refers to something which is intended to wrap and bind and not to a generic clothing (the root כָּרַךְ is clear: the verb means «to wrap, to bind» etc.).

Burial shrouds were garments expressly made for that purpose (or, at least, recently-

43-67).

⁹³ M. JASTROW, *A Dictionary of the Targumim, the Talmud Babli and Yerushalmi, and the Midrashic Literature*, Hendrickson Publishers, Peabody (US-MA) 2005 (First Ed.: Title Publishing, London - New York 1903), under תַּכְרִיךְ.

⁹⁴ On this subject, see also H.L. STRACK - P. BILLERBECK, *Kommentar zum Neuen Testament aus Talmud und Midrash. Band. 1. Das Evangelium nach Matthäus*, Beck, München 1922, p. 1048.

⁹⁵ RIGATO, *Il Titolo* cit., pp. 208-209.

⁹⁶ RIGATO, *Il Titolo* cit., pp. 207-209.

⁹⁷ *Jewish Antiquities* III, 110.

washed clothes) and the corpses were wrapped in them⁹⁸: generally, they were woven in advance, specifically for the burial (either when people reached an old age or when they were stricken with a potentially lethal illness⁹⁹), but they were sometimes woven after the decease¹⁰⁰; they could be made also with used materials¹⁰¹.

The making of a shroud is among the exceptions allowed by the Rabbis during Shabbath and festivals: see TB *Bezah* 6a and, more extensively, TB *Shabbath* 150b (details about carrying coffins and shrouds for the dead).

Likewise, all procedures required for preparing the body such as anointment, washing and binding the jaw closed, are permitted during Shabbath, provided that no limb of the deceased is moved (M *Shabbath* 23:5, M *Semahoth* 1:1-3 and TB *Shabbath* 151a-b).

To the present day, the word *takrikim* is commonly used in Jewish environments to denote traditional burial shrouds, both for men and women: according to the dictionary compiled by Eisenberg and Scolnic, it should be a muslin, cotton or linen cloth, with no pockets (no worldly asset can be brought beyond death), white to recall the purity of the deceased; the dead can be also buried in a *tallit* (the rectangular prayer shawl, with fringes) or in a *kittel* (Yiddish word referring to a long white garment worn by rabbis on solemn occasions such as Rosh Hashanah and Yom Kippur, a «shroud-like garment»)¹⁰².



Fig. 2. Example of today's *takrikim* (<http://www.jewishchronicle.org>)

As for the shroud being white, this particular topic was widely discussed among the

⁹⁸ S. SAFRAI, *Home and Family* cit., in particular p. 778.

⁹⁹ See for instance TB *'Abodah Zarah* 17a. R. Hisda ordered to prepare shrouds for two women he expected to die soon: one of the women died, the other lived; see also TB *Niddah* 37a: Rabbi Shila, feeling he was going to die, asks his wife to prepare for him a shroud.

¹⁰⁰ TB *Sanhedrin* 48b: the inhabitants of Harpania/Neharphania (a town in Babylon in the Mesene district) were so poor they couldn't afford to prepare the shrouds beforehand; when somebody died, a public collection was made and a shroud hastily woven. Talmudic instructions are very complex and detailed: for example, if an old man prepares his own shroud with a garment put away in a chest, that garment is exempt from fringes (which would be necessary according to the law of *zizith*); nevertheless, when the time comes for its use, it's better to insert fringes in it, because whoever mocks the poor, offends the Maker, see Prv 17:5 (TB *Menahot* 41a).

¹⁰¹ An interesting case is mentioned in TB *Megillah* 26b, about using a Torah's wrapping as a shroud for a corpse without buriers. Such scroll wrappings, just as the shrouds for the dead, were not subject to the prohibition of *sha'atnez*, see M *Kilayim* 9 and TB *Pesachim* 40b.

¹⁰² J. EISENBERG - E. SCOLNIC, *Dictionary of Jewish Words*, Jewish Publications Society, Philadelphia 2006, p. 166.

Rabbis: in TB *Shabbath* 114a, R. Jannai asks to be buried neither in black nor in white¹⁰³ but in fine clothes, coming from overseas, called אֱוֹלִיירִין, i.e. «court robes» (contrariwise, let us remember R. Gamaliel's claim for moderation); a similar request is made by R. Johanan according to the *Bereshit Rabba* (100:2)¹⁰⁴, as well as in TB *Niddah* 20a about R. Jannai; on the contrary, in *Bereshit Rabba* (100:2), R. Joshjahu insists on white burial garments¹⁰⁵.

Typically, the edges of a traditional Jewish burial shroud, as we already explained, were (and still are) but loosely stitched around the body.

According to Jewish tradition until the present day, the corpse is wrapped in a cloth called תְּכָרִיךְ, which is made of white linen (סָרִיף, equivalent to Greek σινδόν): such a cloth is temporarily fastened by means of a loose stiching and the threads' ends do not present knots: the burial shroud is intended to last only for the time necessary for the corpse to decay and decompose (nowadays, a single shroud is seldom used: simple clothes are preferred; sometimes men have also the *tallit* they used to wear during their life, but with no ritual fringes, which need to be cut; a white sheet (*sovev*) can also cover the body, clothed as above)¹⁰⁶.

4. The burial shroud: (even just) one and made of linen

As already discussed, Rigato's statement that linen could never be used for the dead is not really consistent¹⁰⁷: not only on the ground of archaeological finds, which testify the use of linen for Second Temple Period's burials¹⁰⁸, but also because of specific Talmud references. It's certainly true that talmudic sources have to be considered with due caution, because they were fixed in writing only in the first centuries of the Common Era: it's anyway undeniable that Jewish traditions and knowledge are *per se* extremely enduring and steady. One single reference, in particular, seems very interesting to mention, since it's relatively close to the times of the destruction of the Temple of Jerusalem in 70 A.D.

In TB *Ketuboth* 8b we read that, after it became common to spend a fortune on burial shrouds, Rabbi Gamaliel II¹⁰⁹ «came and adopted a simple style and they carried him out in garments of linen and [then] all the people followed his example and carried out [the dead] in garments of linen»¹¹⁰. The Hebrew term used here for linen is very clear: it's that very same פִּשְׁתִּים of modern Hebrew (derived from the biblical *pishtim* – always in plural – פִּשְׁתִּים, as in Dt 22:11, dealing with the prohibition of mixing wool and flax). In the

¹⁰³ «My sons, bury me neither in white shrouds nor in black shrouds, white, lest I do not merit, and am like a bridegroom among mourners: black, in case I have merit, and am like a mourner among bridegrooms».

¹⁰⁴ As well as in TY *Kilayim* 4.

¹⁰⁵ As well as in TY *Kilayim* 6.

¹⁰⁶ *Jewish Encyclopedia*, vol. 11, Jerusalem 1906, under *Shroud*, pp. 313-314. Entry not included in 1971 edition.

¹⁰⁷ RIGATO *Il Titolo* cit., pp. 206, 210.

¹⁰⁸ HACHLILI, *Jewish Funerary Customs* cit., pp. 466-467.

¹⁰⁹ Commonly identified with Gamaliel II, also known as Gamliel of Jabneh, often mentioned in the Mishnah, patriarch of Israel Jewish community from circa 80 A.D. to the beginning of the 2nd century; yet again, we cannot exclude it could actually be his grandfather, the famous Gamaliel I of Acts 5:34 ff. See *Encyclopaedia Judaica*, vol. 7, Jerusalem 1971, under *Gamaliel, Rabban*, coll. 295-298. The identification is uncertain to such extent that in the Rabbinical Index of the Soncino Talmud, *Ketuboth* 8 is not listed: neither as referring to Gamaliel I, nor to Gamaliel II.

¹¹⁰ The text goes on as follows: «Said R. Papa: And now it is the general practice [to carry out the dead] even in rough cloth worth [only] a *zuz*».

aforementioned TB *Ketuboth* 8b, though, the funerary cloth is not described as *takrik* or *takrikim* (the specific term for burial shrouds), but with the generic term כְּלִי, which refers to any kind of garment.

In other cases, as we already said, burial shrouds could be made of wool and flax together: see TB *Niddah* 61b, TB *'Abodah Zarah* 65b and TB *Peshaim* 40b, as well as M *Kilayim* 9,4, where it's clearly stated that textiles which have lost ritual cleanliness might be used to make a burial shroud (first of all, because the dead are no longer subject to the Torah, see TB *Shabbath* 30a; secondly, because, after being in contact with the corpse, shrouds become automatically unclean and cannot be used again for other purposes (it will suffice here to cite TB *Yebamoth* 67b).

As for the possibility that a burial shroud could actually be a single, large sheet, it's interesting to quote an episode dating back to the beginning of 3rd century A.D., where we find the last will of Rabbi Jehuda the Patriarch (Jehudah HaNasi, the Prince)¹¹¹. In addition to Jehudah's requests for his own burial, in fact, R. Hizqiah specifies «do not overdo the funerary garments» (*Bereshit Rabbah* 100:2)¹¹²; in TY *Kilayim* 6, another text dealing with R. Jehudah's requests for his own burial¹¹³, as well as in TY *Kilayim* 9:32b, it is made clear that the «Rabbi was buried in one linen shroud (without any other garments)»: the Hebrew goes *b^sadin ehad* (בְּסָדִין אֶחָד), with that unmistakable *ehad*, meaning «one» (the very same *ehad* contained in the Shema: «*Adonai Elohenu, Adonai ehad*», the Lord is our God, the Lord is One).

4.1. The face-cloth as part of the funerary apparel

It's also necessary to spend a few words about the sudarium. Jewish funerary customs, as seen above, required to bind the deceased's jaw to keep it close: it was also usual to cover the dead's face with a small cloth or a handkerchief (TB *Mo'ed Katan* 27a); «formerly they were wont to uncover the face of the rich and cover the face of the poor, because their faces turned livid in years of drought and the poor felt ashamed; they therefore instituted that everybody's face should be covered, out of deference for the poor». We are of course discussing the moments prior to the burial, that is that phase of the mourning when the body is in sight, before being wrapped in a shroud and carried to the tomb¹¹⁴.

According to some, the sudarium arranged on the face, as a separate item, had also an emergency function: in the event of apparent death, such a face-cloth could be easily blown away¹¹⁵.

Is the *soudarion* part of the *othònia* or not? This question, which gave rise to endless disputations, might be perhaps put back in the right perspective, if we consider that the very idea of traditional Jewish burial shrouds is far from being something precise, determined or specific.

¹¹¹ *Encyclopaedia Judaica*, vol. 10, Jerusalem 1971, under *Judah Ha-Nasi*, coll. 366-372.

¹¹² The *Bereshit Rabbah* is an ancient haggadic commentary on the whole of Genesis: its original nucleus is assigned to *amora* Hoshaiah (3rd century). See complete edition: *Commento alla Genesi (Berešit Rabbā)*, a cura di T. FEDERICI, UTET, Torino 1978, p. 854.

¹¹³ See also H.L. STRACK - P. BILLERBECK, *Kommentar* cit., p. 1048.

¹¹⁴ Again about handkerchiefs as part of the funerary apparel, see also TB *Kelim* 27b, where different kinds of handkerchiefs are subject to different prescriptions about cleanliness: besides the handkerchief for the hands and the one for the books, there's also «that which is used as a shroud» (considered worth exactly as those «used for the harps of the Levites», which are thoroughly clean).

¹¹⁵ About this, see S. GIBSON, *The Final Days of Jesus. The Archaeological Evidence*, HarperCollins, New York 2009, p. 29-30 (who, by the way, claims that both Lazarus and Jesus revived from apparent death).

Rabbis constantly refer to burial shrouds, both in singular and in plural, as to pieces of cloth large enough to wrap a body, and they suggest that the notion of shroud might also include other items.

More, to prove the intrinsic nonspecific character of the notion of «shroud», we can finally remind TB *Yebamoth* 104a, which deals with sandals used not as shoes but as part of a burial shroud.

The least we could say is that such terms are ambiguous *per se* and it would be unwise to try and force their meaning into predeterminate notions. The face-cloth is, undoubtedly, distinct from the burial cloth (the shroud itself): yet again, it is likewise undoubtedly part of those very burial cloths, broadly speaking. Contradictions and exegetical issues are therefore, at least in part, not important as they may seem.

5. *Archaeological finds*

The two most important archaeological sites to be studied in order to widen the knowledge of Jewish funerary customs of the Second Temple Period, are those of Jerusalem and Jericho¹¹⁶; besides them, it's necessary to consider also some cemeteries in the Jerusalem area, on the outskirts of the Judean Hills, in 'En Gedi, in Qumran¹¹⁷ and in a very few other sites near the Dead Sea, as well as in Galilae; finally, excavations of Tell Hēsbân, dating to the first period of the Roman domination, have to be mentioned¹¹⁸.

As for archaeological evidences, we refer to the huge work published in 2005 by Rachel Hachlili¹¹⁹: the bodies were wrapped in shrouds made of wool or flax or, as an alternative, in reed or palm mats¹²⁰. Of great interest are also the finds of Kirbat Qazone in Jordan (for instance, a burial shroud made of wool, dating back to the 2nd century B.C.)¹²¹ and those of 'En Gedi (2nd century B.C. as well), where the archaeologists identified a few textiles made of flax with burial shrouds¹²². In many cases, these are kind of Greek cloaks or Roman sleeveless tunics, or common clothes or, again, part of garments reused to wrap corpses. In some other cases, instead, they are shrouds expressly made for burial, as for some decorated leather shrouds.

A unique case is represented by the so-called Akeldamà Shroud, brought to light by Israeli archaeologist Shimon Gibson near Mount Zion (a discover which immediately got to the newspapers and was abundantly exploited against the authenticity of the Shroud of

¹¹⁶ For archaeological finds of the Second Temple Period, I mostly refer to the cases of Jericho and 'En Gedi. For Jericho, see HACHILI, *Jewish Funerary Customs* cit., pp. 4-11 (Rachel Hachili directed the excavation of more than 100 tombs in the Jewish cemetery in the Jericho hills: in the period between the 1st century B.C. and the 1st century A.D., about 250.000 people were buried there); for further details, see R. HACHILI, *Jericho: The Jewish Necropolis of the Second Temple Period*, in *Biblical Archaeologist* 42 (1980) pp. 235-240; R. HACHILI - A. KILLEBREW, *Jericho: The Jewish Cemetery of the Second Temple Period* (Israel Antiquities Authority Reports, 7), Jerusalem 1999, p. 169, fig. 8.1; for 'En Gedi, see G. HADAS, *Nine Tombs of the Second Temple Period at 'En Gedi*, in *'Atiqot* 24 (1994), English abstract, p. 6*.

¹¹⁷ HACHILI, *The Qumran Cemetery* cit.

¹¹⁸ J.A. KRITZECK - E.L. NITOWSKI, *The Rolling-Stone Tomb at Tell Hēsbân*, in *Andrews University Seminary Studies* 18/1 (Spring 1980) pp. 77-100.

¹¹⁹ HACHILI, *Jewish Funerary Customs* cit.; FULBRIGHT, *Akeldama* cit.

¹²⁰ See TB *Berakoth* 18a: one can be «buried in a matting of reeds», i.e. not in a linen shroud.

¹²¹ K.D. POLITIS, *Khirbat Qazone*, in V. EGAN - P.M. BIKAI, *Archaeology in Jordan*, in *American Journal of Archaeology* 102 (1998) pp. 571-606 (Politis' paper is on pp. 596-597: see figg. 6 e 7); the photograph displaying the woollen shroud *in situ* is also in Fulbright, *Akeldama* cit.

¹²² HACHILI, *Jewish Funerary Customs* cit., p. 401 and pp. 466-467.

Turin)¹²³: the aforementioned Akeldamà Shroud was blackened, in pieces, and it was made of at least 4 different pieces of fabric (made of both linen and of flax, with both S and Z twisted threads); it cannot be considered as typical of 1st century A.D. customs¹²⁴: in the first place because the loculus or niche where the shroud was, had been unusually sealed with white plaster (the man died from leprosy and tuberculosis); moreover, archaeological data have to be interpreted with due caution (at least on the grounds that the finds we know are just a minor part of what is still waiting to be dug in the Middle-Eastern area).

6. *The Shroud of Turin's linen thread compared to valuable threads for the Temple*

It is widely acknowledged that the fabric used for the Shroud of Turin a textile of exceptional value.

In order to identify the Shroud of Turin with a brand new sacred garment, used for Jesus' burial for exceptional reasons, Maria Luisa Rigato analyses various terms related to textiles, which I will cover in detail.

Before discussing this topic, however, it's necessary to make a preliminary observation.

Rigato suggest the Shroud is the fine linen sheet used during the High Priest's ritual bathing on Yom Kippur: according to her opinion, that particular sheet would be the bath towel of the High Priest in charge for Kippur liturgy¹²⁵. On the contrary, this is a mere misunderstanding, which unfortunately led other scholars to speculate around an alleged towel the High Priest would use to dry himself after bathing¹²⁶: such a towel never existed, though.

Biblical and Mishnic verses dealing with immersions into the ritual bath on Yom Kippur don't say anything specific: they just describe a sheet called *sadin shel buz* (סדין של בויץ)¹²⁷, i.e. a fine linen sheet, spread between the High Priest and the people (see *M Yoma* 3:4 e 3:6). Rabbinical wisdom (the only authority that counts, in such matters) always interpreted that this particular sheet was meant to separate the High Priest from the people: the Soncino Talmud translates «a linen sheet was spread between him and the people», while other versions, such as Rodkinson's, are even clearer: «a screen of linen [byssus] was placed between him and the people»¹²⁸; to my knowledge, the only opinion in (partial) contrast is Jastrow's, who describes the textile spread between the people and the High Priest as a sheet the latter had to walk on¹²⁹.

The correct interpretation of such a sheet is also made very clear by the Temple Institute of Jerusalem.

¹²³ GIBSON, *The Final Days of Jesus* cit., pp. 139-147. On p. 144 Gibson says that a sample of the Akeldama cloth was sent to a laboratory for radiocarbon dating, and it was dated to the beginning of the 1st century A.D. As for the Turin Shroud, Gibson accepts the «medieval» dating.

¹²⁴ For appropriate and meticulous objections to Gibson's assumption about the Shroud of Turin, see FULBRIGHT, *Akeldama* cit.

¹²⁵ RIGATO, *Il Titolo*, p. 226: «praticamente il telo da bagno dell'arcisacerdote in carica per la liturgia del Kippur» (in other words, the bath towel of the High Priest in charge of the liturgy on Kippur).

¹²⁶ FRALE, *La sindone* cit., p. 80.

¹²⁷ *TB Yoma* 29b. In the Gemara, we read that R. Kahana used to say that the sheet between the High Priest and the people is made of linen to remind him that he will have to wear fine linen garments during the whole service of Yom Kippur (*TB Yoma* 31b).

¹²⁸ *The Babylonian Talmud*, ed. M.L. RODKINSON, vol. 6, The Talmud Society, Boston 1918, in particular p. 42 ff.

¹²⁹ JASTROW, *A Dictionary* cit., under סדין: «they spread a sheet of linen (for the high priest to walk on)».



Fig. 3. Priests setting up the *sadin shel buz* (http://www.templeinstitute.org/yom_kippur/immersion.htm)

Anyway, that such a sheet could be used by the High Priest to dry himself is definitely out of the question. Furthermore, the original text explains that the High Priest had to dry himself using a sponge and not a cloth: in the Soncino Talmud we read that the High Priest came up from the ritual bath (*mikvah*) and then «sponged himself» נִסְתַּפֵּג¹³⁰; according to Rodkinson's edition, he «dried himself with a sponge». That verb is used a bit further in *M Yoma* 7:3-4, dealing with another immersion and subsequent operations of drying: here, too, the High Priest descends into the *mikva* and finally comes up and dries himself (before dressing in linen clothes to read the Torah).

Let us now focus on the interesting «sindonic concordances» Rigato proposes in relation to the Greek terms *sindòn e othònia*: a close examination of ὀθòνια in Greek literature leads her to conclude that such a term is related to linen fabrics of different kind and value (such as byssus, for instance)¹³¹; she then lingers over the specific semitic words used in the Bible and in the Mishnah to indicate different varieties of linen¹³².

Rigato, as we already mentioned, identifies the fabric of Jesus' burial shroud with a special piece of cloth belonging to the Temple of Jerusalem, and suggests that Nicodemus took it from some Temple storage room: afterwards, Nicodemus attended to Jesus' burial with Joseph of Arimathea and helped him wrap the body (*Jn* 19:39-40)¹³³.

The special fabric Rigato mentions is called *sadin shel buz* (סָדִין שֶׁל בּוּץ)¹³⁴: that would be the one spread between the people and the High Priest during the five ritual immersions in the *mikva* he had to perform on the morning of Yom Kippur, before wearing the golden garments required for the solem liturgy of Atonement.

Let us read *M Yoma* 3:4: «A linen sheet [which reminded him that the special service of the day was performed in linen vestments] was spread out between him and the people»¹³⁵, where Mishnic Hebrew – without vocalization – uses the term סָדִין שֶׁל בּוּץ; identical occurrence is to be found in the following *M Yoma* 3:6, where the same sheet is mentioned again, and, finally, in *M Yoma* 7:1-3 (the High Priest is going to read the Torah wearing

¹³⁰ This word contains the root סָפַג, corresponding to the noun «sponge» and to the verb «to absorb».

¹³¹ RIGATO, *Il Titolo* cit., pp. 202-204.

¹³² RIGATO, *Il Titolo* cit., pp. 204-207.

¹³³ *Mk* 15:46 tells us that Joseph bought a cloth for Jesus' burial: according to Rigato, this detail doesn't contradict her theory, because – she maintains – Joseph could have simply left an offering to the Temple, in exchange for the valuable cloth (cfr. RIGATO, *Il Titolo* cit., pp. 222-223).

¹³⁴ RIGATO, *Il Titolo* cit., p. 206.

¹³⁵ See <http://www.emishnah.com/moed2/Yoma/3.pdf> (*The Mishnah: a New Integrated Translation and Commentary based on Rabbeinu Ovadiah M'Bartenurah*, ed. Y. MILSTEIN (known as Milstein-Mishnah).

«linen vestments», *בגדי בויץ*).

The ritual immersion is recounted in Lv 16 (v. 23 and ff.), but it must be noted that no sheet spread between the people and the High Priest is even mentioned: in the Bible, in fact, after sending away the scapegoat meant to go astray in the wilderness (for the taking away of all the sins of the people)¹³⁶, Aaron enters the Covenant Tent, takes off the linen clothes, called *bad* (*בד*), and just leaves them there, without any other detail.

6.1. Hebrew textile terms glossary

Before delving into a detailed analysis of textile terms, it's necessary to remember that the priestly garments and clothes we are going to mention are one of the two most important exceptions to the prohibition of *sha'atnez* (the other being the Temple Veil): in fact, it is expressly required that some of these priestly garments (such as the *ephod*) have to be made from fine flax threads and coloured woollen threads (golden, sky-blue, dark-red or purple and crimson or scarlet).

It is necessary to pause on this topic, because the Bible doesn't say anything specific about it and the fact that the aforementioned threads are made of wool is implicit. No Exodus or Leviticus verse describing those priestly garments actually defines their threads as woollen. The term for wool *צמר* (modern Hebrew *צִמָּר*) appears in the Hebrew Bible only a few times: in Dt 22:11 when giving the rule about *sha'atnez*, in Leviticus when dealing with clothes contaminated with leprosy and in other pericopes¹³⁷, but it never appears with special reference to the Temple Veil or to priestly garments.

The unanimous interpretation of the Rabbis of all time is, anyway, that those coloured threads were undoubtedly made of wool (it will be enough, here, to quote TB *Yoma* 69a and TB *Yebamoth* 4b, a thorough discussion about priestly garments made of mixed linen and wool: upon mentioning purple threads, the Rabbis declare them to be woollen).

Extremely useful, in this respect, the researches available on the Temple Institute website, where the 5 materials the priestly garments were made of are carefully described: «1. gold 2. techelet, sky-blue wool 3. dark-red wool 4. crimson wool 5. twisted linen»¹³⁸. According to observant Jewish tradition, the High Priest's breastplate and *ephod*, for instance, have to be made of sky-blue (*techelet*) wool, dark-red (*argaman*) wool, crimson (*tola'at sheni*) wool, twisted linen and fine golden threads (see Ex 28:6, 15). The instructions provided by the Rabbis of the Temple Institute are clear: each thread used in the High Priest's breastplate and *ephod* must be 28-ply (each thread is made from 6 threads, each of sky-blue wool, purple wool, crimson wool and of white twisted linen – which is 6-ply itself, as we will see –, plus 4 thread of pure gold).

¹³⁶ The scapegoat is sent to Azazel, who according to some symbolizes the place where evil prevails. In TB *Yoma* 67b, instead, R. Ismael directly refers to the fallen angels (Gn 6:4) and explains the name of the demon Azazel as the atonement for the fall of the demons Uzza e Aza'el. See also G. DEIANA, *Levitico. Nuova versione, introduzione e commento*, Edizioni Paoline, Milano 2005, pp. 182-184.

¹³⁷ Lv 13:47-58, 52, 59; Jgs 6:37; 2Kgs 3:4; Ps 147:16; Prv 31:13; Is 1:18; Is 51:8; Ez 27:18; Ez 34:3; Ez 44:17; Hos 2:5, 9.

¹³⁸ List available at http://www.templeinstitute.org/beged/priestly_garments.htm. These 5 different materials were used to create the priestly garments. The gold was beaten into thin sheets and then cut into fine threads; the *techelet* was a dye obtained from an aquatic invertebrate known as *chilazon* (murex trunculus); the dark-red colour (*argaman*) from a snail (*tola'at shani*), but maybe from that same murex trunculus (in that case the difference in colour would be produced by the amount of time the substance was exposed to sunlight); as for fine twisted linen, the material is called *shesh*, as we will see in further detail, and is a 6-ply linen thread.



Fig. 4. The 28-ply thread used for the High Priest's breastplate and *ephod* (http://www.templeinstitute.org/beged/priestly_garments-13.htm)

As for the robe, fashioned exclusively from *techelet*, i.e. the sky-blue dyed wool, Temple Institute scholars state that it had to be made of a 12-ply thread.

Let us now go back to flax.

It is certainly useful to make some preliminary remarks about the Hebrew word *pishta/pishtim*, meaning flax, and about two particularly valuable linen fabrics mentioned in the Mishnah.

- *Pishta* (פִּישְׁתָּה) corresponds to Greek *linon* (λίνον) used in the Septuagint: we find it in Lv 13:47-48, 52 and 59, concerning the leper's clothes; in Dt 22:11 it's the specific term related to the prohibition of *sha'atnez*; in Prv 31:13, woollen and flax fabrics are mentioned; Is 19:9 contains references to flax workers; according to Jer 13:1, Jeremiah's belt is made of linen, as priestly garments such as breeches/drawers and turbans described in Ez 44:17-18¹³⁹; in Hos 2:5,9 wool and flax (פְּתִיחַי) are mentioned in general to cover nakedness; in modern Hebrew this is the common term for flax.
- *Pelusin* or *pilusin* (פִּלוּסִין) is a Mishnic word present in M *Yoma* 3:7 and indicates a kind of valuable linen the High Priest has to wear on the morning of Yom Kippur¹⁴⁰; this particular material comes from Pelusium, a city of Lower Egypt, probably the same as the city of Ramses mentioned in the Bible¹⁴¹.
- *Hinduyin* or *hindoyin* (הִנְדוּיִין) appears in the same M *Yoma* 3:7 and is an «Indian» linen; the specific term can be related either to India, to a territory between Pakistan

¹³⁹ G.W. BROMILEY, *The International Standard Bible Encyclopedia*, vol. 3, Eerdmans, Grand Rapids (US-MI) 1986 (First Ed.: Howard-Severence Company, Chicago 1915), under *Linen*, pp. 139-141.

¹⁴⁰ On the morning of Yom Kippur, the High Priest wears garments made of «[superfine quality] Pelusin linen which [came from Ramses, Egypt and] had a value of twelve maneh and in the afternoon [when he brought out the shovel-pan on incense for the Temple, he dressed himself] with Indian linen, which had a value of eight hundred zuz; these are the words of Rabbi Meir. But the Sages say: In the morning he dressed himself with linen which had a value of eighteen maneh and in the afternoon with linen which had a value of twelve maneh, [or any other combination] which together were worth a total of thirty maneh» (M *Yoma* 3:7).

¹⁴¹ The Targum Yerushalmi (also known as Pseudo-Jonathan) translates «Ramses» to «Pelusin» (פִּלוּסִין): see the passage related to Ex 19:4, where, instead of the usual «I carried you on eagles' wings and brought you to myself», we read «as upon eagles' wings from Pelusin, to take you to the place of the sanctuary» (see English translation available at <http://targum.info/pj/pjex18-20>). Ramses is the city mentioned in Ex 1:11, along with Pitom.

and Afghanistan or to Ethiopia¹⁴².

Of course, both *pelusin e hinduyin* have to be considered words describing yarns or threads, not fabrics: threads could be imported from abroad, but fabrics had to be necessarily woven on Jewish looms, abiding by Jewish laws.

According to the *Jewish Encyclopedia, ad vocem* «linen»¹⁴³, there are 3 Hebrew words for flax/linen: *bad* (λίνεος in the Septuagint), *shesh* and *buz* (βύσσοσ or βίσσινοσ in the Septuagint).

All 3 terms mean linen fabrics: but it must be specified that *bad* corresponds to a common variety, whereas *shesh* e *buz* (these 2 being sometimes – but not always – interchangeable) indicate more valuable materials.

- *Bad* (בד), which the Septuagint translates to *linon* (λίνον) or *býssinos* (βυσσίνος): in Lv 6:3 (10) *bad* is first applied to *middo*, i.e. מִדּוֹ, a generic robe or «linen raiment» as in modern versions of the *Tanakh*, and then to *mikn^ese*, i.e. מִכְנֵסֵי, which is translated in various ways: a sort of apron covering the loins, drawers or a kind of pants, also «linen breeches»; in Lv 16:4 *bad* is used for the tunic («the holy linen coat» di TY *Kilayim* 9:3) and for the breeches; in Lv 16:23 *bad* is applied to *bigde* (בְּגָדֵי), generic term for «linen vestments»; in Ex 28:42 the breeches are made of *bad*; the same word, also meaning «piece», is present in 1Sm 2:18 and 1Sm 22:18: «linen ephod», which is also mentioned in 2Sm 6:14 while describing David's linen *ephod*, likewise made of *bad*; moreover, we could quote the description of an angelic vision (Ez 9:2-3,11 and Ez 10:2,6,7) concerning a man dressed in linen, apparently similar to priestly garments, and the same happens in Dt 10:5 and Dt 12:6-7¹⁴⁴; it comes natural to associate these passages also to the seven angels dressed in «clean white linen» of Rv 15:6, in Greek λίνον καθαρὸν: «clean white», however, seems to be an inaccurate translation, because, once again, the original meaning was probably «ritually clean» according to traditional Jewish laws (John was a Jew, of course, and for a Jew *catharos* represents the best Greek option for «clean»): we must also remember that, a few chapters further (Rv 19:14), the byssus covering the horses is βυσσίνον λευκὸν καθαρὸν (if that *catharon* would actually stand for «clean white», it would be a repetition).
- *Shesh* (שש): in Ex 28:39 tunic (כַּתְנֵת) and headdress/miter (מִצְנִפֶּת) are made of *shesh*, i.e. byssus («fine linen»); in Ex 39:3 threads of *shesh* are woven with threads of pure gold and blue, purple an crimson yarns to make the *ephod*; in Ex 39:27-29

¹⁴² Hindeva is an Aramaic name commonly translated to «India», but it could as well be the land of Kush (or Cush), which can be identified either with ancient Ethiopia (centered on the confluences of the Blue Nile, the White Nile and the Atbara river, in what is now Sudan: thus, ancient Persia would be the land going from India to Cush), or with a mountain range called Hindu Kush, between Pakistan e Afghanistan. The interpretation related to Ethiopia comes from certain passages of the Targum Yonasan of Genesis and Jeremiah. According to Rashi (commentary to *Avodah Zarah* 16a), the correct meaning of Hindeva is India; Maimonides disagrees, though: in his *Peirush ha-Mishnayot* he writes that che «Pelusin» and «Hindevin» are Arabic names relating to different cuts of the same kind of white linen clothes (interesting comments by the group Kollel Iyum Hadaf of Har Nof Synagogue in Jerusalem can be found at <http://www.shemayisrael.com/dafyomi2/yoma/backgrnd/yo-in-34.htm> and *ibidem/yo-in-034-htm*).

¹⁴³ *Jewish Encyclopedia*, vol. 8, Jerusalem 1906, under *Linen*, pp. 93-94. Entry not included in 1971 edition.

¹⁴⁴ This, most likely, the idea of the dazzling clothes, that gleamed like lightning, mentioned in Lk 24:4 (pericope of the women at the empty tomb).

shesh is translated to «fine linen» by modern English-speaking Jews for the tunic, the headdress and the turbants, and with «fine twisted linen» for the breeches and the sashes («fine linen twined» in the Catholic New American Bible); other Jewish versions¹⁴⁵ translate *shesh* to «cambric-sheen», i.e. a very valuable white and glossy linen; *shesh* appears also in Gn 41:42 for the fine fabric of the robes Pharaoh gives to Joseph: this occurrence is often quoted to demonstrate the equivalence of Hebrew *shesh* and Coptic *shens* (again on the use of *shesh* in relation to Egypt, it must also be mentioned Ez 27:7, «embroidered linen from Egypt»); other references to *shesh* are to be found in Ex 25:4; Ex 28:5-6; Ex 35:6; Ex 35:23; Ex 35:25; Ex 35:35; Ex 38:23; in Ez 16:10, 13 *shesh* is what the Lord used to dress Jerusalem.

- *Shesh mushzar* (שֵׁשׁ מְשָׁזָר): for the Tabernacle/Dwelling/Temple Cloth, Veils and Curtains this expression appears in Ex 26:1; Ex 26:31; Ex 26:36; Ex 27:9; Ex 27:16; Ex 27:18; Ex 36:8; Ex 36:35; Ex 36:37; Ex 38:9; Ex 38:16; Ex 38:18; we can find other occurrences, this time related to priestly garments, in Ex 28:8 (band on the *ephod*); Ex 28:15 (breastplate/breastpiece); Ex 39:2 (vestments for officiating in the sanctuary); in Ex 39:5 *shesh mushzar* is worked with coloured yarns to make the decorated band upon the *ephod* (made of *shesh*), as in Ex 39:3; Ex 39:8 (breastplate/breastpiece).

Rabbinical instructions about *shesh* derives from Ex 39:28-29, dealing with the tunics belonging to Aaron and his sons: they were woven of very fine linen, described as *shesh mushzar* (שֵׁשׁ מְשָׁזָר), «corded linen» according to some Jewish versions, and «twilled», i.e. diagonally woven; at the end of verse 28 we even read בְּדָר מְשָׁזָר שֵׁשׁ, an expression which contains both the generic term *bad* and the more specific *shesh*. Are these only subtle technicalities or traces of a deliberate will to identify different kinds of linen? Since we are dealing with Jewish tradition, I would surely tend to consider the latter hypothesis as the most likely.

The Rabbis of the Temple Institute of Jerusalem Rabbis¹⁴⁶, however, in translating that very Exodus line, refer to *shesh mushzar* as to «twined linen».

Again on this subject, it can also be very interesting to underline that the specific term *mushzar*, emphasized by the word «double» (שְׁנַיִ), is in that same Ex 39:8 referred also to blue (תְּכֵלֶת), purple (אַבְנִיָּוִן) and crimson (תּוֹלַעַת) threads, even though common translations, both Christian and Jewish tend to omit this detail: maybe that «double» (שְׁנַיִ) is meant to expressly denote a 2-ply thread?

I wonder if the use of *mushzar* might actually indicate a specific kind of twisted linen thread: in this case, it's obvious to think of Z-twist yarns (exactly that of the Shroud of Turin), definitely more valuable and rare than S-twist yarns.

- *Buz* (בוּץ), in the Septuagint βύσσαν or βύσσινος: the Veil of Solomon's Temple is made of the usual blue, purple and crimson and of *buz* (2Chr 3:14); *buz* is a term we find in the Bible only from Ezechiel onwards¹⁴⁷, as in Ez 27:16 (trade and

¹⁴⁵ For instance, see <http://www.scripture4all.org>.

¹⁴⁶ I refer to the thorough explanations contained in the section *Study Tools - Priestly Garments of the High Priest and the ordinary Priests* at http://www.templeinstitute.org/beged/priestly_garments.htm.

¹⁴⁷ In the Jewish Bible, Chronicles 1 and 2 are the last books of the canon, while in the Christian Bible they

exchange of fine linen, among other goods), and it's acknowledged that the Greek *byssos* come sfrom *buz*; 1Chr 4:21 mentions *buz* weavers in Bethashbea; 2Chr 2:14 (13) cites other workers of the same material; in 1Chr 15:27 David and the Levites are dressed in fine linen (בִּיזָן); the Levites who were singers were also clothed in *buz* (2Chr 5:12); in Est 1:6 are mentioned cotton draperies and violet (woollen) hangings, held by cords of byssus, i.e. *buz*; Est 8:15 describes Mordecai's royal robe and his cloak of crimson byssus, again *buz*, and it's noteworthy that this cloak is exactly that תַּכְרִיף than will later become the specific word to denote a burial shroud: in this respect, the fine *takrik buz* (תַּכְרִיף בִּיזָן) Mordecai wears as he leaves king Ahasuerus' is very much pregnant.

- Finally, it's interesting to notice that, in the New Testament, the rich man of Lk 16:19 wears purple (πορφύραν) garments and fine linen (βύσσον): those two, in fact, were the most precious textiles available (thus corresponding to Old Testament terms אֶרְגָּמָן and בִּיזָן or שֵׁשׁ). βυσσίνος is the very same word used also in Rv 18:12 (merchants dealing in various textiles), Rv 18:16 («alas, great city wearing fine linen» etc.), Rv 19:8 (the bride of the Lamb wears βυσσίνον καθαρόν, i.e. ritually clean) and Rv 19:14 (again βυσσίνον καθαρόν, which is also white, for the garments worn by the horses).

As explained above, *shesh* and *bad* are associated in Ex 39:28, therefore we can exclude that they are synonyms¹⁴⁸: I would suggest that *bad* is made of a single-thread linen yarn, whereas *shesh* is made of a twisted linen yarn (several single threads twisted together, i.e. plied, as the Rabbis of the Temple Institute in Jerusalem clearly explain).

According to the Temple Institute translation, in fact, all these garments are made of «twisted linen», i.e. twisted byssus: Jerusalem Rabbis carefully instruct the weavers to abide by the most scupulous Jewish tradition and specify that it has to be used a «six-ply thread», obtained by twisting 6 single threads. It's also useful to point out that the valuable *shesh* the Temple Institute recommends is imported from India: it comes therefore natural to associate this tradition with that «Indian linen garments» (*hinduyin*, הִינְדִינִין) we already discussed.



Fig. 5. Six-ply thread (http://www.templeinstitute.org/garments_manufacture.htm)

come well before the Book of Ezekiel.

¹⁴⁸ According to the majority of scholars, they are different kinds of linen. According to RIGATO, *Il Titolo* cit., p. 206, instead, *bad* of Lv 16:4 (related to tunic, breeches, sash and turban) is synonym of *shesh* of Ex 39:27-29 (and of Ex 26:42); in a nutshell, Rigato suggests that the fabric is the same and that Exodus simply prefers the word *shesh* where Leviticus uses *bad*.

The equivalence of *shesh* (שֶׁשׁ) and *buz* (בּוּז) is asserted by several scholars¹⁴⁹: to sum up, *bad* is the same as λίνεος in the Septuagint, whereas *shesh* and *buz* correspond to βύσσοσ or βίσσοσ. Also Rigato, in her thorough analysis¹⁵⁰, considers them synonyms, arguing that *buz* corresponds to the Greek *byssos* of the Septuagint (which, by the way, uses the same term to translate *shesh* as well): Rigato also quotes the aforementioned 1Chr 15:27, where David and the Levites were dressed in byssus (בּוּז); at the end of the same verse, we find also *bad* (the usual בָּד), whereof David's *ephod* was made.

Yet again, I maintain that a simple, tout-court identification of *shesh* with *buz* is not very much prudent or wise: those two fabrics were certainly similar to each other, since they are translated to the same Greek word *byssos*, but this doesn't justify to consider them identical. Since a authoritative rabbinical tradition interprets *shesh* a a six-ply thread, I would rather suggest that *shesh* might be a special kind of *buz*.

Conclusions

After examining the Hebrew textile terminology, how can we define the yarn used to weave the Shroud of Turin?

The Shroud's yarn is a Z-twist single thread¹⁵¹. It's certainly correct to describe it as made of *pishta*; we cannot exclude that it could be more precisely defined as *buz* (but not as *shesh*), or, perhaps, as one of those two valuable kinds of linen known as *pelusin* and *hinduyin*; moreover, the peculiar Z-twist might also correspond to the notion of *mushzar*.

In conclusion, I do not deem it prudent to consider the Greek word σινδόν of the Synoptic Gospels, used to describe Jesus' shroud, as a loan-word derived from *sadin* (סַדִּין): yet again, it is in fact impossible to ascertain whether in the 1st century A.D. the specific term *takrik/takrikim-takrikin* (תַּכְרִיכִין - תַּכְרִיכִים / תַּכְרִיךְ), later to become the common word for «burial shroud», was actually used.

It's indeed fascinating to think that the semitic word underlying the Greek term *sindòn* could actually be *sadin buz* or the like (*sadin shel buz*, according to Rigato). Yet, an important question would anyway be left unanswered: why wasn't it simply translated to some Greek expression as *en sindòni byssina* (and of course *cathara*)? That solution would have been a suitable way to render also the exceptional value of the fabric; from this point of view, John's *othònia*, which, in general, often refers to fine linen and byssus, is definitely more appropriate.

As an alternative, instead of considering *sindòn* a translation or a loan-word derived from a hypothetical underlying *sadin* (which, by the way, would be Jewishly inaccurate and improper, if used alone, to describe a burial shroud), we could also think of *sindòn* as the transculturalization of an original semitic word we will never find out (providing it was not *takrik/takrikim-takrikin* yet), which unmistakably denoted a burial shroud in Hebrew, but somehow impossible to render in Greek. Hence the choice of the generic and concise Greek word *sindòn*, perfectly fit to be interpreted by heterogenous (and Gentile) readers as the respective, different kinds of funerary apparels, for instance the generic Greek-Roman robes and garments (it's no coincidence that the same term *sindòn*, i.e. linen cloth, is used

¹⁴⁹ *Jewish Encyclopedia*, vol. 8, Jerusalem 1906, under *Linen* cit.

¹⁵⁰ RIGATO, *Il Titolo* cit., p. 206.

¹⁵¹ I wish to thank dr. Piero Vercelli for his explanations.

also in Mk 14:51-52 for an unspecified dress).

I would like to conclude with an observation about Matthew's use of *cathara* in describing Jesus' shroud.

As we already mentioned, the prohibition of *sha'atnez* was mandatory only for the living and not for the dead (which, I repeat, doesn't mean a ritually clean cloth could not be used for a deceased). Could such a detail (deliberate and specific, in contrast with the absence of any other detail about the material) simply mean that the people who wrapped Jesus' dead body in the Shroud were certain that he was going to rise again?

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