

## Russian *Yufte* as ‘Russia Leather’ in Eighteenth- and Nineteenth-Century Western Bookbinding

In Russia they had rivers ten miles broad on which one could gallop six horses abreast all day long without meeting a soul.

Virginia Woolf, *Orlando*

Under the definition of ‘юфтевый’ [yufteviy] (relating to or made of yufte) Vladimir Dahl’s *Explanatory Dictionary of the Living Great Russian Language* (1863) offers the following examples of usage: ‘Я люблю юфтевый духъ’ (I love the aroma of yufte); ‘Библия въ юфтяномъ переплете’ (A Bible in a yufte binding). ‘Yufte’ is also defined in Dahl’s dictionary, as ‘the skin of a mature bull or cow, processed in the Russian manner, using pure *dyogt*” (дѣгть, that is, birch oil).<sup>1</sup> The picture that emerges from this suggestive series of characteristics is that of a leather peculiar to Russia, permeated with the distinctive smell of birch oil, and used in bookbinding, – a material that cannot help but call to mind an enigma of English bookbinding history, which teaches that ‘russia leather’, ‘russia calf’ or simply ‘russia’ was a highly sought-after commodity used for the covering of books during the second half of the eighteenth and first half of the nineteenth century in Western Europe, but which does not satisfactorily identify this leather by tracing it to its purported Russian origins.

In Western scholarly and historical sources this leather is regularly characterized by its softness, suppleness, aroma, humidity- and water-resistance,

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<sup>1</sup> ‘Юфтевый’ [Yufteviy] (related to or made of yufte) and ‘Юфть’ [yufte] in *Толковый Словарь Живого Великорусскаго Языка Владимира Даля* [*Tolkovyy Slovar’ Zhivogo Velikorusskago Yazyka Vladimira Dalya*] (Vladimir Dahl’s Explanatory Dictionary of the Living Great Russian Language), ed. Vladimir Dahl, 3rd edn (St. Petersburg: M. O. Wolf, 1903), p. 1552. All translations and transliterations from Russian in this paper are the author’s own.

repelling properties toward insects and diced pattern on its hair side. Having kept these properties in mind as I searched in Russian sources on domestic leather production and international trade for correspondences to this material, with its ‘almost mythical reputation’,<sup>2</sup> I now posit that the Russian leather known as yufte – made from mature cow, bull, and possibly horse hide, treated with birch oil and seal fat, and given a reticulate texture with a patterned board – is the most likely candidate for the ‘russia calf’ or ‘cuir de russie’ of eighteenth- and nineteenth-century Western usage. It is my hope that this paper begins to offer an answer to an unresolved question of origins and introduces to a non-Russian speaking audience several Russian sources on the manufacture and export of Russian leather to Western Europe during the period of russia calf’s highest popularity.

Could the material that Brockhaus and Efron’s *Encyclopaedic Dictionary* (1890) affirms is known as ‘Russian leather’ in Western Europe, where it is ‘highly prized by foreigners and is manufactured into various small items: purses, cigar cases, etc.,’<sup>3</sup> truly be the ‘russia leather’ that appears in the body of Western bookbinding literature? Suggestions of such a connection currently stem from three main categories of sources consulted for this project: 1) descriptive sources in English, Russian and French – encyclopaedia entries, sources on leather tanning and other mentions of yufte and russia calf outside of bookbinding that point to correspondences in the physical qualities of the two leathers, 2) English- and Russian-language bookbinding reference-works and other sources specifically handling binding, which establish yufte as well as

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<sup>2</sup> Geoff Garbett and Ian Skelton, *The Wreck of the Metta Catharina* (Pulla Cross: New Pages, 1987), p. 28.

<sup>3</sup> 'Юфть' [Yufte] in *Энциклопедический Словарь [Entsyklopedichskiy Slovar']* (Encyclopaedic Dictionary), XLI, ed. by I. E. Andreevskiy, K. K. Arsenyev and F. F. Petrushevskiy (St. Petersburg: Brockhaus and Efron, 1904), pp. 460-461 (p. 461).

russia calf as a binding material and 3) statistics, from Russian sources, for the export of yufte from Russian ports to Western Europe, showing yufte to have had consistently and by far the highest rate of export from Russia, compared to all other types of leather/skins, from the seventeenth to the nineteenth century.

An initial portrait of the material in question may demonstrate the immediate similarities that attend the reputations of russia leather and yufte in their respective literatures. English sources tend to emphasize russia calf's texture, grain and smell, and its applications in binding and upholstery. In one of the earliest English references to russia calf, occurring in Bagford's notes on bookbinding, written some time before his death in 1716,<sup>4</sup> 'russia' is mentioned in a short list of covering materials in use from the time of Henry VII and 'Russia Calf' given as a contemporary covering for law books. According to Bagford such law books tended to stick to each other when placed together on a shelf, the bindings 'wearing greasy'.<sup>5</sup> Still earlier in 1658 Sir Thomas Browne mentioned 'the like Reticulate grain ... observable in some Russia Leather' when describing the latticed arrangement of circles in the quincunx. Citing this last example, Graham Pollard posited that Browne's familiarity with russia leather would have stemmed from its use in coach upholstery during his lifetime, not necessarily from its use in binding.<sup>6</sup> Russia leather did seem subsequently to have come into regular use for bookbinding in the West, and to have been especially prevalent in this role from 1780-1830.<sup>7</sup> Even in 1884, however, Theodore Child was still able to write that a fashionably eclectic home library might contain books in various sizes and bindings,

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<sup>4</sup> Graham Pollard, 'Changes in the Style of Bookbinding, 1550-1830' *The Library* 11 (1956), 71-94 (p. 81).

<sup>5</sup> Cyril Davenport, *Bagford's Notes on Bookbindings: A paper read before the Bibliographical Society, November 16, 1903* (London: Blades, East & Blades, 1904), p. 20.

<sup>6</sup> Pollard, p. 81.

<sup>7</sup> P. J. M. Marks, *The British Library Guide to Bookbinding: History and Techniques* (London: British Library, 1998), p. 43.

including 'old calf or morocco, ... vellum and Russia leather',<sup>8</sup> suggesting that its use in binding was not unknown in the latter half of the nineteenth century, or at least that older bindings done in russia leather were still prized.

During the period when russia calf was most common in bookbinding in Western Europe and immediately thereafter, its application continued to extend to small items, various kinds of upholstery, and furnishings in homes and public spaces. Charles Vallencey wrote in 1774 of russia calf's use for saddles, for 'the inside of coaches, cartouche boxes for soldiers and several other works that require neatness and elegance'.<sup>9</sup> In the middle of the eighteenth century, a mahogany desk with a top covered in russia leather belonged to Lord Burlington's apartments in Chiswick House,<sup>10</sup> while the chairs of all but two United States Supreme Court Justices were covered in russia leather even in 1895.<sup>11</sup> Pollard cites Richard Rawlinson's wish in 1755 that his coffin be covered in russia leather, as well.<sup>12</sup> Finally, the particular aroma of russia leather found a direct application in warding off clothes moths in the West, as suggested by an 1867 issue of the *American Naturalist*, whose readers were advised to place 'shavings of Russia leather... among the clothes when they are laid aside for summer' to ward off the insects.<sup>13</sup>

Russian sources on the qualities and applications of yufte offer a highly similar idea of the material, but tend more often to indicate the leather's domestic uses for

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<sup>8</sup> Theodore Child, 'French House Furnishing', *Decorator and Furnisher* 4 (1884), 48-49 (p. 48).

<sup>9</sup> [Charles Vallencey], *The Art of Tanning and Currying Leather: With an Account of all the Different Processes made use of in Europe and Asia for Dying Leather Red and Yellow*. (London: J. Nourse, 1774), p. 195.

<sup>10</sup> T. S. Rosoman, 'The Decoration and Use of the Principal Apartments of Chiswick House, 1727-70', *Burlington Magazine* 127 (1985), 663-677 (p. 668).

<sup>11</sup> F. B. Brock, 'Furniture in the U.S. Capitol', *Decorator and Furnisher* 26 (1895), 148-149 (p. 149).

<sup>12</sup> Pollard, p. 82.

<sup>13</sup> A. S. Packard, 'The Clothes-Moth', *American Naturalist* 1 (1867), 423-437 (p. 427).

military gear, bags and shoes, in contrast to its foreign applications for small personal items, bindings and home furnishings. In many particulars Russian sources agree with Western ones, adding some detail regarding manufacture and appearance; for example, the *Encyclopaedic Dictionary's* article on yufte, provided in full translation in Appendix I, names three possible colours for the finished leather – black, white and red – as well as many possible surface appearances, including ‘the well-known pattern’, a shagreen grain, stripes, a lattice pattern and a smooth face. Red yufte is given as the sort most often exported west under the name of ‘Russian leather’ and fashioned into ‘various small items’, while white is predominantly in domestic use for suitcases, cartridge bags and soldiers’ footwear, and black is also used domestically for suitcases, coaches, harnesses and men’s and women’s footwear among the peasants.<sup>14</sup> Yufte’s historical prevalence in shoemaking is corroborated by Aleksei Semenov’s 1859 study of Russian manufacturing law and statistics, which mentions several eighteenth-century decrees specifying the use of seal fat in the production of yufte for footwear.<sup>15</sup>

As to the special qualities of the leather, A. Mikhailov writes of yufte’s peculiar softness and elasticity, with more than forty per cent give at the moment of tearing, its low water permeability, as well as its use into the twentieth century for boot uppers in Russia.<sup>16</sup> Application in upholstery and the aromatic quality of yufte are discussed in a

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<sup>14</sup> *Encyclopaedic Dictionary*, XLI, p. 460-461.

<sup>15</sup> Aleksei Semenov, *Изучение Исторических Сведений о Российской Внешней Торговле и Промышленности с половины XVII-го столетия по 1858 год* [*Izuchenie Istoricheskikh Svedeniy o Rossiyskoi Vneshney Torgovle i Promyshlenosti s Poloviny XVII-go stoletiya po 1858 god*] (A Study of the Historical Data on Russian Foreign Commerce and Industry from the Middle of the XVII Century until the Year 1858) (St Petersburg: I. I. Glazunov, 1859), I, p. 219.

<sup>16</sup> A. N. Mikhailov, *Физико-Химические Основы Технологии Кож: Химия Дубящих Веществ и Процессов Дубления* [*Fiziko-Khimicheskie Osnovy Tekhnologii Kozhi: Khimia Dubyashikh Veshestv i Protsestv Dubleniya*] (Physico-Chemical Basis of Leather Technology: The Chemistry of Tanning Agents and Processes) (Moscow:

page-long footnote in the 1829 *Description of the First Public Exhibition of Russian Manufacturing, Taking Place in St. Petersburg* (for a translation of the relevant passage see Appendix I), which speaks of the use of yufte, not only to upholster furniture, but also to cover the walls of entire rooms in fashionable Italian homes of the eighteenth century, where it functioned as a substitute for silk damask, which was difficult to preserve from clothes moths and other insects prevalent in hot climates. The author of the *Description* points to yufte's firmness and ability to keep away insects as central reasons for its preferment in home furnishing and notes with some surprise that, at the height of yufte's popularity in the West, Europeans found the leather's odour not only tolerable, but even pleasant.<sup>17</sup> Yufte's treatment in this and other Russian texts suggests that in Russia the leather had more prosaic uses than abroad, its smell more often associated with boots than with elegant home decor.

When sources on leather production offer precise accounts of the making of russia leather, further likenesses between English, French and Russian texts also emerge in the details of manufacture. To begin with the French encyclopaedias, while the 1724 edition of the *Grand Dictionnaire Historique* only briefly mentions the fame of 'cuir de Russie' in Europe,<sup>18</sup> the Larousse *Grand Dictionnaire Universel* of 1866 treats russia leather's qualities and purposes with more specificity, listing a familiar litany of remarkable suppleness, impermeability, resistance to humidity, and a particular odour,

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Gosudarstvenoe Nauchno-Tekhnicheskoe Izdatel'stvo Ministerstva Promyshlennykh Tovarov Shirokogo Potrebleniya SSSR, 1953), p. 716-717.

<sup>17</sup> *Описание Первой Публичной Выставки Российскихъ Мануфактурныхъ Издѣлий, Бывшей въ С. Петербургѣ 1829 года* [*Opisanie Pervoi Publichnoi Vystavki Rossiyskikh Manufakturnykh Izdel'iy, Byvshey v S. Petersburge 1829 goda*] (Description of the First Public Exhibition of Russian Manufacturing, Taking Place in St. Petersburg in the Year 1829) (St. Petersburg: Tipografia Ekspeditsii Zagotovleniya Gosudarsvenykh Bumag, 1829), p. 195.

<sup>18</sup> 'Moscou' in *Le Grand Dictionnaire Historique*, III, 11th edn, (Amsterdam: Pierre Brunel, R & G Wetstein, Janssons-Waesberge, Pierre de Coup, 1724), pp. 570-571 (p. 570). All translations from French are my own.

which drives away insects – qualities which ‘made it long sought after, sometimes for shoemaking, and more often for the binding of books and the making of a plethora of objects with diverse uses, such as bags and belts for women, purses, wallets, cigar cases, cases for scissors, etc.’ The *Dictionnaire* also names birch oil, also called ‘huile de Russie’, as the source of the finished leather’s special properties and describes in detail the operations of the oil’s extraction from birch bark. Finally the process for making ‘cuir de Russie’ from cow and calf hide is discussed, including scraping, soaking in various tanning solutions, draining, rubbing with seal fat and birch oil (*graissage*), most often dyeing a red colour with brasil, cochineal or sandalwood, and imparting texture by manually passing a copper or wooden board covered in grooves firmly across the still-damp hair side of the leather.<sup>19</sup> This process described at length by Larousse is highly similar to that depicted in the Russian *Encyclopaedic Dictionary* of Brockhaus and Efron in its section on yufte (see Appendix I), notably the dyeing of red yufte with sandalwood, oiling with birch oil and seal fat and texturing accomplished with grained boards.

As between Larousse and the *Encyclopaedic Dictionary*, there is some disagreement within English, French and Russian sources with respect to the origin of the hides for russia calf and for yufte, and this unresolved question remains the principle point of confusion in this analysis. While Larousse names calf and cowhide, Brockhaus and Efron exclude calf from a list of cow, barren cow and year-old bull, and Dahl also specifies only the skins of mature bulls and cows. While in several later Russian-language sources yufte is said to be made from cow, calf or horse,<sup>20</sup> the

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<sup>19</sup> ‘Cuir’ in *Le Grand Dictionnaire Universel du XIXe Siècle*, V, ed. by Pierre Larousse (Paris: Larousse & Boyer, 1869), pp. 625-627 (p. 626).

<sup>20</sup> V. I. Anisimov, *Книжный Переплет, Краткий Конспект* [*Knizhnyi Pereplet, Kratkiy*

*Encyclopaedic Dictionary* distinguishes yufte from horse leather, while allowing that horse leather was also a popular Russian export during the sixteenth century.<sup>21</sup> Russia leather, in one later English-language source, is said to be made from calf and cowhide,<sup>22</sup> and in Vallencey is also made chiefly from cowhide, though throughout the entire passage the author may be exclusively discussing imitation russia made in France, rather than the Russian original.<sup>23</sup> Cowhide may be seen as the source leather, due to the overlap in the lists provided by the sources, but one significant challenge to this near-consensus emerges in an account of an eighteenth-century shipwreck, discovered to contain a large shipment of leather of Russian origin bound for Genoa, which upon examination in the 1970s was determined to be reindeer hide by the British Leather Manufacturers' Research Association.<sup>24</sup> The claim for reindeer as the source hide for russia leather will be discussed in greater detail at the conclusion of this paper.

As in descriptions of the leather's manufacture, the special properties of russia calf are also brought into focus in discussions of Western European imitations of the Russian original, handled in most detail in Vallencey's *Art of Tanning and Currying Leather*. Antedating Vallencey, a distinction between genuine russia calf and its

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*Konspekt*] (Bookbinding, A Short Conspectus) (St Petersburg: Gosudarstvenoe Izdatel'stvo, 1921), p. 70. // Mikhail V. Seslavinskiy, *Аромат Книжного Переплета: Отечественный Индивидуальный Переплет XIX-XX веков* [*Aromat Knizhnovo Perepleta: Otechestveniy Individual'niy Pereplet XIX-XX vekov*] (The Fragrance of the Bound Book: Domestic Custom Bookbindings of the XIX-XX Centuries) (Moscow: ASTREL', 2008), p. 16.

<sup>21</sup> 'Кожевенное Производство' [*Kozhevenoe Proizvodstvo*] (Leather Production) in *Энциклопедический Словарь* [*Entsyklopedichskiy Slovar'*] (Encyclopaedic Dictionary), XV<sup>A</sup>, ed. by I. E. Andreevskiy, K. K. Arsenyev and F. F. Petrushevskiy (St. Petersburg: Brockhaus and Efron, 1895), pp. 567-575 (p. 573).

<sup>22</sup> John W. Waterer, *Leather in Life, Art and Industry: Being an Outline of its Preparation and Uses in Britain Yesterday and Today Together with Some Reflections on its Place in the World of Synthetics Tomorrow* (London: Faber & Faber, 1946), p. 167.

<sup>23</sup> Vallencey, p. 195.

<sup>24</sup> Geoff Garbett and Ian Skelton, *The Wreck of the Metta Catharina* (Pulla Cross: New Pages, 1987), p. 18.



imitations was being made as early as 1691, when John Tyzack took out a patent for 'tanning all sorts of skins for leather and also for converting some sorts of the said leather into imitation russia leather with the same grain, tincture, and smell'.<sup>25</sup> In addition, Larousse mentions a method for adding to other leathers the bare minimum of a suggestion of russia calf, whereby the characteristic aroma alone was imparted to morocco by permeating it with birch oil during the finishing process. This practice, Larousse warns, risked leaving permanent stains on the leather if too much oil was applied. Larousse also asserts that in 1866 genuine 'cuir de Russie' was still manufactured only in Russia, and numerous attempts to make imitations in Western Europe had failed, such that the supply of high-quality russia leather depended exclusively on Russian imports. Consequently the price of true russia at this point in the century was high, permitting the use of the genuine article only on luxury items.<sup>26</sup>

The longest account of imitation russia calf consulted for this project is contained in Vallencey's *Art of Tanning and Currying Leather* (1774), which describes at length a French tanning operation at St. Germain making imitation russia leather using a mechanical roller to impart the grain, an oil made of savin and rue, as well as birch bark powder, for water-resistance, and brasil wood to dye the leather red. Vallencey also mentions a practice of smearing the skin with fish oil, though it is unclear whether here at the start of his passage on russia calf he is mistaking for fish oil the seal fat used in the Russian process, or describing the French imitation process. France, Vallencey notes, 'still imports a great quantity of this leather, the manufacture of St. Germain... not furnish[ing] more than the value of twenty thousand livres a year, and which serves

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<sup>25</sup> Pollard, p. 81.

<sup>26</sup> *Grand Dictionnaire Universel*, V, p. 626-627.

chiefly for the use of the troops'.<sup>27</sup> While Marks writes that russia leather tended to rot easily on books, reacting badly to gas-lighting in the West,<sup>28</sup> it seems more likely that imitations such as that described by Vallengy were the culprits of rot and lower quality.<sup>29</sup>

On the other side of the Baltic, Russian manufacturers took pride in yufte's inimitability. The *Description of the First Public Exhibition of Russian Manufacturing* (1829) ends its discussion of yufte on a self-congratulatory note, recalling failed attempts at foreign imitations and boasting of Russia's extensive birch forests, necessary for the production of *dyogt*.<sup>30</sup> Both the *Exhibition of Russian Manufacturing* and *Encyclopaedic Dictionary* speak of Russian leather manufacturing's general lag behind Western European production in the nineteenth century, with the one large exception of yufte manufacturing, which 'still support[ed] the reputation of the Russian leather industry'.<sup>31</sup> While technological advances seemed to be slow in coming to the industry as a whole in the eighteenth and nineteenth centuries, yufte leather could still serve as a point of national pride because of its uniqueness and popularity on the international market.<sup>32</sup>

While presenting properties similar to russia calf and clearly enjoying an international reputation during the years of russia calf's highest popularity for bookbinding in Western Europe, yufte would not be such an obvious candidate for the part if not also for its mentions in Russian bookbinding sources. Russia calf's use in

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<sup>27</sup> Vallengy, p. 195-199.

<sup>28</sup> Marks, p. 43.

<sup>29</sup> Nicholas Pickwood, 'Bookbinding in the Eighteenth Century', in *The Cambridge History of the Book in Britain*, V, ed. Michael F. Suarez and Michael L. Turner (Cambridge: Cambridge University Press, 2009), pp. 268-290 (p. 278).

<sup>30</sup> *Exhibition of Russian Manufacturing*, p. 202-203.

<sup>31</sup> *Encyclopaedic Dictionary*, XV<sup>A</sup>, p. 574.

<sup>32</sup> See *Exhibition of Russian Manufacturing* material in Appendix I.

bookbinding in the West has already been well established; in order to suggest that yufte was the corresponding leather on the Russian side of the market, its use in bookbinding had to be corroborated. Yufte's incidence as a bookbinding material in Dahl has already been mentioned. Similarly, it was listed as a binding material by Anisimov in 1921: 'Yufte leather, or so-called 'Russian leather', is prepared from cow, horse or calf hides; formerly it was valued to some extent [as a binding material], but at present it is not widely used.'<sup>33</sup> Seslavinskiy's catalogue of nineteenth- and twentieth-century Russian bindings (2008) also lists yufte in its glossary of materials:

Yufte (from the Dutch 'jucht') – soft black leather from a horse, calf or cow, prepared with the application of birch oil. Interestingly, it is translated into Italian as Cuoio di Russia, and into Spanish as Yuft or Piel de Rusia, in connection to the traditional application of yufte in Russian shoemaking.<sup>34</sup>

While it is more likely that the Dutch *jucht* originated from the Russian word, Seslavinskiy's account does usefully link yufte to bookbinding and to its Western European aliases. While it is the case that this and other Russian-language sources provide information on how yufte was named in the West, no Western sources consulted for this paper offer any indication of how russia calf was known in Russia. Despite its presence in the glossary, the only yufte binding in Seslavinskiy's catalogue is an edition of *Dead Souls* printed in Moscow at the University press in 1842 (*pl. 1*). The scarcity of yufte bindings in Seslavinskiy's collection may be a consequence of the late period treated by the catalogue, or may indicate that yufte was not particularly popular for bookbinding within Russia.

The last type of evidence for russia calf's identification as yufte comes from Russian sources on the leather industry and trade, primarily Semenov's extensive and invaluable *Study of the Historical Data on Russian Foreign Commerce and Industry*

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<sup>33</sup> Anisimov, p. 70.

<sup>34</sup> Seslavinskiy, p. 16.

(1859). In this work Semenov consistently shows yufte to be among the top exports from Russian ports, beginning in 1665, when English merchant ships transported 600,000 rubles worth of caviar, lard, wax, yufte, flax, hemp, plumage, birch oil, linen cloth, cables, bristles, meat, soft lumber, rhubarb and silk from the port of Arkhangelsk.<sup>35</sup> Many of these goods, including yufte, remained among Russia's top exports throughout the eighteenth century and into the nineteenth, after St. Petersburg succeeded Arkhangelsk as principal gateway to the international market.<sup>36</sup> The data shows that the export of yufte during this period far surpassed in value that of other types of leathers, as well as that of raw skins. Though the export of other leathers to Western Europe did grow in value dramatically between 1749 and 1802, it did not catch up to the total value of the yufte exported at any time between 1749 and 1853 – the period covered by Semenov's data. In 1749, for example, the value of the yufte exported on the European market was more than 130 times that of other leathers as a whole; in 1778-80 over thirty times; and, in 1790-92, it had fallen to a little over five times the value of all other exported leathers. For the period 1833-35, the end of what Marks gives as Russia's highest occurrence in Western bookbinding,<sup>37</sup> yufte exported to Western Europe was still valued at more than five times the cost of all other leathers, and at the end of Semenov's period – 1851-53 – it was worth over thirteen times their value.<sup>38</sup> A similar hierarchy can be seen in export data for Persia, Turkey, Central Asia and China, where the value of yufte in some years exceeded the value of all other leathers imported from Russia by up to thirty times, while, across the board, figures for leather export to Asian markets were up to eight times lower than those to Western

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<sup>35</sup> Semenov, III, p. 18.

<sup>36</sup> Several of the study's relevant tables are reproduced in translation in Appendix II.

<sup>37</sup> Marks, p. 43.

<sup>38</sup> Semenov, III, p. 431.

Europe.<sup>39</sup> The available data shows consistently that yufte was among Russia's most popular commodities, shipped west from St. Petersburg every year in hundreds of thousands of *puds*,<sup>40</sup> and often valued yearly at over a million rubles, before 1815.<sup>41</sup>

As is evident from Semenov's work on the subject, the export of yufte began as a state monopoly and a protected market. From the seventeenth century yufte was one of a small number of industries whose international sale was the monopoly of the Russian Treasury. Both Semenov and the *Encyclopaedic Dictionary* (see Appendix I) write of yufte's sale abroad serving as a source of income for the Russian state up to the year 1716, when certain merchants were ordered to sell yufte from Arkhangelsk for the benefit of the Treasury, paying all tariffs and transportation costs, and selling the leather with no extra markup. Such state monopolies on trade were still in place under Peter the Great in order to finance war with Sweden. After 1719, however, the yufte market ceased to be such a monopoly.<sup>42</sup>

It was also under Peter the Great that laws governing the production of yufte were put into place, in 1715 and 1718, the latter mandating the use of seal fat of all yufte manufacturers working in Moscow.<sup>43</sup> At this same time leather producers 'from every city' were ordered to send several representatives to Moscow, in order to study the best methods for the manufacture of yufte, and the export of raw skins was forbidden, in order to bolster the domestic leather industry.<sup>44</sup> The specific appearance

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<sup>39</sup> Semenov, III, p. 452, 460, 467.

<sup>40</sup> The weight of a *pud* is equal to approximately sixteen kilograms.

<sup>41</sup> Semenov, III, p. 431.

<sup>42</sup> Semenov, I, p. 63-64.

<sup>43</sup> S. Karataev, *Библиография Финансов, Промышленности и Торговли со Времени Петра Великого по Настоящее Время* [*Bibliografia Finansov, Promyshlenosti i Torgovli so Vremeni Petra Velikago po Nastoyasheye Vremya*] (Bibliography of Finance, Industry and Trade from the Time of Peter the Great through the Present) (St Petersburg: V. S. Balashov, 1880), p. 134-5.

<sup>44</sup> Semenov, I, p. 107.

of Moscow in the laws of this time suggests the city as an early centre of yufte production, where material of the highest quality was made. The *Encyclopaedic Dictionary* also names Kazan, Novgorod, Pskov, Kostroma and Yaroslavl as historical centres for the production of red yufte, which was the most popular variety for international sale.<sup>45</sup> Protectionism for the leather market ended in 1802, when un-tanned skins began to be exported from Russian ports, at a tariff rate that was later halved in 1825.<sup>46</sup> Though un-tanned skins began to be sent abroad in the nineteenth century, in 1867 still only ten per cent of skins gathered in Russia were sent abroad to be worked by foreign craftspeople.<sup>47</sup>

While trade statistics and accounts of yufte's properties, applications and manufacturing methods would seem to suggest strong, meaningful correspondences with the material described by English-language sources as 'russia calf' or 'russia leather', a significant complication to this analysis arises from the evidence of the *Metta Catharina* shipwreck, discovered in 1973 off of Plymouth Sound. The large shipment of leather excavated from this vessel, bound from St. Petersburg to Genoa when it sank in 1786, was determined to have a number of the qualities associated with russia leather and to be 'most likely' reindeer hide, based on the appearance of its grain.<sup>48</sup> While the shipment's discovery is certainly a windfall for the investigation of the eighteenth-century leather trade between Russia and Western Europe and should continue to be

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<sup>45</sup> *Encyclopaedic Dictionary*, XV<sup>A</sup>, p. 573.

<sup>46</sup> Semenov, II, p. 127, 140.

<sup>47</sup> D. A. Temeryazev, *Статистический Атласъ Главнѣйшихъ Отраслей Фабрично-Промышленности Европейской Россіи ...* [*Statisticheskiiy Atlas Glavneyshikh Otrasley Fabrichno-Promyshlenosti Evropeyskoy Rossii*] (Statistical Atlas of the Main Branches of Industrial Production within European Russia), 2nd edn (St. Petersburg: Tovarishestvo 'Obshestvennaya Pol'za', 1870), p. 66.

<sup>48</sup> Garbett and Skelton, p. 18. // Ian Skelton, 'Die Frau Metta Catharina von Flensburg: a Danish Brigantine Wrecked in 1786 in Plymouth Sound, England' *The International Journal of Nautical Archaeology* 39 (2010), 235-257 (p. 239).

studied in depth, the conclusion made in reports on the excavation by Geoff Garbett and Ian Skelton, that all russia leather was finished reindeer hide,<sup>49</sup> seems a wishful extension of the leather's 'almost mythical reputation'<sup>50</sup> in the West and stands to bear further scrutiny.

Garbett and Skelton report that the leather discovered in the *Metta Catharina* was identified as 'high quality Russian leather with its characteristic odour and distinctive appearance' based on its smell and visible diced pattern, which had been preserved under water and silt since the time of sinking. The leather was taken as a typical example of the type of Russian leather<sup>51</sup> that is known to be 'supple, aromatic, particularly water resistant, unaffected by humidity and reputed to be repugnant to insects', some of which qualities would certainly seem to apply to a shipment of leather that had remained in good-enough condition to be worked by craftspeople two hundred years after its submersion in the Sound. Some properties of the leather, however, do raise questions about its identification and suggest assumptions made on the part of the *Metta Catharina* authors. As Russian sources show, the authors' assumption that St. Petersburg was 'the centre of a large leather industry', where most of the leather exported west was made, is incorrect.<sup>52</sup> Similarly it seems that the 'historical evidence of a thriving trade in Russian reindeer hides'<sup>53</sup> cited by the authors, while not necessarily false, has led to an unawareness of the evidence of a much larger trade in yufte, which I believe complicates the found leather's identification, either as reindeer hide, or as a typical example of so-called 'russia'.

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<sup>49</sup> Garbett and Skelton, p. 18.

<sup>50</sup> Garbett and Skelton, p. 28.

<sup>51</sup> Garbett and Skelton refer to the found leather as 'Russian leather' in their 1987 report, while Skelton refers to it as "Russia' leather' in his 2010 article, making the identification clear.

<sup>52</sup> Garbett and Skelton, p. 23.

<sup>53</sup> Garbett and Skelton, p. 18.

Primarily, Garbett and Skelton's reports lack evidence from Russian-language sources, which demonstrate that nowhere is yufte associated with reindeer hide, while it is in fact equated quite often with 'russia leather'. It is correct to say that reindeer skins do seem to have been purchased and brought to Russia's European centres from its arctic territories, as elk skins were from Siberia, apparently to be manufactured into undergarments for Russian soldiers and also to be exported abroad, but no Russian-language sources consulted associate reindeer or elk leather with the properties and applications assigned to yufte or to russia leather. The *Encyclopaedic Dictionary's* passage on elk and reindeer leather, for example, follows but is unrelated to a passage on red yufte production and export.<sup>54</sup> Similarly, a list of leathers on display at the First Public Exhibition of Russian Manufacturing in 1829 mentions deer suede, intended for mattresses, blankets and musical instruments, quite independently of its discussion of the yufte goods on display and their applications and properties.<sup>55</sup> Certainly reindeer leather may have been part of the 'other leathers' shipped from Russian ports named in Semenov's export tables, which demonstrate a significant increase in this market from 1749 to 1802,<sup>56</sup> but there is no evidence for reindeer leather's possessing any of the distinguishing characteristics of russia leather. Finally, the records of consistently high quantities of yufte shipped to Western Europe during russia leather's highest popularity would seem to preclude the possibility of russia calf's identification as reindeer hide, as reindeer were unlikely to have been hunted and transported from the North and East of Russia in such great quantities when plenty of domesticated cattle were widely available within the demographically and industrially dense European territory of the country.

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<sup>54</sup> *Encyclopaedic Dictionary*, XVA, p. 573.

<sup>55</sup> *Exhibition of Russian Manufacturing*, p. 199.

<sup>56</sup> Semenov, III, p. 431.



While these points would seem to indicate the unlikelihood of russia leather's conclusive identification as reindeer hide as posited by Garbett and Skelton, there remain the physical properties of the *Metta Catharina* leather to contend with. These properties point to the most interesting questions and inconsistencies in the literature both on russia calf and on yufte leather and suggest the possibility that what has so far been discovered in English- and Russian-language sources may not ideally map on to the realities of the eighteenth-century leather trade between Russia and the West. Confusingly, the found leather seems to resemble yufte in some but not all of its properties. First, the bundles of leather discovered in the *Metta Catharina* vary in size and in colour, described as 'dark coffee brown' to 'light golden tan', and are shown in Garbett and Skelton's publications indeed to be golden tan, as well as reddish brown.<sup>57</sup> While red and dark brown seem to correspond to colours associated with yufte, tan does not agree with any description of yufte's traditional appearance. The visible pattern raises further questions; if the *Metta Catharina* hides are truly reindeer, why do they display a pattern which many Russian sources indicate was used on finished cow and bull hides? Could the fashion of the 1780s have demanded the use of the lattice pattern on leathers other than traditional yufte? From Brockhaus and Efron it is clear that yufte itself could have many faces, including the lattice pattern, as well as a 'fine or large shagreen' pattern,<sup>58</sup> which more than anything recalls the description of russia leather given by Sir Thomas Browne in 1658:

And such a naturall Net is the scaly covering of Fishes, of Mulletts, Carps, Tenches, &c. even in such as are excoriable and consist of smaller scales, as Bretts, Soals, and Flounders. The like Reticulate grain is observable in some *Russia* Leather.<sup>59</sup>

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<sup>57</sup> Garbett and Skelton, p. 18.

<sup>58</sup> *Encyclopaedic Dictionary*, XLI, p. 460.

<sup>59</sup> Thomas Browne, *The Prose of Sir Thomas Browne: Religio Medici, Hydriotaphia, The*

Here Browne describes not a network of latticed straight lines of the type most often visible on Western 'russia leather' bindings at the height of their popularity, but a quincunx-form arrangement of circles, which is the scaly shagreen-type grain on twentieth-century Russian Army cartridge bags, likely manufactured from yufte (pl. 2). If the final appearance of traditional yufte was malleable and could take on not only the straight lattice lines of the *Metta Catharina* leather but also other grid-like arrangements, so might the looks of other Russian leathers also have changed according to a number of factors, perhaps following fashions set by yufte's international reputation. One such leather might be that of a Russian binding shown by Seslavinskiy to have a distinct lattice pattern but not to be identifiable as yufte leather (pl. 3).<sup>60</sup> If it is true that yufte was available in different patterns, including latticed, smooth, and fish-scale, and some leathers patterned with latticed lines were not traditional yufte, the question of identification grows more complicated. Perhaps what Sir Thomas Browne knew as russia leather's reticulate pattern of circles was an earlier fashion, and a regular lattice became the 'well-known pattern' that dominated the eighteenth-century market. Perhaps the *Metta Catharina* leather is truly reindeer hide bearing some of the artificial characteristics of yufte, but perhaps it is mature cow or bull leather, dyed in untraditional but clearly fashionable colours, mistakenly identified as reindeer after nearly two hundred years' submersion in Plymouth Sound. Perhaps here, too, as Skelton writes is sometimes the case 'in nautical archaeology, a question leads to an equivocal answer and there the matter must rest'.<sup>61</sup>

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*Garden of Cyrus, A Letter to a Friend, Christian Morals*, ed. by Norman Endicott (Garden City: Anchor Books, 1967), p. 320.

<sup>60</sup> Seslavinskiy, p. 102.

<sup>61</sup> Skelton, p. 256.

While the cargo of the *Metta Catharina* may well have been reindeer, as the British Leather Manufacturers' Research Association has determined, what seems to make more sense for the history of 'russia leather' is an interpretation that sees the material known by that name in the West as originally Russian yufte, with its corresponding qualities of impermeability, a smell that warded off insects, pliability and softness, and a changeable surface pattern applied according to the demands of fashion. Trade statistics, and possibly the leather found in the *Metta Catharina* shipwreck, do indicate that yufte was not the only Russian leather exported to Western Europe, but I hope that my research begins to show that it was the predominant type and the most likely candidate for identification as the original 'russia calf'. My examination of several Russian-language sources has perhaps served to complicate the russia calf question more than to answer it, indicating that the trade in Russian leather at the time of its use in Western bookbinding was a more complex interplay of supply and demand than was previously thought. It is possible, after all, that from the seventeenth to the nineteenth century the name of 'russia leather' did not correspond to one type of skin, process or finished item at all, but rather stood for a range of Russian products. More extensive research into this question, supported by the science of leather production and a combination of historical data, leather samples and bindings, should continue to be undertaken in order to thoroughly describe the relation of yufte to russia leather and to help explain the findings of the *Metta Catharina* wreck.

Valeria Tsygankova  
London, 2012

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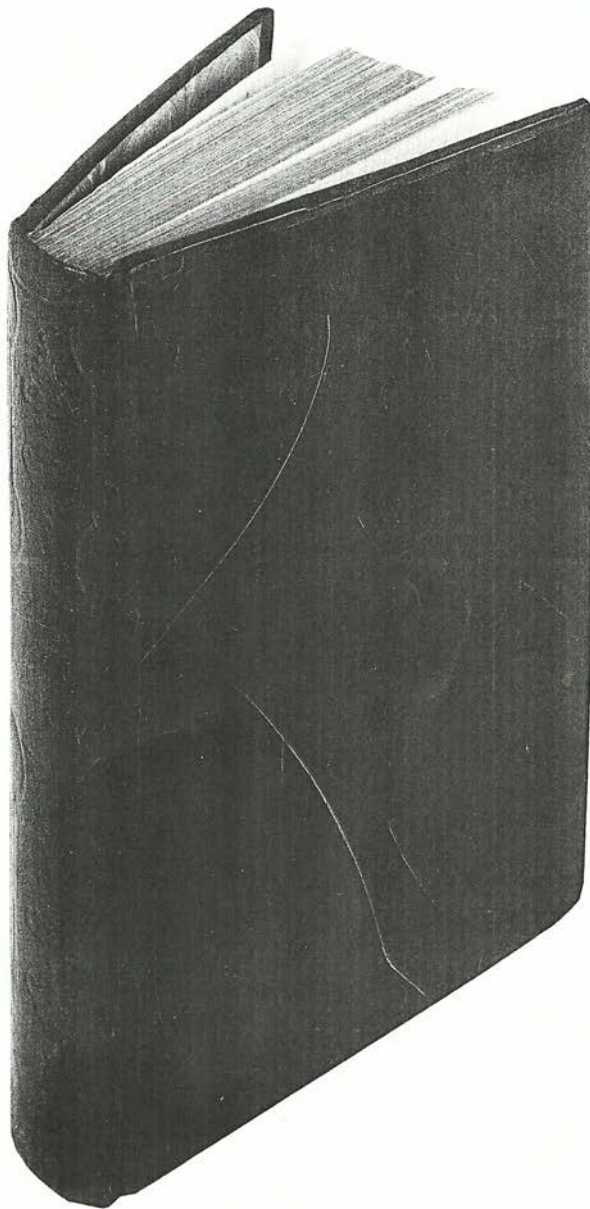
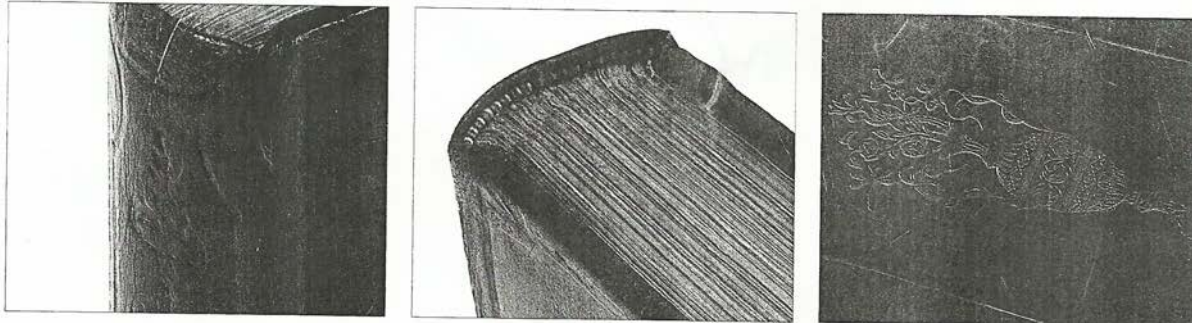
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## Plates

Pl. 1. Yufte binding on Nikolai Gogol, *Dead Souls* (Moscow: Universitetskaya Tipografia, 1842). From Seslavinskiy, p. 111. Scanned with permission of the British Library.



Гоголь, Н.В. Похождения Чичикова, или Мертвые души: поэма.

М.: (В Университетской типографии), 1842. 475 с.: 235х155 мм.

В подносном переплёте эпохи из юфти.

На крышках переплёта блинтовым тиснением орнаментированные рамки. В центре – вазы с цветами в стиле классицизма.

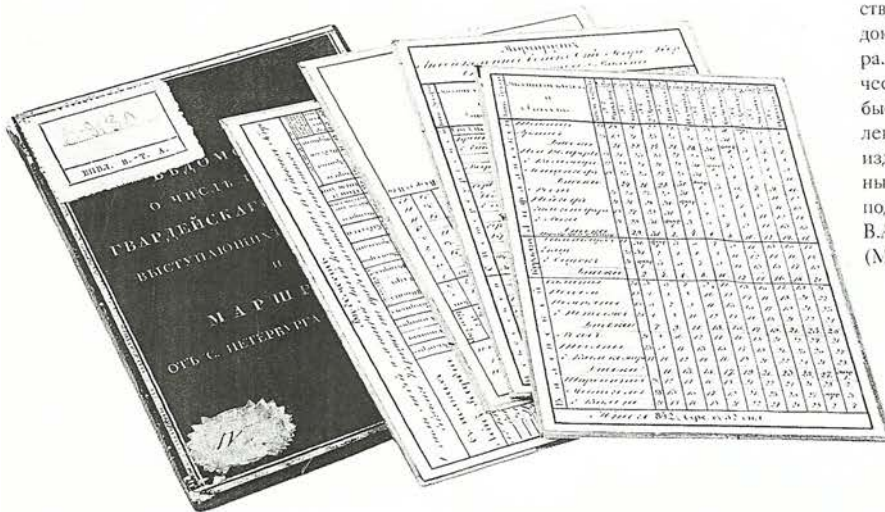
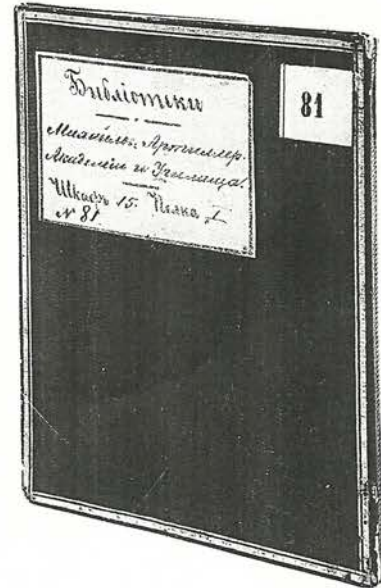
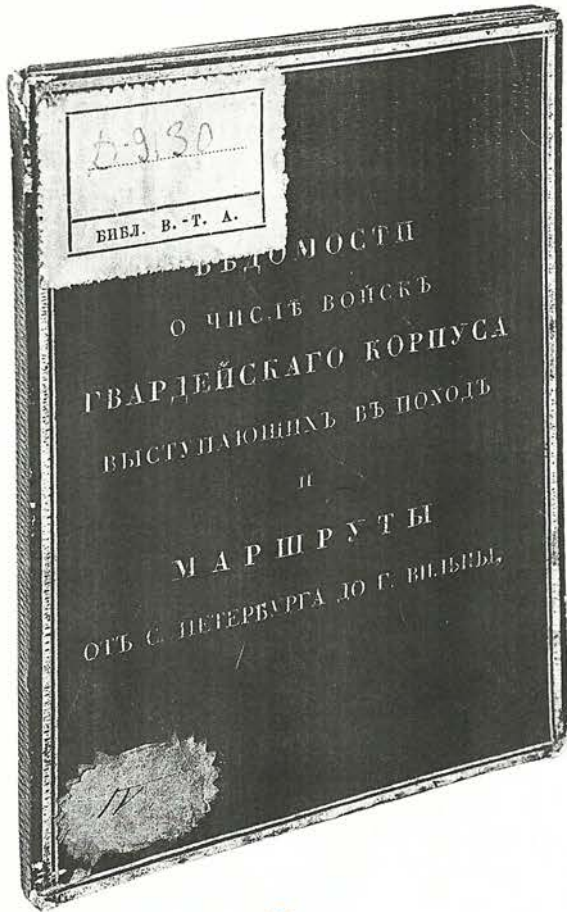
На передней крышке переплёта блинтовым тиснением фамилия, имя и отчество владельца книги. На корешке блинтовым тиснением: орнаментированные рамки, фамилия автора, название произведения. Форзацы из «мраморной» бумаги. Тонированные обрезы. См.-Сок. № 610.

*Pl. 2.* Leather grain on a WWII-era soldier's belt with shoulder straps and cartridge bags. Item from the Central Museum of the Armed Forces, Moscow, on display at the German-Russian Museum Berlin-Karlshorst, 28 April 2012. (Valeria Tsygankova)





Pl. 3. Binding containing manuscript documents, originally from the library of the Mikhailov Artillery Academy, third quarter of the nineteenth century. Color image shows clear lattice pattern. From Seslavinskiy, p. 102. Scanned with permission of the British Library.



Ведомости о числе войск гвардейского корпуса выступающих в поход и маршруты от С. Петербурга до г. Вильно.

Б. м. и г. [С.Петербург, третья четверть XIX в.]. 125x950 мм.

Четыре рукописных листа. Края каждого листа обрамлены золотой фольгой. Листы вложены в зелёный картонажный футляр эпохи. На крышках футляра тиснением золотом: орнаментированные, с геометрическим мотивом, рамки. В центре передней крышки: название документа. Внутри футляра – зелёная широкая шёлковая лента. Экземпляр из библиотеки Михайловской артиллерийской академии и училища, о чём свидетельствуют эклибрысы и порядковый номер документа в библиотеке на крышках футляра. Карты и издания военного и топографического характера часто вкладывались в особые изящные футляры, специально изготовленные для начальствующих особ. Такие издания нередко передавались в профильные или дворцовые библиотеки. Примеры подобных изданий приведены в книге В.А. Дурова «Книга в семье Романовых». (М.: Наш Дом, 2000. С. 121–122.)

## Appendix I – Translations from several Russian sources.

[In the formatting parentheses without italics or quotation marks contain interpolations present in the original text; parentheses solely with quotation marks contain my own translations or transliterations from the Russian, in order to add information about words and constructions that may not have close English equivalents, and parentheses with italics contain my own clarifications. The weight of a *pud* is equal to about sixteen kilograms. The length of a *vershok* is approximately 4.4 centimeters].

### From Brockhaus and Efron's *Encyclopedic Dictionary* (1904) Vol. XLI, section titled 'Yufte', pp. 460-1.

**Yufte**, *yuchta*, *russian leather*, -- is manufactured from *yalovoy* hide (*the hide of a barren cow*) or cow hide and the skins of year-old bulls, to the exclusion of calf skins. After washing and scraping of the membrane, the skins are subjected to lime, washed, trampled and kneaded in bruising mills and drums, cut, shaved, pressed on the hair side, steeped in jellies, after which they undergo preliminary tanning in weak tanning juice and afterwards two kinds of tanning (*the text calls these sokovoy – from 'sok', juice – and peresypochniy; the latter seems to involve oak bark*). Yufte can be white, red and black. The best skins are chosen for white yufte. After tanning, white yufte is oiled on the flesh side with a mixture of birch *dyogt'* (*oil*) and seal fat. Red yufte is made in the same manner as white, but after drying it is oiled with a solution of alum and coloured on the hair side with red sandalwood. After tanning, black yufte is coloured black with iron salts and, after colouring, is oiled on the flesh side with a mixture of birch *dyogt'* and seal fat (*vorvan'*). The oiling is repeated, if what is known as '*dyogternaya yufte*' (*'dyogt' yufte' or yufte of the dyogt' variety*) is being produced. All types of yufte are subjected to final finishing, in order to give them the appearance demanded by the market and local consumers. Finishing consists of a whole series of operations, which are repeated more than once: the dried leather is moistened, kneaded on a dull *belyak* (*this seems to be a kind of frame, but I have not been able to translate it conclusively*), shaved with an adze, softened on a sharp *belyak*, rolled with grained boards, to give the hair side the well-known pattern, a grain, a large or fine shagreen pattern, stripes, or a crisscross pattern, or otherwise the hair side is smoothed with glass or a stone, if a smooth and glossy front is desired. After finishing, the leather is greased slightly with seal fat or lard. Black *dyogt' yufte* is oiled on the hair side with a mixture of birch oil and fat. White yufte that is smooth or has a fine grain goes mainly to shoes for the army, as well as cartridge bags, suitcases and many other applications. Red grained yufte is sold in Asia and is exported in large quantities to Western Europe, where, under the name of 'Russian leather', it is highly prized by foreigners and is manufactured into various small items: purses, cigar cases, etc., for which Vienna is especially famous. Black yufte is finished smooth or with a grain and goes toward harnesses, suitcases, carriages and especially for much men's and women's footwear among the peasants ('*narod*'). In the past, the best-known of Russian leather goods was yufte, which was exported abroad and sold in *kipas* (about 1 to 1 ½ of a *pud* to a *kipa*). In the middle of the seventeenth century, nearly 75,000 *kipa* of yufte were sent abroad. Distribution abroad happened through Kholmogory in Arkhangelsk. On the production and sale of yufte see 'Leather production' (XV, 571) and also 'Factory industry and commerce in Russia', published by the Department of Commerce and Manufacture (SP6. 1893).

**From Brockhaus and Efron's *Encyclopedic Dictionary* (1895) Vol. XV<sup>A</sup>, section on *Leather production (historico-statistical and commercial)* in 'Leather production', pp. 573-4.**

... Red yufte was manufactured in the regions of Kazan, Novgorod and Pskov, and in Moscow, Kostroma and Yaroslavl; the best yufte was considered that from Kazan and the eastern regions generally, the next in quality was from Novgorod, and that from Pskov was considered worse. Under Alexei Mikhailovich (*reigned 1645-1676*) red yufte was one of six commodities whose sale was decreed a monopoly of the Treasury. In wholesale, red yufte was sold in *kipas*; a *kipa* contained 45 pairs of yufte and weighed from 1 to 1 ½ *puds*. Reindeer skins were bought for dressing from Samoyeds; elk skins were delivered from the northern provinces and from Siberia. Elk skins went to Russia for undergarments for soldiers, as well as for export. Demand for Russian leather from abroad was in the XVI-XVII centuries so great that the Moscow nation was unable to satisfy it with its own production, and merchants bought up significant stocks of skins from Livonia and Malorossia (*today Ukraine*). Especially great was the demand for yufte, and in the sixteenth century also for horse leather. This latter leather, under Ivan IV (1533-1584), was shipped out from Kholmogory at up to 100 thousand units per year, but, by the end of the sixteenth century, its export had fallen to 30 thousand. In the middle of the seventeenth century the export of Russian leather grew year by year. Around 1674 up to 75,000 *kipas* of yufte were exported per year. Ordinarily, leather goods were transported in winter to Totma and Vologda, and from there were sent to Arkhangelsk in the spring. With an eye to perfecting and developing the production of leather, Peter the Great published a series of decrees (1715 and after), having to do with the production of leather and its sale. In 1716 Peter the Great made out an order to private manufacturers for 100 thousand *puds* of yufte at four rubles per *pud* to be delivered to Arkhangelsk, from where this leather was to be sold by the Treasury without any markup of cost. At the beginning of the reign of Catherine II (1762-1796) in Russia there were 25 leather factories and 10 for the production of suede. At the end of this reign the number of leather factories had grown to 84. The importation into Russia of foreign leather items – in the past and in the first quarter of the current century – was fairly insignificant and ranged around the value of 90,000 rubles, while Russian leather goods were exported in rather significant amounts:

Yufte.

Period of time.	Weight in <i>puds</i> .	Value in rubles.	Value in rubles for other finished leather, exported.
1749	204,000	1,002,050	7,430
1758-1760	172,460	1,016,170	35,456
1778-1780	140,288	1,010,288	33,713
1790-1792	111,972	1,258,106	228,521
1802-1804	----	784,325	141,791
1814-1815	108,543	1,271,845	201,351
1820-1821	----	785,392	27,791
1824-1826	56,307	641,001	63,453

From these figures it is evident that already in the last century the export of yufte, this mainstay of our foreign trade, had begun to fall. The production of leather for domestic use, however, grew without pause (in the beginning of the current century and in 1879-80, thanks to military events and increased orders of the commissariat),...

...Among all the types of leather only yufte (and rawhide) still support the reputation of the Russian leather industry. The fine merits of Russian yufte depend not so much on any special qualities of the un-tanned skins, by rather on the oiling of the leather with birch *dyogt'* (imparting to Russian yufte its characteristic smell) and seal fat. Mainly red yufte is shipped abroad, during which process the leather is culled and gathered into bales of 6 large or 10 small skins; there are established minimal weights for the various types of yufte. Besides by weight, there is also *vershkovaya* yufte (*yufte by the vershok*), sold to measure. A total of from 500 to 680 thousand skins of yufte are produced in Russia, from which 200 to 300 thousand skins come from the regions of Vyatsk, Kazan, Perm and Tver'. Skins sent to China and Central Asia are sold by the surface area of ten skins, called a *bunt*.

**From the Description of the First Public Exhibition of Russian Manufacturing, Taking Place in St. Petersburg in the Year 1829 (1829), p. 190-203.**

There is no other nation in Europe, or perhaps in the entire world, that can boast of such extensive means for the production of leather goods as Russia. Numerous herds of cattle on boundless pastures as well as excellent breeds of Cherkasy and Ukrainian bulls and oxen deliver first-rate material for uppers as well as soles and all other types of leathers, in abundance. Nor do we lack in oak bark for firm tanning; we receive seal fat for rubbing on leather in abundance from our fisheries; and the pure birch oil necessary for yufte leather is almost exclusively the product of Russia. Because of these inexhaustible commodities, leather production is a matter of great importance for Russia.

The art of making leather, in the time of Peter the Great, was in a rather crude state. Only safian (*Seslavinskiy* writes that this is a firm, soft goat leather that takes dye well and originates in Asia Minor) and yufte, products of Asian origin (Text footnote 1: yufte, or yucht, was formerly called *bulgary*, which indicates the product's Asian origin) – were produced here from ancient times to excellent quality, and enjoyed well-deserved fame on the international market; whereas how to properly make firm leather for soles was not yet known. ...

... From [the time of Peter the Great] the art of making leather expanded [in Russia], and our leather started to be manufactured so superbly that we can even now hardly imagine the like. Foreigners happily bought it up, and large amounts of finished skins were exported every year from Russia. The export of un-tanned skins, however, was prohibited.

If only our leather manufacturers had not stopped at these first successes, but had continued to improve the production of leather further and further, taking advantage of all the advances that had been made in the field, they would not have lost foreign markets for their goods, and the export of finished leather would still now have the

same significance [for Russia], or perhaps be more significant still. But they, wishfully thinking that foreigners could not do without Russian leather, did not put any effort into bettering their leatherworks, while foreign nations, in the meantime, and especially England, France, the Netherlands and Germany, took all the necessary means to perfect their leather manufacturing in all aspects, and, with the help of a knowledge of chemistry, far exceeded Russia in this art. ...

... [Now] foreigners do not readily receive our finished leather, besides yufte, which no one is able to produce like we are, along with un-tanned hides, which they finish themselves much finer than we do. ...

... The new permission [to export raw skins] (*in 1802, according to Semenov*), together with several coinciding reasons, reduced the export of our finished leather. (Text footnote 1: These reasons were: the reduction in the size of armies after the universal peace in Europe; the abolition of several leather items among soldiers' equipment (gaiters, etc.); a shift in the fashion for yufte; and especially the spread of domestic leather factories in foreign nations. About thirty years previously, there was a fashion in Italy for upholstering not only furniture with yufte leather, but also the walls in homes, instead of with silk damasks, which were impossible to preserve from clothes moths and other insects, of which there are a great multitude in hot climates. Yufte, with its strong odour, fends off clothes moths, and is much stronger than any cloth, and for these reasons it was preferred. They also grew used to the odour to such an extent that not only did they not find it repulsive, but even found it pleasant. At the time of the Revolution, however, the French brought their own fashions into Italy, and now it is rare to find homes in which the furniture or walls are upholstered in yufte leather. This alteration in fashion significantly reduced the foreign demand for yufte.) ...

... It is a known fact that yufte is a native Russian product, well respected everywhere. Foreigners tried in vain to produce yufte similar to the Russian sort, but they did not succeed and will not succeed. How could they possibly cultivate entire birch forests at home, which they would need for the necessary ingredient for yufte – pure *dyogt'*.

**Appendix II – Selected data and interpretations from Aleksei Semenov’s *Study of the Historical Data on Russian Foreign Commerce and Industry from the Middle of the XVII Century until the Year 1858*, Vol. III (1859).**

[A note on the units of measurement: The weight of a *pod* is equal to about sixteen kilograms. One *arshin* is approximately 71 centimeters. *Chet.* likely stands for *chetverik*, a dry volume unit of measure equal to approximately 26 litres].

**A. The rise of St. Petersburg as a commercial port (pp. 21-30).**

Exports from Arkhangelsk, yearly average for 1717-1719:

Wheat	13,766 chet.	Lard	122,666 pud
Rye	17,989 chet.	Iron	35,285 pud
Hemp	459,253 pud	Yufte	164,137 pud
Flax	86,068 pud	Linen cloth	2,278,819 ar.
Sails	577 units	TOTAL VALUE	2,344,185 rubles

Exports from St. Petersburg in 1718:

Hemp	154,184 pud	Lard	7,252 pud
Flax	3,040 pud	Iron	2,000 pud
Sails	541 units	Yufte	6,175 pud
Linen cloth	675,500 ar.	TOTAL VALUE	268,590 rubles

Exports from St. Petersburg in 1726:

Hemp	494,363 pud	Lard	25,094 pud
Flax	58,616 pud	Iron	55,149 pud
Sails	7,747 units	Yufte	169,137 pud
Linen cloth	9,600,307 ar.	Persian silks	2,192 pud
		TOTAL VALUE	2,403,423 rubles

Exports from Arkhangelsk in 1726:

Flax	808 pud	Yufte	2,872 pud
Lard	24,051 pud	Linen cloth	718,986 ar.
		TOTAL VALUE	285,387 rubles

Quantities and total value of main articles exported from St. Petersburg:

	Yearly average 1751-1753		Yearly average 1758-1760	
Hemp	1,175,604 pud	1,304,005 rub.	1,350,000 pud	1,968,644 rub.
Flax	68,282 pud	159,159 rub.	170,805 pud	350,743 rub.
Lard	97,916 pud	55,145 rub.	323,057 pud	62,403 rub.
Bristle	----	55,145 rub.	----	62,403 rub.
Wax	----	149,661 rub.	----	77,960 rub.
Seed oil	----	133,199 rub.	----	124,603 rub.
Lumber	----	7,463 rub.	----	35,863 rub.
Soft lumber	----	116,087 rub.	----	88,587 rub.
Iron	738,638 pud	595,264 rub.	761,721 pud	648,472 rub.
Copper	----	46,269 rub.	---	536 rub.
Sailcloth	68,112 units	301,645 rub.	69,191 units	482,918 rub.
Canvas	----	356,702 rub.	----	277,283 rub.
Cables, ropes	----	43,976 rub.	----	14,192 rub.
<b>Yufte</b>	<b>154,440 pud</b>	<b>756,758 rub.</b>	<b>152,014 pud</b>	<b>901,215 rub.</b>
Candles, soap	----	20,211 rub.	----	32,877 rub.
<b>TOTAL VALUE</b>	----	<b>4,221,719 rub.</b>	----	<b>5,389,353 rub.</b>

**B. Statistics for yufte and related goods exported from Russia in 1749-1853 (pp. 426-503).**

The export of yufte, other leathers and un-tanned skins to the European market 1749-1853 (aggregate table from pp. 426-431):

Av./year	Raw skins		Yufte		Other leathers	
	pud	rubles	pud	rubles	pud	rubles
1749	----	----	204,000	1,002,050	----	7,430
1758-60	----	846	172,460	1,016,170	----	35,456
1778-80	6043 units	6,641	140,288	1,010,288	----	33,713
1790-92	----	6,727	111,972	1,258,106	----	228,521
1802-04	----	81,751	----	784,325	----	141,791
1814-15	----	149,823	108,543	1,271,845	----	201,351
1820-21	24,528	89,358	----	785,392	----	27,791
1824-26	145,200	631,686	56,307	641,001	----	63,453
1833-35	475,204	2,157,536	82,709	976,052	----	176,531
1842-44	191,235	1,328,852	44,031	689,308	----	54,617
1845-47	133,349	959,075	43,228	583,974	----	68,979
1848-50	101,265	719,302	24,908	387,341	----	67,220
1851-53	82,487	576,406	29,684	432,506	----	31,553

The value of finished leather articles exported to the European market, yearly averages for 1749-1853 (p. 432):

Av./year	rubles
1749	----
1758-60	13,281
1778-80	5,277
1790-92	16,093
1802-04	----
1814-15	34,556
1820-21	25,382
1824-26	6,188
1833-35	50,507
1842-44	9,378
1845-47	8,212
1848-50	8,465
1851-53	17,164

The price of yufte exported throughout the eighteenth century (pp. 502-503):

Year	rubles per pud
1674	----
1710	4
1724	4
1731	4
1754	4
1760	5
1766	5 ½ - 6
1774	5 - 6 r. 90 k.
1795	15 - 16
1803	14

### C. Decrease in the rate of export for yufte (pp. 100-101).

'In 1749, 204,000 pud for 942,000 rubles of yufte were exported through European trade, and in 1790-1792, 112,000 pud for 1,258,000 rubles; the export of yufte and other finished skins began to fall at the start of the current century. However, the total worth of this market in 1833-1835 rose because of the rising price of yufte, as the price for this good, irrespective of its decreasing rate of export, was constantly increasing due to the rising domestic demand for finished skins for footwear for the peasants. This convinces us of the following truth: that it is not foreign trade but rather domestic consumption or demand for a material for domestic factories that supports the price of a good.' (Semenov, 100).

Yearly average for export of yufte and other finished leathers to different nations for 1851-1853:

	Yufte		Other leathers
to Italy	9,846 pud	151,989 rub.	----
to Prussia	8,035 pud	121,663 rub.	2,117 rub.
to Austria	5,484 pud	61,722 rub.	17,055 rub.
to Oresund	1,733 pud	29,461 rub.	----
to Great Britain	1,814 pud.	27,592 rub.	449 rub.
to N. Am. States	1,712 pud.	18,553 rub.	53 rub.