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RESEARCH ARTICLES

NOVEL AND DESIRABLE TECHNOLOGY:

Pocket Watches for the Ottoman Market (late 18th – mid 19th c.)

Artemis Yagou

During the long eighteenth century, English and continental firms produced large numbers of pocket watches with Ottoman numerals intended for the markets of the Ottoman Empire. These products, both technical novelties and fashionable accessories, were highly popular among the local multiethnic populations. It is argued that the pocket watches for the Ottoman market may be classified as an example of a popular luxury, expressing the rise of the individual, the growing significance of pleasurable consumption and the emergence of new forms of socialisation through product use.

In the long eighteenth century, clocks and watches were systematically imported from England or the European Continent to the Ottoman Empire and became very popular in that domain, which at the time occupied a vast area including most of South-eastern Europe, Asia Minor, the Middle East and North Africa. The clocks and watches for the Ottoman market were differentiated through the use on the dial of "Ottoman numerals", i.e. numerals used with the Arabic script, which offer a direct way to visually identify horological products intended for the Ottoman market. These products covered a wide range: from highly elaborate table-top clocks and pocket watches of extreme luxury used as gifts among rulers and diplomats, to simpler and cheaper pocket watches which constituted a mass market. Many of the high-end items have been preserved in museums, the collection at the Topkapi Palace

For a concise overview of this multi-ethnic, multi-lingual and multi-confessional empire, see: D. A. Howard, *A History of the Ottoman Empire* (Cambridge, 2017).

These numerals mark the hours on the dial from 1 to 12 and the minutes from 5 to 60. The terms "watches for the Turkish market" and "Turkish numerals" have also been used. It would be confusing to call these numerals "Arabic", as we use that designation nowadays for our own numbers, which are derived from the Islamic ones, O. Kurz, European Clocks and Watches in the Near East (London, 1975), 74. The author of the present paper employs the terms "watches for the Ottoman market" and "Ottoman numerals" as more accurate.



Pocket watch with Ottoman numerals on the dial, Deutsches Museum, Munich (photo © Deutsches Museum).

in Istanbul being the most distinguished one. Additionally, a satisfactory number of the mass-produced, lower-end pocket watches may be found in various museums and collections, despite the unfavourable historical circumstances for their preservation.

The pocket watch with Ottoman numerals, a product that was valued both for its technical properties and its fashionable features, serves as an illuminating case-study for exploring the concept of "populuxe" or "popular luxury" and its manifestations in the Ottoman Empire, especially in its Balkan provinces. This concept is discussed in recent historiography with reference to the emergence of new consumer attitudes across North-western Europe, especially France, England, and the Netherlands between the late seventeenth and the early nineteenth centuries. The growing importance of the consumers' taste and preferences lay in the heart of this phenomenon. In contrast to the 'old luxuries' that were characterized by precious and durable materials, the 'new luxuries' were less about intrinsic value and durability; instead, they were about price accessibility, attractive design, and the emphasis on pleasurable use. Large segments of the population could afford 'populuxe' products, a fact leading to a "blurring of social boundaries"; the consumption of such items became more and more important and it was "solidly intertwined with an individual

expression of the self". In this context, the pocket watch, a product incorporating both fashionability and technical innovation, offers an appropriate starting point for exploring novel, technology-related expressions of consumption and luxury in the Ottoman Empire during the long eighteenth century. Such aspects of material culture and their impact on local communities have received limited attention, with few exceptions. The current study aims to examine and test the hypothesis that the imported pocket watch with Ottoman numerals is an example of the emergence of popular luxury in the Ottoman Empire.

Locating and analysing artefacts

The present case-study uses the actual objects as a starting point and is grounded on their materiality. The benefit of focusing on material culture is increasingly recognized by different historical fields.⁴ It is rightly claimed that "objects have an unparalleled capacity to condense the passage of time, and to establish the imminence of historical actors and historical moments in different temporal settings; they are both past and present." Researching the material dimensions of various types of artefacts enables us to investigate the social relations in which the use of objects is embedded: the application of object-based methodology begins with the identification of surviving items (for example, those kept in museum collections) and their examination in terms of physical characteristics (such as material, form, colour, texture, mechanisms, and so on); it then proceeds by accessing primary and secondary textual sources which enable

B. Blondé and I. Van Damme, "Fashioning Old and New or Moulding the Material Culture of Europe (Late Seventeenth - Early Nineteenth Centuries)," in Fashioning Old and New: Changing Consumer Patterns in Western Europe (1650-1900), eds. B. Blondé et al. (Turnhout, 2009), 1-3. Relevant contributions from the same volume are: N. Coquery, "The Semi-luxury Market, Shopkeepers and Social Diffusion: Marketing Chinoiseries in Eighteenth-Century Paris," 121-131, and A. Fennetaux, "Toying with Novelty: Toys, Consumption, and Novelty in Eighteenth-Century Britain," 17-28. See also: J. de Vries, The Industrious Revolution: Consumer Behaviour and the Household Economy, 1650 to the Present (Cambridge, 2008).

A case in point is the history of diplomacy: H. Rudolph, "Entangled Objects and Hybrid practices? Material Culture as a New Approach to the History of Diplomacy," in Material Culture in Modern Diplomacy from the 15th to the 20th Century, eds. H. Rudolph and G. M. Metzig (Berlin, 2016), 1-28. See also: M. Talbot, "Gifts of Time: Watches and Clocks in Ottoman-British Diplomacy, 1693-1803", in Material Culture in Modern Diplomacy from the 15th to the 20th Century, eds. H. Rudolph and G. M. Metzig (Berlin, 2016), 55-79.

S. Handley, "Objects, Emotions and an Early Modern Bed-sheet," History Workshop Journal, dbx050, https://doi.org/10.1093/hwj/dbx050 (accessed 20 March 2019). See also: N. MacGregor, A History of the World in 100 Objects (London, 2012).

contextualizing the objects and identifying their provenance, diffusion and roles in relevant practices.⁶ It is acknowledged that focusing on specific objects "can generate excitement, prompt historical curiosity and produce understanding." Indeed, paying attention to "singular, physical things" and "moving outward in an ever-widening circle" can reveal "connections among people, processes and forms of inquiry that might remain unnoticed." This kind of design-historical discourse deals with artefacts and their meanings, which remain fluid, continuously arising in social interactions.⁹

For the purposes of this paper, I have based my study on late eighteenth- to early nineteenth-century medium- to low-cost pocket watches from the Clocks and Watches Collection of the National Historical Museum (NHM) in Athens, the Silversmithing Museum of Ioannina (Greece), the Deutsches Museum in Munich, the Worshipful Company of Clockmakers Collection at the Science Museum in London, the V&A Museum in London, the Uhrenmuseum in Vienna and the Nicolae Simache Clock Museum (NSCM) in Ploiesti (Romania). Four watches from the collection of the NHM have been singled out since they belonged to known personalities, therefore their acquisition and use may be anchored on a social context with more specificity.

The first watch (Clocks and Watches Collection of the NHM, catalogue number 2175) may be described, from a technical point of view, as "full plate, fusée, verge escapement (crown wheel/à roue de rencontre), pair case", which is a typical technical configuration for low- and medium-range watches for the Ottoman market; the relevant terminology will be explained in the following paragraphs. ¹⁰ The heart of

⁶ A. Lyberatos, "Mechanika Rologia kai Antilipsi tou Chronou sta Valkania. Meletontas mia Periptosi Politismikis Metaphoras" ("Mechanical Clocks and Perception of time in the Balkans"), in Ta Valkania. Eksygchronismos, Tautotites, Idees. Syllogi Keimenon pros Timin tis Kathigitrias Nadias Danova (Modernisation, Identities, Ideas. Collection of Essays in Honour of Professor Nadia Danova), ed. A. Lyberatos, (Heraklion, 2014), 126 and 133; Rudolph, 21-22. The limitations of archival sources make it necessary to complement them with "other documentary, narrative and archaeological evidence," R. Gradeva, "On 'Frenk' Objects in Everyday Life in Ottoman Balkans: The Case of Sofia, mid-17th- mid-18th Centuries", in Relazioni Economiche tra Europa e Mondo Islamico, secc. XIII-XVIII/ Europe's Economic Relations with the Islamic World, 13th-18th Centuries, Atti della "Trentottesima Settimana di Studi, ed. S. Cavaciocchi (Prato, 2007), 775-776.

⁷ L. Thatcher Ulrich, I. Gaskell, S. J. Schechner and S. A. Carter, *Tangible Things: Making History through Objects* (Oxford, 2005), 1.

⁸ Ibid., 2.

K. Krippendorff, The Semantic Turn – A New Foundation for Design (Boca Raton, FL, 2006).

¹⁰ Object documentation obtained from the NHM.



Dial view, cases, and chain of watch labelled "George Charle", Clocks and Watches Collection of the National Historical Museum in Athens (photo © National Historical Museum Athens).

the watch is its mechanism, also known as "the movement": "the moving parts of a mechanism that transmit a definite motion"; in other words: "the 'works' of a timepiece". ¹¹ A rigid framework enclosing and protecting the mechanism is described as "full plate," which refers to front and back metal plates joined by pillars to make the clock frame. In full plate watches like this one, the moving parts, including the mainspring, are mounted between the two plates, except the balance wheel, which is mounted on the outside of the back plate. ¹² The balance cock, which holds the upper pivot of the balance wheel of this watch, is decorated with delicate perforated floral patterns in rococo style. ¹³ The space between the two plates of the watch movement is secured by "pillars", "the 'distance pieces' which serve to keep the

Definitions obtained from "Movement," https://www.merriam-webster.com/dictionary/movement (accessed 20 March 2019) and E. Bruton, Dictionary of Clocks and Watches (London, 1962), 116, respectively. For a glossary of technical terms see also: S. Michal, Clocks and Watches: A Catalogue of Clocks and Watches (16th to 20th Century) in the Collections of the National Technical Museum Prague (Prague, 1974), 255-260.

¹² Bruton, 133; "Movement (clockwork)," https://en.wikipedia.org/wiki/Movement_(clockwork) (accessed 20 March 2019).

^{13 &}quot;Balance Cock (Traditional)," https://www.hautehorlogerie.org/en/encyclopaedia /glossary-of-watchmaking/s/balance-cock-traditional-1/ (accessed 20 March 2019).



Movement view, cases, and chain of watch labelled "George Charle", Clocks and Watches Collection of the National Historical Museum in Athens (photo © National Historical Museum Athens).

two plates in their relative positions."¹⁴ Pillars also enable viewing of the mechanism motions; this was considered an attractive feature by Ottoman customers, who enjoyed looking into the movements of the watches. ¹⁵ Additionally, pillars gradually "began to assume an importance and variety of shape", including tulip-inspired or Egypt-inspired patterns. ¹⁶ Thus, they became useful in dating watches, as they reflected popular decorative styles of a given time period.

The energy required for the operation of a clock or watch comes from the spring (also called mainspring) made of high-carbon steel, which stores energy when wound by a key and, as it unwinds, turns the clock's wheels until the next winding becomes necessary.¹⁷ In horology, the term "fusée" "is a mechanical contrivance for equalizing the power of the mainspring of a watch, chronometer, or portable clock in all its

¹⁴ T. Camerer Cuss, The English Watch, 1585-1970: A Unique Alliance of Art, Design and Inventive Genius (Woodbridge, 2009), 478.

¹⁵ I. White, English Clocks for the Eastern Markets: English Clockmakers Trading in China and the Ottoman Empire 1580-1915 (Ticehurst, 2012), 284.

¹⁶ G. H. Baillie, C. Ilbert, and C. Clutton (eds), Britten's Old Clocks and Watches and their Makers: A History of Styles in Clocks and Watches and their Mechanisms (Ninth Edition Revised and Enlarged by C. Clutton) (London, 1986), 145; Michal, 258.

[&]quot;Mainspring," https://en.wikipedia.org/wiki/Mainspring (accessed 20 March 2019).

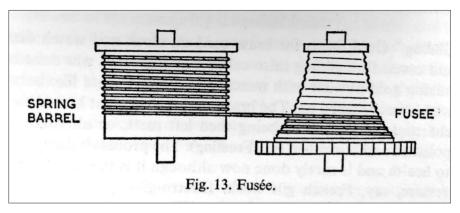


Illustration of a mainspring of the fusée type; included as Fig. 13 in: E. Bruton, *Dictionary of Clocks and Watches* (London, 1962), 79.

different states of tension." Practically, fusée (meaning "thread") refers to "a grooved and trumpet-shaped pulley"; as the spring runs down and gives less and less power, the fusée leverage increases and thus evens out the power of the spring. The "escapement" is "the rate-controlling mechanism of a timekeeper." In this case, the escapement is of the "verge" or "crown wheel" type ("à roue de rencontre" in French), so named because it includes a wheel with pointed teeth (resembling a crown). The verge escapement was "more robust and cheaper to make even if it was not such a good timekeeper as the alternatives."

The silver-plated dial of the watch is labelled "George Charle London" and bears Ottoman numerals.²³ The back plate of the watch bears the inscription "George Charle London 13110"; the latter is the serial number, from which it would be possible to date the watch. As "the numbering of the movements and silver cases of watches was demanded by [English] law",²⁴ the absence of numbering is a strong indication of forgery. "George Charles" was a label used by the English watchmaker George Prior (1735-1814), the market leader for pocket watches in the Ottoman

¹⁸ A. Rees, *The Cyclopedia; or, Universal Dictionary of Arts, Sciences, and Literature*, London: 1819-1820, quoted in L. Weiss, *Watch-making in England* (London, 1982), 83.

 $^{19 \}quad Bruton, 79, especially \ Fig. \ 13 \ showing \ this \ process \ schematically; \ Michal, 257.$

²⁰ Bruton, 69.

²¹ Ibid., 52-53, Fig. 12 on page 75, and 188-189.

²² Camerer Cuss, 261.

²³ It is very similar to the dial shown on Plate 121, Baillie, Ilbert, and Clutton (1986), 178.

²⁴ Kurz, 76.

market in the second half of the eighteenth century.²⁵ Apart from making and marketing high-end watches, Prior also "had a large trade in lower quality watches that he signed with the name George Charles."²⁶ The misspelling of the name ("Charle") suggests that this item might also be a forgery.²⁷

The watch is enclosed in three cases, being a typical example of the so-called "onion watches" ("montres oignons"). The name results from the double or even triple protective, layered cases and their relative bulkiness, offering the required solidity. The term was first used in France to denote relatively large pocket watches of rotund shape.²⁸ Watches made for the Ottoman markets "invariably had a second or, more often, third outer case generally covered in tortoiseshell (more accurately the belly of the hawksbill turtle) either reddish brown or, more rarely, stained green on the underside."²⁹ In this example, the exterior case is made of reddish brown tortoiseshell and decorated with the piqué technique. "Piqué work was a type of decorative work made by inlaying tiny points or pins of gold or other precious metals in patterns or

²⁵ White, 62-70; A. Rees, Rees's Clocks Watches and Chronometers (1819-20): A Selection from the Cyclopedia; or Universal Dictionary of Arts, Sciences and Literature (Newton Abbot, 1970), 257-258; G. H. Baillie, C. Ilbert, and C. Clutton (eds), Britten's Old Clocks and Watches and their Makers: A History of Styles in Clocks and Watches and their Mechanisms (Eighth Edition Revised and Enlarged by C. Clutton) (London, 1978), 467-468; Baillie, Ilbert, and Clutton (1986), 574; Camerer Cuss, 304.

²⁶ White, 68. See also: T. Stoianovich, *Balkan Worlds: The First and Last Europe* (London, 1992), 250.

A related artefact, most likely a forgery, is the pocket watch with Ottoman numerals signed "Geo: Charle", from the collection of the Deutsches Museum, Munich (Inventory Number 29347), shown in Image 1. On the clocks and watches collection of the Deutsches Museum, see: O. Habinger, K. Brendel and H. Petzold, "Die Uhrensammlung im Deutschen Musem Teil 1," *Uhren: Journal für Sammler klassischer Zeitmesser*, 16.2 (1993): 10-25, and: O. Habinger, K. Brendel and H. Petzold, "Die Uhrensammlung im Deutschen Musem Teil 2," *Uhren: Journal für Sammler klassischer Zeitmesser* 16.3 (1993): 10-25.

[&]quot;Oignon (Montre)," https://www.hautehorlogerie.org/fr/encyclopedie/lexique-de-lhorlogerie/s/oignon-montre/ (accessed 20 March 2019); "Montre Oignon," http://www.lepoint.fr/montres/Magazine/Dictionnaire-horlogerie/montre-oignon-10-12-2012-2018424_2975.php (accessed 20 March 2019). Many "oignon" watches of the eighteenth century may be seen at the Uhrenmuseum (Clock Museum) in Vienna, for example Inv. Nr. U 2046. Gradually, during the eighteenth century, "owners of pendant watches no longer carried them visibly about their person, but began putting their watch into a trouser pocket or purse. The double or even triple cases of oignon watches often protected not only the dial and movement, but also a miniature enamel picture, sometimes with erotic appeal." Uhrenmuseum Vienna, caption to oignon pocket watch, Inv. Nr U 2316.

²⁹ Camerer Cuss, 259 and 181; see also: Baillie, Ilbert, and Clutton (1986), 102.

pictures on tortoiseshell from the now endangered Hawksbill sea turtle or, less commonly, ivory."³⁰ Basically a method of silver studding, the piqué technique was not simply decorative, but also protected the tortoiseshell from wear.³¹ The art reached its highest point in seventeenth- and eighteenth-century France, particularly for the decoration of small tortoiseshell articles such as combs, patch boxes, and snuffboxes."³²

The term "bow" refers to "the metal ring hinged, pivoted or looped to the pendant of the watch case, by which the watch may be attached to a chain," while the pendant is defined as "a neck, fitted to the case of the watch, to which the bow is fitted". (see Images 1 and 2) A chain attached to the bow of the watch holds a silver stamp and two winding-keys, one of the keys bearing neoclassical-style decoration. The stamp is engraved with a small anchor and the initials of the Greek owner. In the time period under consideration, it was common for priests, regional leaders, military men, merchants, intellectuals and other people of influence among the Christian population of the Ottoman Empire to acquire their own stamp for use on letters and other documents. It was typical for a stamp to be hanging to a chain worn around the neck or attached to a pocket watch. Stamps belonging to sailors or people involved in maritime trade are often inscribed with an anchor, as in this case.

The word "chatelaine" is sometimes used for the chain "for suspending a watch or piece of jewelry. In addition to the watch, the winding key, seals or other trinkets were often attached. Normally the decoration on the watch case is en suite with the

^{30 &}quot;Piqué Work," https://en.wikipedia.org/wiki/Piqu%C3%A9_work (accessed 20 March 2019).

³¹ See early eighteenth century English watch with two cases, Victoria and Albert Museum (Museum no 1148-1893).

^{32 &}quot;By an adroit arrangement of the gold and silver pins, by placing them in small or large clusters, effects of light and shade could be created in the design. In the finest French work, the pins are placed so close to each other and with such accuracy that they appear to form a continuous line. Decorative motifs include chinoiserie scenes, geometric designs, and arabesques. In England, where the craft had been brought by the Huguenots at the end of the 17th century, Matthew Boulton in 1770 developed mechanical methods of producing piqué panels. Many of his designs show the influence of the Neoclassical designer Robert Adam. During the nineteenth century, piqué was widely employed for small tortoiseshell jewelry, much of it after 1872 being made by machine in Birmingham, England.", "Piqué Work," https://www.britannica.com/art/pique-work (accessed 20 March 2019).

³³ Camerer Cuss, 457.

³⁴ Ibid., 478.

³⁵ Sfragides Eleftherias (Freedom Stamps) (Athens, 1983), 13-14.

decoration on the chatelaine."³⁶ Chains sometimes came with the watch, but often they were added locally, to suit the taste and status of the owner.³⁷ The importance of the chain as a fashion accessory visible on the wearer's garment should be emphasized.³⁸ The style of the chain attached to this NHM watch is very similar to that of highly decorated silver chains used on male and female garments of the Greek Orthodox population during the same time-period.³⁹ The small neoclassical detail of an anthemion on one of the keys is also worth noting; neoclassical designs were commonly used in English watches.⁴⁰

The NHM collection includes more George Prior Ottoman watches with technical and aesthetic features similar to the first one, indicating the typicality of these items as specimens of standardized design. The second watch (Clocks and Watches Collection of the NHM, catalogue number 5279) has three cases and its enamelled dial with Ottoman numerals is inscribed "George Prior London".⁴¹ The mechanism is decorated with delicate perforated floral patterns. There is no serial number, which suggests the possibility of a fake. There is no chain; a winding-key is attached to the bow of the watch through a green ribbon. A third pocket watch from the same collection (Clocks and Watches Collection of the NHM, catalogue number 4974) also has three cases: the external one is engraved with floral decoration on the front part, while on the back it is engraved with a pattern including a banner, a book and musical instruments.⁴² The second case is covered with tortoise-shell and bears floral motifs created with the piqué technique. The third (internal) case, which

³⁶ Camerer Cuss, 458; see also: Bruton, 38. A relevant term is "Fob chain: A short chain (or ribbon with metal attachments) fixed by swivel or bolt ring to the bow of a watch and hanging outside the pocket," Camerer Cuss, 470; Bruton, 74-75.

³⁷ White, 73; Kurz, 75.

³⁸ Examples of chatelaine uses in England may be found in "Keeping Track of Time: Georgian Watch Chains, Equipages, Fobs, and Chatelaines," https://thepragmaticcostumer.wordpress.com/2014/04/12/keeping-track-of-time-georgian-watch-chains-equipages-fobs-and-chatelaines/ (accessed 20 March 2019).

³⁹ Several examples of such traditional garments are on view in the collection of the NHM in Athens.

^{40 &}quot;Anthemion," https://www.britannica.com/technology/anthemion (accessed 20 March 2019); Camerer Cuss, 259.

⁴¹ This type of watch is described as having "distinctive multiple cases", M. Hatzaki, "I Axia tou Chronou: Rologia Tsepis apo Ellinikes Sylloges" ("The Value of Time: Pocket Watches from Greek Collections"), In *I Axia tou Chronou (The Value of Time)* (Athens, 2005), n.p.n.

A similar pattern with flowers, trophies of war and musical instruments decorates the back of the outer case of a pocket watch by George Prior (serial number 26120, probably made in the early 1790s) shown in Camerer Cuss, 304. See also: Kurz, 75.

protects the mechanism, is lined with velvet and externally bears engraved decoration; a simple chain with the winding key is attached to the watch. Technically, the watch is of the fusée, verge escapement type, with a Tompion regulator. Regulation is defined as the process of "adjusting the rate of a timepiece. Precision of regulation depends on the design, quality, and condition of the timepiece. Accurate regulation of a clock is much easier than of a watch, because it is normally stationary. Every watch goes at different rates in different positions and has to be regulated to average the errors." The Tompion regulator was "universally adopted". These technical features are shared by the fourth watch from the same collection (Clocks and Watches Collection of the NHM, catalogue number 1526), which has a white, enameled dial with Ottoman numbering of hours and minutes, a gilded brass case, and is accompanied by a key attached with a string. Based on the serial number of the mechanism (32757), the item's production may be dated around 1810.

Many items with similar properties may be found in various museums and collections, demonstrating the wide diffusion of such watches and the recurrence of basic design features that were "much admired and wanted by Ottoman customers." For example, an early nineteenth century watch bearing the label "Edward Prior" (son of George Prior) is of the verge escapement type, enclosed in four cases, of which the outer is dome-shaped, the next covered with tortoiseshell piqué silver, and the inner two plain silver. The white enamelled dial bears Ottoman numerals and gold beetle hands. The watch is signed "Edwd Prior, London 45692" and belongs to the collection of a London-based guild, The Worshipful Company of Clockmakers (Science Museum London, no. 271). The NSCM collection in Ploiesti also includes several examples of the triple-cased watch with Ottoman numerals, with enamelled or silver engraved dials and with tortoiseshell decoration of the case surfaces; these exhibits constitute variations on the design themes already discussed and thus further verify that this was a representative production typology. The NSCM watches bear labels of various well-known English watch manufacturers of the time, such as

⁴³ Bruton, 144.

⁴⁴ Camerer Cuss, 480.

⁴⁵ Object documentation obtained from the NHM.

⁴⁶ White 281. See also: E. Savu, T. Ristea and C. Banu, *Ceasul - Știință și Artă/Clock - Science and Art* (Bucharest, 2012).

⁴⁷ On the types and role of watch hands, see Camerer Cuss, 260-261, and I. Coote, "Making Beetle and Poker Hands", originally published in the *Horological Journal* (1999), http://www.horo-logical.co.uk/beetle.html (accessed 20 March 2019).

⁴⁸ The collection is now exhibited at the Science Museum, London.



Possibly fake pocket watch, Nicolae Simache Clock Museum, Ploiesti (photo by author).

George Prior, Markwick Markham,⁴⁹ Francis Perigal,⁵⁰ and Benjamin Barber.⁵¹ The existence of fakes among these is highly possible, judging from various misspellings (for example "Marckwick Marckam" and "Perigall" instead of "Markwick Markham" and "Perigal" respectively). The presence of elaborate silver chains attached to these watches is also worth noting. The chains appear in a variety of designs that offer a degree of personalization according to individual taste, even hinting at the military-related occupation of the owner, as in the case of a watch in the NSCM collection, attached to a chain with a small pistol hanging from it.⁵² All the aforementioned technical and aesthetic features observed on the watches corresponded to highly sophisticated networks of production, circulation and use.

⁴⁹ Baillie, Ilbert, and Clutton (1986), 532; Kurz 77.

⁵⁰ Baillie, Ilbert, and Clutton (1986), 565.

⁵¹ Ibid., 360.52 Army officers were among the privileged individuals who could afford an expensive watch more easily than, for example, scholars (Kurz, 75).

⁵² Army officers were among the privileged individuals who could afford an expensive watch more easily than, for example, scholars (Kurz, 75).

The wider context of production, circulation and use

In medieval Islamic countries, time-measuring had reached a very high level, following the Greek classical tradition of the sundial and the water-clock. During the Middle Ages, the Arabs had been the world leaders in the construction of scientific instruments and musical automata and both Byzantium and Western Europe learned from them. This glorious tradition of Islamic science and technology gradually faded out and died due to the suppression of independent thinking by scholars and schoolmasters, thus paving the way for European supremacy in the field from the fourteenth century onwards.⁵³ The English horological trade with the Ottoman Empire had already started in the end of the sixteenth century, with clocks offered as diplomatic gifts by Queen Elizabeth I to Sultan Mehmet III, and continued until the early nineteenth century. Clocks as diplomatic gifts were "of the highest quality, designed to impress and had to compete with similar tributes from many other parts of the world."54 Early in the seventeenth century, several European clock- and watch-makers (mainly Swiss and French) had been established in Istanbul (in the area of Galata) and were active in selling as well as maintaining European clocks and watches.⁵⁵ Gradually, the English horological trade with the Ottomans became much more substantial in the eighteenth century and, although there was still considerable activity by the Swiss and French, English watches were in higher demand, highly praised for their technical superiority as well as for their artistic quality. In 1786, only 2,350 English watches were exported to the Ottoman market;

⁵³ Kurz, especially 51 and 101-102.

White, 7. Many of these splendid, table-top clocks may be seen today at the Topkapı 54 Palace Museum and the Dolmabahçe palace in Istanbul. For relevant information see: D. S. Landes, Revolution in Time: Clocks and the Making of the Modern World (Cambridge, 1983), 99-101; W. Meyer, Catalogue of Clocks and Watches in the Topkapi Sarayi Museum, (Istanbul, 1971); K. Ozdemir, Ottoman Clocks and Watches (Istanbul, 1993); N. Yildiz, "British Clocks and Watches in the Ottoman Empire and Topkapi Palace," Belleten: Türk Tarih Kurumu 70. 259 (2006): 919-962. On clocks as luxury gifts in the Ottoman Empire see also: H. Reindl-Kiel, "Luxury, Power Strategies, and the Question of Corruption Gifting in the Ottoman Elite (16th-18th Centuries)", in Şehrâyîn: Die Welt Der Osmanen, Die Osmanen in Der Welt. Wahrnehmungen, Begegnungen und Abgrenzungen / Illuminating the Ottoman World. Perceptions, Encounters and Boundaries. Festschrift Hans Georg Majer, ed. Y. Köse (Wiesbaden, 2012), 107-120; H. Reindl-Kiel, "East Is East and West Is West, and Sometimes the Twain Did Meet: Diplomatic Gift Exchange in the Ottoman Empire," in Frontiers of Ottoman Studies: State, Province, and the West, eds. C. Imber, K. Kiyotaki and R. Murphey (London, 2005), 113–123.

⁵⁵ White, 57.

English clock- and watch-makers dominated.⁵⁶ It is estimated that Prior father and son together sold over 78,000 watches in the Ottoman Empire.⁵⁷ The English watch trade in that market was "an export trade on a large scale,"⁵⁸ the outcome of high-skill, quantity production.

From a production point of view, it was typical for English watches of the late eighteenth century to consist of parts made by different workshops, often situated in different towns, and then assembled or sold elsewhere. Although the vendors of the finished articles were mainly concentrated in London, various parts or incomplete watches would come from many other places, especially Liverpool, Coventry, Birmingham and Sheffield.⁵⁹ "Watch vendors from all over the country could buy movements finished or unfinished, and with or without cases," thus contributing to the "complex trade of tools, materials, completed components and part-finished or finished movements."60 In some cases, Eastern visitors to Europe "went to a clockmaker's shop to make their purchases [...], but the bulk of the trade was shipped to Turkey by agents."61 It was necessary for English merchants to have an agent in the Ottoman Empire, which presupposed a level of trust. "Some merchants made the journey to and from Turkey themselves, to best protect their interests, but intermediaries were still needed to cope with the local customs, customers and of course the language. Finding a trustworthy agent was difficult."62 Agents were crucial to the reciprocal circulation of ideas, as they would be the ones to communicate to the manufacturers the taste and preferences of Ottoman customers, e.g. regarding decorative features. For the outer cases, purchasers had the option of a limited range of still-life designs. Similarly to watches for the European market, personalization was possible in items for the Ottoman market through various decorative attachments and details.

There are indications that some adaptations were done locally to customize the watches for their owners, for example by using chains of individualized designs or adding "a locally-made fourth case"; furthermore, "craftsmen tried to flatter their eastern customers by giving some local colour". ⁶³ Decoration using mythological or other figural scenes including representations of humans was rare, as it was against

⁵⁶ Ibid., 6o.

⁵⁷ Kurz, 97.

⁵⁸ Ibid., 72.59 Camerer Cuss, 256-258; G. Riello, "Strategies and Boundaries: Subcontracting and the London Trades in the Long Eighteenth Century," *Enterprise & Society* 9.2 (2008): 243-280.

⁶⁰ Camerer Cuss, 258.

⁶¹ Kurz, 72.

⁶² White, 58.

⁶³ Kurz, 74-75. See also: Gradeva, 786.

Islamic traditions. ⁶⁴ An element pertaining to personal choice and fashionability was the design of watch keys, which took the form of miniature objects with symbolic significance for the watch owners.65

All four watches selected from the NHM are related to the practice of watchmaker George Prior. "From 1765 until his death in 1814 George Prior established himself as the leading exporter of European clocks and watches to the Ottoman Empire. His watches were highly regarded, to the extent that the Turkish word for a good pocket watch was Pirvol, a corruption of his name in Turkish."66 Prior produced pocket watches in two basic grades, a high grade, which included gold, enamelled and jewelled watches signed with the name "George Prior", and a more common one, signed with the name "George Charles". ⁶⁷ Technically, the watches' movements were mostly of the fusée verge type, placed "in silver cases with enamel dials and with a tortoiseshell outer case."68 The watches for the Turkish market "were also distinguished from those for the English market, not only by the Turkish numerals on the dial, but by having thicker and more ornamented case rims. On the few occasions when Prior sought variations on this theme, he was invariably rebuked by his agents, as these were not liked by the Turkish customers". ⁶⁹ The latter were considered "very conservative and did not take kindly to innovations." 70 Many references on the range and importance of this trade survive in diplomatic reports, travellers' accounts and commercial correspondence.71 Competition in this market was intense. The design of watches and clocks was "dictated by the fashions of the day" and dealers had to respond to this fact.⁷² Prior's competitors included other English makers such as Benjamin Barber, Francis Perigal and Isaac Rogers.⁷³

Another significant threat, exploiting George Prior's success and reputation for high quality, was the production and distribution of forgeries, which was practiced

Baillie, Ilbert, and Clutton (1986), 102-103; White, 279. 64

A selection of keys exhibited at the Science Museum (Collection of the Worshipful 65 Company of Clockmakers, Museum No. 715) includes two pistols, a skull, a horse's hoof, a fox mask, a pomegranate, a hand holding a flower and an eagle.

White, 62; see also Kurz, 78-79.

⁶⁷ White, 68.

⁶⁸ Ibid., 70.

Ibid. 69

Ibid.

White, 46-74.

Ibid., 58 and 277-279.

Kurz, 75. 73

mainly, but not exclusively, by continental, especially Swiss makers.⁷⁴ These manufacturers took advantage of the growth of the luxury trade and the high demand for English watches for the Eastern markets and specialised in making cheaper watches for those markets.⁷⁵ Prior's name "was regarded as a guarantee of good workmanship, a fact which was exploited by dishonest Swiss firms which put inferior but cheap forgeries on the market, all with the fraudulent signature of George Prior."⁷⁶ Swiss manufacturers, mostly based in Geneva or Neuchâtel, developed a very lucrative business of imitating the English watches, including movement, form of the case, and colour of the gold, although the materials used were of inferior quality. Continental forgeries "were usually of poor quality and easily detected."⁷⁷ "English watches were often forged on the Continent during the eighteenth century and falsely signed [...], some names being misspelt".⁷⁸ The inclusion of "London" as the place of manufacturing and sometimes of the name of the English firm whose product was copied suggests that the information on surviving watches can be misleading and is by no means an accurate indication of origin.

Geneva watch-makers who copied English watches also employed as intermediaries merchants who brought the orders and knew better than anyone else "what would sell and what would not"; these merchants also "asked the makers to sign many of their watches as from London, by way of exploiting the reputation of the dominant center." Forgeries like the aforementioned ones are quite typical of the lower grade watches that were highly popular in the Ottoman market. Such was the demand and popularity of English watches in the Ottoman market that, cynically enough, London manufacturers themselves illicitly imported "Swiss movements, cases, and even complete watches, to be sold under their own names as London-made products". The history and practice of watch forgery has therefore many aspects, which make the distinction between "genuine" and "fake" a highly contested matter. Given that there were hybrid products with both genuine and fake elements, we can talk of grades or degrees of authenticity. At the same time, it is unclear whether the end users were aware of or interested in this distinction.

⁷⁴ White, 67-68.

⁷⁵ R. Smith, "The Swiss Connection: International Networks in Some Eighteenth-Century Luxury Trades," *Journal of Design History* 17.2 (2004): 123-139.

⁷⁶ Kurz, 79. An "early continental forgery of a watch by George Prior" is shown on Plate XIII, Fig. 26 a-c, Kurz, xi, and another one is discussed in White, 281-285.77 White, 68.

⁷⁸ Bruton, 75.

⁷⁹ Landes, 248-249.

⁸⁰ Smith, 132.



Pocket watch labelled "Edward Prior", Silversmithing Museum, Ioannina (photo by author)

A beautiful, mid-nineteenth century watch labelled "Edward Prior" is currently exhibited at the Silversmithing Museum of Ioannina and exemplifies the late period of the "English pocket watch for the Ottoman Market". The watch is of a design similar to those already discussed: it is encased in silverengraved and silver-decorated tortoise shell cases and hangs from a silver chain with double-headed eagle decorative elements.81 This exhibit is emblematic of the pocket watch as a personal accessory and mark of social position. It also represents the culmination of this trade, since Edward Prior continued his father's business in selling "good solid watches" until the late 1860s.82 Sub-

sequently, the direction of trade was reversed: English watches for the Ottoman market were considered "old-fashioned and no longer needed" and gradually they became collectors' items. ⁸³ Nowadays such watches (fake or otherwise) are regularly traded in auctions and have become yet another form of modern luxury, albeit different from the original. ⁸⁴

Information regarding the actual use of Ottoman clocks and watches is very limited. Understanding their use inevitably entails a discussion of time perceptions.

⁸¹ It is very similar to the Edward Prior watch in the collection of the Metropolitan Museum of Art, New York: silver, tortoiseshell pocket watch with serial number 66925 manufactured around 1850 (Accession number 17.190.1452a-c), "Watch, ca. 1849-50," https://www.metmuseum.org/art/collection/search/194045 (accessed 20 March 2019).

⁸² Kurz, 98.

⁸³ Ibid., 97-99.

⁸⁴ For example, the Nagel auction of 4 July 2018 included two watches with Ottoman numerals, one by Ralph Gout (London) and one by Edward Prior, both of the three-case, standard typology targeted to the Ottoman market, "760 Armband-& Taschenuhren," https://www.auction.de/catalogues/epaper-760-UH/epaper/ausgabe.pdf (accessed 20 March 2019), items 100 and 101 on pages 114 and 115 respectively.

For Muslims, it was necessary to know the precise time for the five daily prayers; time measurement followed the traditional Islamic alaturka system, which had sunset and sunrise as points of reference, and was calculated and coordinated by special functionaries of the religious educated class. This practice was gradually superseded by the European alafranga system, which used noon and midnight as axes of measurement, and became more widespread as the need for synchronized activities in commerce and industry was growing. 85 Travellers and other observers also report on the existence in Ottoman towns of public clock towers used for prayer coordination, as the collective prayer time was sacred for Muslims. 86 For those who did not need to keep prayer times, watches would be more useful in enabling coordination with others at a time of increased business transactions and other activities requiring synchronization. Nevertheless, it remains questionable whether the time-keeping function of watches was really significant for any social group. It seems more likely that the role of watches would be predominantly symbolic, an index of status and an expression of identity. This would be in line with the general tendency, since the beginning of miniaturization in clock making, for the watch "as ornament or jewel, with primacy given to the container than the contents". 87 In this vein, the pocket watch can be interpreted as exemplifying the rise of the individual in the public sphere.

Biographical information on the owners' identities of the NHM pocket watches may give us an idea of the range of the non-Muslim consumer base. The first watch belonged to merchant and politician Lazaros Koundouriotis (or Kountouriotis) (1769-1852). Koundouriotis was a major figure during the Greek War of Independence (1821-1830) as well as in the political scene during the first decades of the newly founded Greek State. He belonged to a prominent family based on the island of Hydra, south of Athens; he was involved from a very young age into the family business, supporting the trade activities of his father who was based in Genoa; after his father's death, he took over and further developed the business, managing to amass a huge fortune. Despite being sceptical of the timing and chances for success of the Greek War of Independence, he donated most of this fortune towards the war

⁸⁵ Kurz, 83-84; A. Lyberatos, "Time and Timekeeping in the Balkans: Representations and Realities," in *Entangled Histories of the Balkans: Concepts, Approaches and (Self-) Representations*, eds. R. Daskalov, D. Mishkova, T. Marinov and A. Vezenkov (Leiden, 2017), 263; A. Wishnitzer, *Reading Clocks, Alla Turca: Time and Society in the Late Ottoman Empire* (Chicago, 2015), 7-9. See also Landes.

⁸⁶ Various references in: Landes; Wishnitzer; Lyberatos (2017).

⁸⁷ Landes, 99. See also U. Wengenroth, *Technik der Moderne – Ein Vorschlag zu ihrem Verständnis*, 37-39, https://www.fggt.edu.tum.de/fileadmin/tuedso1/www/Wengenroth-offen/TdM-gesamt-1.o.pdf, 2015 (accessed 20 March 2019).

efforts. Although he never left the island of Hydra during his lifetime, he continued to play an important role in political affairs until his death and was widely respected. His mansion, overlooking the harbour of Hydra, was built towards the end of the eighteenth century, during a period of prosperity for the island; it was donated in 1979 to the Historical and Ethnological Society of Greece and currently houses an annex of the National Historical Museum. 99

The second NHM watch belonged to Markos Botsaris (1790-1823), a distinguished fighter of the Greek war of Independence who was killed in action. Originating from the Epirus region in north-western mainland Greece, he had lived in Corfu while the island was under French rule. 90 The third NHM watch belonged to Kanellos Delligianis (1780-1862), a wealthy landowner from the Peloponnese region and military leader during the Greek war of Independence; he had been educated in Dimitsana (in the Peloponnese) and in Istanbul.⁹¹ Finally, the owner of the fourth NHM watch was Theoklitos Farmakidis (1784-1860), a multi-lingual scholar who had lived and studied in Istanbul (1804-1806), Kydonies (in Asia Minor) (1806), Iași (1806-1811), Bucharest (1811), Vienna (1811-1818) and Göttingen (1819-1821).92 All four individuals belonged to Greek-Orthodox prerevolutionary elites of local leaders, merchants and intellectuals; they were distinguished in their respective fields and had been exposed to a broad range of cultural influences through studies, trade activities and other exchanges. Ownership of a pocket-watch would enable them to regulate their activities and synchronise themselves with other people but, arguably, would primarily be a manifestation of personal distinction.

In any case, the whole range of individuals that may have owned and used these items in Ottoman society should be taken into account, including Muslims, Jews, Christians of various denominations, and so on. Generalized statements from various bibliographic sources on "Turkish customers" and "Oriental taste" are rudimentary and highly questionable with reference to the multi-ethnic, multi-confessional and

⁸⁸ Ch. E. Daskalakis, Megali Elliniki Encyclopaideia (Great Hellenic Encyclopedia), s.v. "Lazaros Koundouriotis", 15 vol. (Athens, 1931), 61-62.

⁸⁹ http://www.nhmuseum.gr/en/exhibitions/lazaros-koundouriotis-historical-mansion/ (accessed 20 March 2019).

⁹⁰ Ch. E. Daskalakis, Megali Elliniki Encyclopaideia (Great Hellenic Encyclopedia), s.v. "Markos Botsaris," 17 vol. (Athens, 1931), 714-715.

⁹¹ G. D. Koromilas, *Megali Elliniki Encyclopaideia (Great Hellenic Encyclopedia)*, s.v. "Kanellos Delligiannis," 9 vol. (Athens, 1931), 10.

⁹² D. S. Balanos, Megali Elliniki Encyclopaideia (Great Hellenic Encyclopedia), s.v. "Theoklitos Farmakidis," 23 vol. (Athens, 1933), 832-833.

multicultural reality of early modern South-eastern Europe, where personal identities were often characterized by great fluidity. 93 As far as technological products are concerned, data on individual cases from all social groups are so far insufficient to generate a satisfactory picture of the range of customers in the Ottoman market and their practices. Additionally, information on female users is practically non-existent. Our understanding of the specifics of use may be improved through access to biographies, autobiographies, diaries or other personal accounts. Nevertheless, what does emerge clearly is the increasing desire of the Ottoman subjects for the novel pleasures offered by the pocket watch.

Pocket watches as popular luxury

In this vein, despite the dearth of sources and the difficulty in identifying usage patterns and the meaning of objects to individuals, the common denominator among a range of consumers in the Ottoman Empire was the increasing significance of innovative products affording sensory experiences. Clocks and watches were important in this respect. 94 This was a more general phenomenon in continental Europe and in England already from the end of the seventeenth century. The pocket watch had been the product that had enabled the art and industry of clock making to enter private homes (and pockets) of a much wider range of people. "Its diffusion through bourgeois and even middling and farm families was remarkably rapid" and the pocket watch "quickly became a coveted possession of every social class." Within a century, from the end of the seventeenth till the last quarter of the eighteenth century, "European watch production rose from the tens of thousands per year" [...] "to nearly 400,000 per year".97

Watches were highly desirable and became more accessible, but this did not mean that they were cheap:

⁹³ D. Tziovas (ed), Greece and the Balkans: Identities, Perceptions and Cultural Encounters since the Enlightenment (Aldershot, 2003). Specifically on personal identities in relation to time-keeping, see the international workshop "Inquiring Temporal Otherness," Rethymno, Greece, 23-24 October 2015, https://networks.h-net.org/node/11419/discussions/89729/workshop-inquiring-temporal-otherness-rethymno-greece-october-23-24 (accessed 20 March 2019).

⁹⁴ F. M. Göçek, East Encounters West. France and the Ottoman Empire in the Eighteenth Century (New York/Oxford, 1987), 104-106.

⁹⁵ De Vries, 1.

⁹⁶ Ibid., 2.

⁹⁷ Ibid.

"The pocket watch long remained a costly item – even cheap watches cost several weeks' pay – but became common because it was one of the chief objects of expenditure for extraordinary and windfall earnings. The sailor returning from years in the East Indies, or from a successful fishing or whaling trip, the farm laborer at the end of the harvest, the recipient of a small inheritance, the successful thief – these and others had a high propensity in the eighteenth century to spend on a narrow range of articles, including pocket watches, that had come to symbolize working men's status."98

However, ownership in itself was not sufficient; fashionability was also important and much of the competition was based on it. Thomas Hatton, a watch maker active in London, wrote in 1773:

"The prevailing notion of fancy, and that to please the eye of those who don't even understand what it is, is so great, that the pay of the workman is for little else but whims; as in bolts, the only use of which is to hold the watch fast when shut. Some must have fine pierced ears; others not so; but then they are to be left of such peculiar shapes, that each of the trade are become opponents, because their fancies differ in this matter. [...] It is with reluctance I enter upon the extravagant expense, foolish notions, and prevailing fancies of many."99

The existence of similar practices, the gradual expansion of the pocket watch market and the diversification of user groups in the Ottoman Empire during the eighteenth century is testified by various sources. A case-study on the town of Sofia provides precious information on user profiles:

"[...] We find again military, but much less prominent, many more religious functionaries, and a significant group of people involved in trade and crafts. In the mid-eighteenth century we have the first [known] case for Sofia of a Christian owner of a watch. [The group of clock/watch owners] has also diversified in terms of financial potential. Among them are real millionaires, but also people of average means. Respectively the most expensive clocks we find among the former and the modest ones among the latter. Thus, during the

⁹⁸ Ibid., 3. For a general outline of discussions on the phenomenon of luxury and its relationship to clocks and watches see: White, 75-77.

⁹⁹ T. Hatton, An introduction to the mechanical part of clock and watch work. In two parts. Containing all the arithmetic and geometry necessary, With their Particular Application in the said Branches. A Work very useful for the Working Mechanic, or Gentlemen Mechanically Inclined. Illustrated by eighteen copper-plates, Geometrically Drawn for the Use of the Trade (London, 1773), 375-376, discussed in Coote; see also: Weiss, 198-199.

first half of the eighteenth century the watches gradually start losing their 'prestige' status reaching wider circles of Ottoman society. From being an exclusive prerogative of the 'rich', mainly military, the watch and the clock start appearing, in cheaper versions, also in the inheritances of craftsmen and *ulema* [religious teachers], some of whom with moderate assets. Still it seems that their possession might have preserved its significance as status signifier, as well as a collectioner's [sic] item, but gradually also becoming a useful belonging." ¹⁰⁰

Similar trends were identified by the Englishman James Gallaway who travelled in the Ottoman Empire at the end of the eighteenth century; in his published account he states that "English watches, prepared for the Levant market, are more in demand than those of other Frank nations, and are one of the first articles of luxury that a Turk purchases or changes if he has money to spare."101 The previous quotes show that certain imported watches in the Eastern market were not aimed at the elites who could afford lavishly ornamented, highly precious items, but rather at wider groups who would buy a watch as soon as they had money to spare; at the same time, Dallaway unambiguously identifies these watches as "articles of luxury." This kind of evidence is highly illuminating, indicating that Ottoman subjects had a great inclination towards "the achievements and the comforts of Western technology" 103 and were willing to pay for them. Although desirable artefacts imported from the West included textiles, furniture, jewellery, porcelain, weapons and other products, it has been suggested that it was "mainly with the watches and the clocks that we may trace a growing interest and an expansion" of those owning European products. 104 While affluent Muslims formed the majority of customers for these imported items serving both practical and symbolic needs, socially ascending Christian bourgeois also took part in this process of 'democratization' of consumption. 105

These observations on watches contribute to a nuanced understanding of the idea of luxury in the Ottoman Empire which is relevant to the concept of popular luxury as already defined for Western European societies. According to historian Jan

¹⁰⁰ Gradeva, 790.

¹⁰¹ J. Dallaway, Constantinople, Ancient and Modern, with Excursions to the Shores and Islands of the Archipelago and to the Troad (London, 1797), 76.

¹⁰² Ibid.

¹⁰³ Kurz, 103.

¹⁰⁴ Gradeva, 798-799.

¹⁰⁵ Ibid., 798; A. Lyberatos, "Clocks, Watches and Time Perception in the Balkans: Studying a Case of Cultural Transfer," in Encounters in Europe's Southeast: The Habsburg Empire and the Orthodox World in the Eighteenth and Nineteenth Centuries, eds. H. Heppner and E. Posch, (Bochum, 2012), 250.

[.] Heppner and E. Posch, (Bochum, 2012), 250.

de Vries, the acquisition of "surplus", "luxury" items by wider social strata in early modern Europe was a result of work or "industriousness", and consuming was a reflection of the significance of work for the user's identity. 106 The acquisition of pocket watches in particular, reflected the rise of the individual, as the "use of the watch and the concomitant 'privatization' of time" marked "the passage from time obedience to time awareness and (self-) discipline."107 In this vein, the private pocket watch appeared as a symbol of the emergence of the self-sufficient and assertive individual. In times of increased mobility, the object's portability was a feature further adding to its allure. Both functional item and fashion accessory, the watch was closely bound to the owner's body and could be easily carried around and shown off. At a time of growing mobility through commercial and cultural activities, a portable technical object was a sign of innovation and distinction embedded in new forms of socialisation in the public sphere. 108

Arguably, similar phenomena were present or emerging among the Ottoman populations, as they were among the European ones, constituting "common threads in the worldwide experience". 109 This argument is supported by studies on various recreational and cultural practices in eighteenth century Ottoman Empire, in particular fashion, new forms of architectural patronage, and tobacco use. These practices were reflecting the internal dynamics of a society in flux. The boundaries between social groups were becoming blurred and porous, as the upwardly mobile urban middle classes were engaging in novel forms of consumption and sociability in the public sphere. What mattered most in these situations was embracing change, pursuing novelty, actively seeking diversity and fun, and experiencing sensual gratification. The use of pocket watches as personal accessories and visible marks of distinction makes good sense in this social environment.

The pocket watch for the Ottoman market may be further analysed as a new form of luxury with reference to the classification of "Types of Products and Related

¹⁰⁶ De Vries.

¹⁰⁷ Lyberatos (2017), 278.

¹⁰⁸ G. Bernasconi, Objets Portatifs au Siècle des Lumières (Paris, 2015); G. Bernasconi, "Luxe, Précision et Mesure du Temps: Une Montre de John Arnold comme Document Matériel", in L'Europe des Sciences et des Techniques: Un Dialogue des Savoirs, XVe-XVIIIe Siècle, eds. L. Hilaire-Pérez, F. Simon and M. Thébaud-Sorger (Rennes, 2016), 77-79.

¹⁰⁹ J. Grehan, "Smoking and 'Early Modern' Sociability: The Great Tobacco Debate in the Ottoman Middle East (Seventeenth to Eighteenth Centuries)," The American Historical Review, 111.5 (2006): 1353.

¹¹⁰ S. Hamadeh, The City's Pleasures: Istanbul in the Eighteenth Century (Seattle, 2007); Grehan.

Systems of Production" developed by historian Giorgio Riello.¹¹¹ This classification is highly useful as a conceptual tool and as a point of departure in order to discuss the concept of "popular luxury" in relation to pocket watches in the Ottoman context. According to Riello's typology, "populuxe" or "popular luxury" is a category of products with the following characteristics: "Bought for their appeal and innovation, these items entailed a certain degree of skill, but not necessarily extensive financial investment in fixed capital for their manufacture. Most such objects could be purchased ready-made, although they could be customized (as in the case of expensive coaches or much cheaper sets of china plates). Their main difference compared to 'undifferentiated' products is that they were market-oriented ready-made products, conscious of the variations and vagaries of fashion, conspicuous consumption, and consumer whimsy."¹¹² These properties of the popular luxury category are summarized as follows: "Small quantities with variations; Fashionable; Medium skills/some technological investment; Appeal/Innovation; Some bespoke and increasingly (market-oriented) ready-made."¹¹³

Using Riello's work as a basis, we characterize pocket watches for the Ottoman market as fashionable items incorporating high (rather than medium) technical skills and investment; their main competitive advantage was indeed being innovative, either in a bespoke or in a ready-made form. Additionally, given the production runs of pocket watches already mentioned, "large quantities with variations" appears more appropriate than "small quantities with variations". We therefore argue that the typology by Riello is valid with modifications for the case of Ottoman pocket watches. Pocket watches imported to the Ottoman Empire during the long eighteenth century satisfy the criteria for being classified as popular luxury intended for and enjoyed by wider social groups, as opposed to high luxury that would be accessible only to the uppermost levels of Ottoman society.

Additionally, popular luxury as an emerging form of consumption was founded on a reciprocal relationship of knowledge exchange. As already mentioned, the taste of local customers was systematically recorded and then communicated to the manufacturers by trade agents and other intermediaries. These exchanges offered manufacturers valuable feedback on the preferences and desires of customers, thus informing and influencing the design and other features of the products. At the same time, such exchanges offered customers and users direct access to technical

¹¹¹ Riello, 262-263; the classification has been adapted from Philip Scranton's formulation concerning nineteenth-century American manufacturing.

¹¹² Ibid., 264.

¹¹³ Ibid., 263.

knowledge embedded in the products. Although fashionability was a key factor in this process shaping the identity and market success of these products, the significance of the technical factor should not be underestimated. Observing the moving mechanism was attractive and aroused the curiosity of users; the multiple cases in which the mechanism was enclosed offered not only protection to the sensitive moving components, but also an opportunity for playful handling of the object. Users would develop their technical grasp of the watch by manipulating and regulating it, activities which were necessary for its proper function. Owners would perform these tasks on a regular basis, thus establishing an experiential and embodied relationship to the objects. The intimacy and emotional attachment to a product that was worn on one's person, in direct contact with the body, is noteworthy.

Thus, a novel, portable technical object expressed both the individual's taste and his active participation in the practice of time-keeping. More generally, in Western Europe and in the Ottoman Empire, the eighteenth century was a period of rising mobility that witnessed the emergence and proliferation of new categories of portable objects among broader social groups. The diffusion and systematic use of such objects underpinned the development of original ways of acquiring technical knowledge through consumption and new forms of socialisation in the public domain. The pocket watch was among the key objects in this process of technical acculturation and self-fashioning, both technical gadget and personal accessory. Users appropriated novel products according to their own needs and desires, looking for maximum satisfaction and enjoyment. Novel and pleasurable consumption in many different forms was contributing to the blurring of social boundaries. Individuals enlarged their horizons through the use of new objects and simultaneously expanded their options for self-expression through the personalization of these items. 114 Owning and using a pocket watch were elements of a modern mentality and a means of empowerment in the pursuit of personal pleasure. Arguably, the technical aspect contributed crucially to the popularity and desirability of this type of object. On this basis, it makes sense to propose that pocket watches are not only examples of the emergence of popular luxury beyond Western Europe but, furthermore, paradigmatic objects of "technological popular luxury"; as such they deserve further attention.

¹¹⁴ D. Poulot. "Une Nouvelle Histoire de la Culture Matérielle?" Revue d'Historie Moderne et Contemporaine 44.2 (1997): 353; P. Minard, "Révolution Industrielle et Divergence Orient-Occident : Une Approche d'Historie Globale," Revue de Synthèse Series 6, 131.3 (2010): 457; Hamadeh; Grehan.

Conclusion

During the long eighteenth century, wider social groups in the Ottoman Empire acquired and enjoyed imported pocket watches, which were technologically novel and highly desirable objects. Starting from the objects themselves, nowadays to be found in public and private collections, the present study situates this product category within the broader discussion on the types of consumption grouped under the term "popular luxury." It is argued that the case-study of the pocket watch enables us to expand the popular luxury discourse beyond England, France, and the Netherlands to the Ottoman Empire, and especially to its south-eastern European provinces. Pocket watches in the early modern Ottoman Balkans clearly satisfy the criteria for being classified as popular luxury; nevertheless, the actual conditions of usage and appropriation of these objects incorporating new technology, as well as the associated mentalities by a range of users, require further clarification. Future research would aim to elaborate on the reception and use of the pocket watch, focusing on the experiences of individuals.

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BIBLIOGRAPHY

Baillie, G. H., C. Ilbert, and C. Clutton eds. Britten's Old Clocks and Watches and their Makers: A History of Styles in Clocks and Watches and their Mechanisms. Ninth Edition Revised and Enlarged by C. Clutton. London, 1986.

Baillie, G. H., C. Ilbert, and C. Clutton eds. Britten's Old Clocks and Watches and their Makers: A History of Styles in Clocks and Watches and their Mechanisms. Eighth Edition Revised and Enlarged by C. Clutton. London, 1978.

Balanos, D. S. Megali Elliniki Encyclopaideia (Great Hellenic Encyclopedia), s.v. "Theoklitos Farmakidis." 23 vol., 832-833. Athens, 1933.

Bernasconi, G. "Luxe, Précision et Mesure du Temps: Une Montre de John Arnold comme Document Matériel." In L'Europe des Sciences et des Techniques: Un Dialogue des Savoirs, XVe-XVIIIe Siècle, edited by L. Hilaire-Pérez, F. Simon and M. Thébaud-Sorger, 77-79. Rennes, 2016.

Bernasconi, G. Objets Portatifs au Siècle des Lumières. Paris, 2015.

Blondé, B. and I. Van Damme, "Fashioning Old and New or Moulding the Material Culture of Europe (Late Seventeenth - Early Nineteenth Centuries)." In Fashioning Old and New: Changing Consumer Patterns in Western Europe (1650-1900), edited by B. Blondé et al., 1-3. Turnhout, 2009.

Bruton, E. Dictionary of Clocks and Watches. London, 1962.

Camerer Cuss, T. The English Watch, 1585-1970: A Unique Alliance of Art, Design and Inventive Genius. Woodbridge, 2009.

Coote, I. "Making Beetle and Poker Hands." Horological Journal (1999) http://www.horological.co.uk/beetle.html (accessed 20 March 2019).

Coquery, N. "The Semi-luxury Market, Shopkeepers and Social Diffusion: Marketing Chinoiseries in Eighteenth-Century Paris." In Fashioning Old and New: Changing Consumer Patterns in Western Europe (1650-1900), edited by B. Blondé et al., 121-131. Turnhout, 2009.

Dallaway, J. Constantinople, Ancient and Modern, with Excursions to the Shores and Islands of the Archipelago and to the Troad. London, 1797.

Daskalakis, Ch. E. Megali Elliniki Encyclopaideia (Great Hellenic Encyclopedia), s.v. "Lazaros Koundouriotis." 15 vol., 61-62. Athens, 1931.

Daskalakis, Ch. E. Megali Elliniki Encyclopaideia (Great Hellenic Encyclopedia), s.v. "Markos Botsaris." 17 vol., 714-715. Athens, 1931.

de Vries, J. The Industrious Revolution: Consumer Behaviour and the Household Economy, 1650 to the Present. Cambridge, 2008.

Fennetaux, A. "Toying with Novelty: Toys, Consumption, and Novelty in Eighteenth-Century Britain." In Fashioning Old and New: Changing Consumer Patterns in Western Europe (1650-1900), edited by B. Blondé et al., 17-28. Turnhout, 2009.

Göçek, F. M. East Encounters West. France and the Ottoman Empire in the Eighteenth Century. New York/Oxford, 1987.

Gradeva, R. "On 'Frenk' Objects in Everyday Life in Ottoman Balkans: The Case of Sofia, mid-17th- mid-18th Centuries." In *Relazioni Economiche tra Europa e Mondo Islamico, secc. XIII-XVIII/ Europe's Economic Relations with the Islamic World, 13th-18th Centuries, Atti della "Trentottesima Settimana di Studi,* edited by S. Cavaciocchi, 775-776. Prato, 2007.

Grehan, J. "Smoking and 'Early Modern' Sociability: The Great Tobacco Debate in the Ottoman Middle East (Seventeenth to Eighteenth Centuries)." *The American Historical Review* 111.5 (2006): 1353.

Habinger, O., K. Brendel and H. Petzold, "Die Uhrensammlung im Deutschen Musem Teil 1." Uhren: Journal für Sammler klassischer Zeitmesser 16.2(1993): 10-25.

Habinger, O., K. Brendel and H. Petzold, "Die Uhrensammlung im Deutschen Musem Teil 2." *Uhren: Journal für Sammler klassischer Zeitmesser* 16.3(1993): 10-25.

Hamadeh, S. The City's Pleasures: Istanbul in the Eighteenth Century. Seattle, 2007.

Handley, S. "Objects, Emotions and an Early Modern Bed-sheet." *History Workshop Journal*, dbxo50, https://doi.org/10.1093/hwj/dbxo50 (accessed 20 March 2019).

Hatton, T. An introduction to the mechanical part of clock and watch work. In two parts. Containing all the arithmetic and geometry necessary, With their Particular Application in the said Branches. A Work very useful for the Working Mechanic, or Gentlemen Mechanically Inclined. Illustrated by eighteen copper-plates, Geometrically Drawn for the Use of the Trade. London, 1773.

Hatzaki, M. "I Axia tou Chronou: Rologia Tsepis apo Ellinikes Sylloges" ("The Value of Time: Pocket Watches from Greek Collections"). In *I Axia tou Chronou (The Value of Time*) Athens, 2005.

Howard, D.A. A History of the Ottoman Empire. Cambridge, 2017.

Koromilas, G. D. Megali Elliniki Encyclopaideia (Great Hellenic Encyclopedia), s.v. "Kanellos Delligiannis." 9 vol., 10. Athens, 1931.

Krippendorff, K. The Semantic Turn – A New Foundation for Design. Boca Raton, FL, 2006.

Kurz, O. European Clocks and Watches in the Near East. London, 1975.

Landes, D. S. Revolution in Time: Clocks and the Making of the Modern World. Cambridge, 1983.

Lyberatos, A. "Clocks, Watches and Time Perception in the Balkans: Studying a Case of Cultural Transfer." In *Encounters in Europe's Southeast: The Habsburg Empire and the Orthodox World in the Eighteenth and Nineteenth Centuries*, edited by H. Heppner and E. Posch, 250. Bochum, 2012.

Lyberatos, A. "Mechanika Rologia kai Antilipsi tou Chronou sta Valkania. Meletontas mia Periptosi Politismikis Metaphoras" ("Mechanical Clocks and Perception of Time in the Balkans"). In *Ta Valkania. Eksygchronismos, Tautotites, Idees. Syllogi Keimenon pros Timin tis Kathigitrias Nadias Danova (Modernisation, Identities, Ideas. Collection of Essays in Honour of Professor Nadia Danova*), edited by A. Lyberatos, 126 and 133. Heraklion, 2014.

Lyberatos, A. "Time and Timekeeping in the Balkans: Representations and Realities." In Entangled Histories of the Balkans: Concepts, Approaches and (Self-) Representations, edited by R. Daskalov, D. Mishkova, T. Marinov and A. Vezenkov, Volume 4, 257-290. Leiden, 2017.

MacGregor, N. A History of the World in 100 Objects. London, 2012.

Meyer, W. Catalogue of Clocks and Watches in the Topkapi Sarayi Museum. Istanbul, 1971.

Michal, S. Clocks and Watches: A Catalogue of Clocks and Watches (16th to 20th Century) in the Collections of the National Technical Museum Prague. Prague, 1974.

Minard, P. "Révolution Industrielle et Divergence Orient-Occident: Une Approche d'Historie Globale." Revue de Synthèse Series 6, 131.3 (2010): 457.

Ozdemir, K. Ottoman Clocks and Watches. Istanbul, 1993.

Poulot, D. "Une Nouvelle Histoire de la Culture Matérielle?" Revue d'Historie Moderne et Contemporaine 44.2 (1997): 353.

Rees, A. Rees's Clocks Watches and Chronometers (1819-20): A Selection from the Cyclopedia; or Universal Dictionary of Arts, Sciences and Literature. Newton Abbot, 1970.

Reindl-Kiel, H. "East Is East and West Is West, and Sometimes the Twain Did Meet: Diplomatic Gift Exchange in the Ottoman Empire." In Frontiers of Ottoman Studies: State, Province, and the West, edited by C. Imber, K. Kiyotaki and R. Murphey, 113-123. London,

Reindl-Kiel, H. "Luxury, Power Strategies, and the Question of Corruption Gifting in the Ottoman Elite (16th-18th Centuries)." In Şehrâyîn: Die Welt Der Osmanen, Die Osmanen in Der Welt. Wahrnehmungen, Begegnungen und Abgrenzungen / Illuminating the Ottoman World. Perceptions, Encounters and Boundaries. Festschrift Hans Georg Majer, edited by Y. Köse, 107-120. Wiesbaden, 2012.

Riello, G. "Strategies and Boundaries: Subcontracting and the London Trades in the Long Eighteenth Century." Enterprise & Society 9.2 (2008): 243-280.

Rudolph, H. "Entangled Objects and Hybrid practices? Material Culture as a New Approach to the History of Diplomacy." In Material Culture in Modern Diplomacy from the 15th to the 20th Century, edited by H. Rudolph and G. M. Metzig, 1-28. Berlin, 2016.

Savu, E., T. Ristea and C. Banu, Ceasul - Stiinta și Arta/Clock - Science and Art. Bucharest, 2012.

Sfragides Eleftherias (Freedom Stamps). Athens, 1983.

Smith, R. "The Swiss Connection: International Networks in Some Eighteenth-Century Luxury Trades." Journal of Design History 17.2 (2004): 123-139.

Stoianovich, T. Balkan Worlds: The First and Last Europe. London, 1992.

Talbot, M. "Gifts of Time: Watches and Clocks in Ottoman-British Diplomacy, 1693-1803." In Material Culture in Modern Diplomacy from the 15th to the 20th Century, edited by H. Rudolph and G. M. Metzig, 55-79. Berlin, 2016.

Thatcher Ulrich, L., I. Gaskell, S. J. Schechner and S. A. Carter. Tangible Things: Making History through Objects. Oxford, 2005.

Tziovas, D. ed. *Greece and the Balkans: Identities, Perceptions and Cultural Encounters since the Enlightenment.* Aldershot, 2003.

Weiss, L. Watch-making in England. London, 1982.

Wengenroth, U. *Technik der Moderne – Ein Vorschlag zu ihrem Verständnis*. https://www.fggt.edu.tum.de/fileadmin/tuedso1/www/Wengenroth-offen/TdM-gesamt-1.o.pdf, 2015 (accessed 20 March 2019).

White, I. English Clocks for the Eastern Markets: English Clockmakers Trading in China and the Ottoman Empire 1580-1915. Ticehurst, 2012.

Wishnitzer, A. Reading Clocks, Alla Turca: Time and Society in the Late Ottoman Empire. Chicago, 2015.

Yildiz, N. "British Clocks and Watches in the Ottoman Empire and Topkapi Palace." *Belleten: Türk Tarih Kurumu* 70. 259 (2006): 919-962.