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BEFORE THE BRIGHT NIGHT? METHODS AND MATERIALITIES OF LIGHTING IN EARLY MODERN EUROPE

In July 1784, as the British House of Lords heatedly discussed the imposition of duties on tallow candles, Earl Ferrers rose from his seat, took the floor and brought into consideration the fact that «[c]andles were one of the necessaries of life», and according to this «lower classes must therefore have them as well as those of opulence»[1]; Sir William Pulteney – member of the House of Commons – agreed and vigorously objected to the calculations presented by the Chancellor of the Exchequer, pointing out that the «number of candles used in a poor man's family» must be very high, «as many of them worked half their time by candle-light, and from the nature of their business used great quantities»[2]. Thus, he and several other deputies insisted that an increase in taxes on candles should «affect the poor as little as possible»[3].

With these brief but telling statements, eighteenth-century politicians prefigured predominantly two things: First, the debate indicates that levying duties on goods of 'mass consumption'[4], such as tallow candles, to increase public finance, particularly after the American War of Independence, had already become «a [common and, M.W.] major pillar of the state»[5] during the early

1. Whitehall Evening Post, Nr. 5739, 3.

2. Chelmsford Chronicle, No. 295, 2, reporting the sessions in the House of Commons.

3. *Ibid.*

4. William Ashworth, *Customs and Excise. Trade, Production, and Consumption in England, 1640-1845*, Oxford, University Press Oxford 2003, 332.

5. Marjolein t'Hart, Pepijn Brandon and Rafael Torres Sánchez, «Introduction: Maximizing Revenues, Minimizing political Costs – Challenges in

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modern period. The privilege of collecting taxes was fundamental to early modern state-building processes as it served as a symbol of authority and ensured that government could «meet domestic challenges»[6]. Raising the amount of fiscal revenue relied on a complex infrastructure, political contexts, administrative strategies, constant management, and a growing ambivalence between 'the state' and 'the private' – a framework that sparked debates and thus had to be carefully designed and coordinated[7]. In particular, the reinvigorated discussions on a just and socially balanced taxation following and accompanying the candle tax debate indicate once again that the eighteenth-century fiscal state had to consider arguments for and against taxation against the backdrop of changing social realities, consumption practices, and fiscal requirements[8].

Second, the statements quoted shed light on the enormous importance assigned to artificial lighting materials in pre-modern societies. Candles were essential and «basic commodit[ies]» of everyday pre-modern life in order to conduct business and illuminate dark rooms, streets, people, and buildings – whether one was a noble member of the House of Lords or a servant in the countryside[9].

The following section aims to disentangle a history of dark nights, focusing particularly on private methods and materialities

the History of Public Finance of the Early Modern Period», *Financial History Review*, 25/1 (2018), 1-18, 6.

6. Patrick K. O'Brien/Philip A. Hunt, *England, 1485-1815*, in Richard Bonney, *The Rise of the Fiscal State in Europe, c. 1200-1815*, Oxford, Oxford University Press, 1999, 53-100, 100.

7. D'Maris Coffman, *Excise Taxation and the Origins of Public Debt*, Basingstoke/New York, Palgrave Macmillan, 2013.

8. Henry Yeomans, «Taxation, State Formation, and Governmentality: The Historical Development of Alcohol Excise Duties in England and Wales», *Social Science History*, 42 (2018), 269-93, here 272-78.

9. Avner Wishnitzer, *As Night Falls. Eighteenth-Century Ottoman Cities after Dark*, Cambridge, 2021, 145; this statement contradicts John Crowley's view, which, according to the empirical evidence, evaluates the usage of artificial illumination in poorer households as «optional rather than a crucial part of people's daily lives», in John Crowley, *The Invention of Comfort. Sensibilities and Design in Early Modern Britain and Early America*, Baltimore/London, Johns Hopkins University Press, 2001, 115.

of lighting in eighteenth-century Europe among poorer households. Analyzing the line of argumentation in the parliamentary debates (House of Commons and House of Lords) and newspaper reports documenting the discussions on whether to increase duties on candles in 1784 not only provides insights into a late-eighteenth-century discourse on candle consumption, but enables us to identify socially embedded patterns of lighting practices. This allows us to pinpoint the key elements associated with private, meaning domestic, lighting practices and materialities. By examining these practices, the article attempts to offer a more nuanced view of «a nearly infinitive» but historically largely neglected «variety of fuel sources and appliances for lighting»[10] in the eighteenth century.

Lighting – An Obscure History in Night Studies?

Even though early modern nights have attracted considerable attention in recent decades, private lighting practices largely remain unexplored[11]. This is even more surprising as Craig Koslofsky in particular has demonstrated that the more people expanded daytime activities into the dark hours of the night, the higher grew the dependency on lamps and candles. Associated with this process, and focusing mainly on the late seventeenth and eighteenth century, Koslofsky coined this formation of a night society «nocturnalization, defined as the ongoing expansion of the legitimate social and symbolic uses of the night»[12]. Increased nighttime activity before the advent of gas lighting required other forms of artificial illumination: theaters, coffee houses, courtly evening events, and streets had to be illuminated by wax-, oil-, or tallow-fueled candles, lanterns, sconces, or torches, creating special sensory experiences and atmospheres oscillating between bright and dark.

10. *Ibid.*, 111.
11. *Ibid.*
12. Craig Koslofsky, *Evening's Empire. A History of the Night in Early Modern Europe*, Cambridge, Cambridge University Press 2011, 2.

Building on and expanding the concept of nocturnalization, Darrin McMahon describes a «new regime of light»[13]. He emphasizes that the increased need of light was inextricably bound to enlightened ideas of the eighteenth century not only in symbolic or metaphoric terms, with light characterized as a source of truth and guiding philosophical principle. Light, McMahon summarizes, became an «object of intense scientific scrutiny» to explore its physical characteristics, describe its capacities in mathematic-theoretical formulas, and make observations of how to «accumulate lights» to practically use it for different daily purposes such as streetlighting or for lighthouses[14]. McMahon succinctly encapsulates both strands, the metaphoric and the technical, as follows: «For surely illumination was the exemplary social practice of the age [...]. In Enlightenment practices of illumination, medium and message were one»[15].

In view of this and the fact that the introduction of streetlighting has been documented by pre-modern authorities and bureaucracy in sufficient density (as opposed to private lighting practices), a vast number of studies have explored the technical developments and uses of lights for public purposes, particularly focusing on streetlighting[16]. Beginning with Wolfgang Schivelbusch in 1987, who characterized urban lighting methods as «symbols of the new state»[17], and continuing with recent literature, most studies address the eighteenth-century introduction and implementation of streetlighting – albeit from different angles and perspectives – as a certain means of power, an opportunity of reflecting courtly representation, and a way of preventing crime[18]. The ongoing advancements in lighting technologies,

13. Darrin McMahon, «Illuminating the Enlightenment: Public Lighting Practices in the Siècles des Lumières», *Past&Present*, 240 (2018), 119-59, 123.

14. *Ibid.*, 120.

15. *Ibid.*, 122.

16. Donald W. Lindebaugh, *The Springfield Gas Machine: Illuminating Industry and Leisure, 1860s-1920s*, Knoxvill, University of Tennessee Press, 2011, 1-30; focusing on Shakespearean theatre, see for example Pascale Aebischer, *Shakespeare, Spectatorship and the Technologies of Performance*, Cambridge, Cambridge University Press, 2020, 33-49.

17. Wolfgang Schivelbusch, «The Policing of Street Lighting», *Yale French Studies*, 73 (1987), 61-75, 62.

18. Sophie Reculin, *'Le règne de la nuit désormais va finir'. L'invention et la*

as Donald Lindebaugh described in broad outline, gradually improved lighting qualities, lowered prices, and ultimately transferred the individual's responsibility to the state: implementing permanent lighting infrastructures in the nineteenth century went hand in glove with tendencies toward greater centralization and «the loss of control over energy production» – citizens, Lindebaugh concludes, finally became consumers[19]. However, the 'conquest of the night' and illumination of the dark were by no means accepted without criticism. Turning night into day was at odds with traditional rhythms of the day[20]. Consequently, until the eighteenth century, nocturnal activities, depending on context, situation, and participants involved or observing and reporting, were considered as both, as enabler and as 'immoral.'

Yet it is precisely within this field of tension, of indecisiveness, and ambiguity displayed by primary sources that night must be approached as a historical phenomenon. Exploring night from a socio-economic point of view, and turning to artificial lighting material such as wax, oil, and tallow, it becomes obvious that essentially the dark times of night, which required artificial illumination, were the starting point of multifaceted economic relations leading to the intensification of trading networks, and facilitating processes of economization, as economic and medieval historians particularly have noted. According to them, wax and oil took the role of 'a currency'[21]. Moreover, providing lights for sacred spaces and burning candles inside churches for spiritual desires, for instance, «was a constant concern in all west European societies throughout the early Middle Ages» and beyond[22].

diffusion de l'éclairage publique dans le royaume de France (1697-1789), Diss. 2017, online: https://tel.archives-ouvertes.fr/tel-01915183; Roger Ekirch, *At Day's Close: Night in Times Past*, New York, Norton, 2005; Craig Koslofsky, «Court Culture and Street Lighting in Seventeenth-Century Europe», *Journal of Urban History*, 28 (2002), 743-68; Wolfgang Schivelbusch, *Disenchanted Night: The industrialization of Light in the Nineteenth Century*, Berkeley, University of California Press, 1988.

19. Lindebaugh, *The Springfield Gas Machine*, 2.

20. Koslofsky, «Court Culture», 745-46.

21. Eva Cane, *The World History of Beekeeping and Honey Hunting*, New York, Routledge 1999, 498.

22. Paul Fouracre, «Lights, Power and the Moral Economy of Early Medieval Europe», *Early Medieval* Europe, 28 (2020), 367-87, 369.

As accounting books bear witness, the levy of wax and oil was an unquestionable part of tax collection, which – in this respect – constituted the power relationship between secular subjects and (sacral) authorities, but was not limited to this. Wax and oil, as evidenced by royal grants or (noble) wills, were donated to satisfy the desire for salvation[23]. Ian Wood characterized this form of exchange as an 'ecclesiastical economy'[24] and Paul Fouracre recently pointed out that the Carolingians utilized grants for light and access to lighting material as political measures to demonstrate authority over new possessions and to exercise power[25].

Yet this straightforward narrative of modernization and centralization requires more precise reflection and reconstruction. Existing work on energy transitions or changes in energy practices, as considered here, state that these processes were temporally and spatially varied, and, furthermore, inextricably tailored to prevailing social, economic, and environmental conditions[26]. By acknowledging these prerequisites, it is possible to approach and zoom in on pre-modern practices of lighting beyond street-lighting.

Although these few examples mentioned above are far apart in time and context, ranging from early medieval wax donations to eighteenth-century tax debates, they suggest that a 'regime of light' was not only shaped by courts and a bourgeois elite. Lighting practices affected pre-modern people to varying degrees and thus influenced nocturnal activities in different ways. In addition to this, and similar to the late-eighteenth-century observations mentioned above, both empirical evidence from the Middle Ages

23. Maria DePrano, «*Lux Aeterna*: Commemoration of Women with Candles in the Santa Maria Novella Book of Wax in Fifteenth-Century Florence», *Early Modern Women*, 6 (2011), 165-72.

24. Ian Wood, «Creating a Temple Society in the Early Medieval West», in Ian Wood (ed.), *The Transformation of the Roman West*, Leeds, ARC Humanities Press, 2018, 110-11.

25. Fouracre, «Lights, Power and the Moral Economy of Early Medieval Europe».

26. Wouter Ryckbosch and Wout Saelens, «Fueling the Urban Economy: A Comparative Study of Energy in the Low Countries, 1600-1850», *The Economic History Review*, 76 (2022), 1-36.

onward and the latest results of research in the context of an 'Anthropology of Luminosity' indicate that access to and usage of light served as a marker of socio-economic differences. «Using light», to sum up, is and was «an active component of social life»[27].

The availability of and access to light – it seems appropriate to summarize – appears to have been a distinguishing feature over the centuries. This distinction becomes even clearer in the light of material culture studies. Analyzing probate inventories, Wout Saelens showed in detail that the distribution of lighting objects such as candlesticks, candle pans, tallow lamps, and mirrors (to improve the light's intensity) was largely confined to well-off households. Between 1680 and 1780, however, the ownership of lighting equipment among poor households seems to have gradually increased[28]. Whether this transformation in material culture had a noticeable impact on the consumption of candles, however, can only be assumed. Drawing on a long-term evaluation of fuel costs and lighting consumption between 1300 and 2000 in the United Kingdom, and despite some empirical and methodological reservations due to early modern tax evasion (particularly regarding tallow candles, as will be discussed in more detail below), Roger Fouquet and Peter J. G. Pearson pointed out that even though the population grew, candle consumption seems to have increased only slightly in the eighteenth century[29]. A closer look at the collected data rather suggests «another kind 'of dark age'», which Fouquet and Pearson concluded was a consequence of taxation.

27. Mikkel Bille Sørensen and Tim Flohr, «An Anthropology of Luminosity. The Agency of Light», *Journal of Material Culture*, 12/3 (2007), 263-84, 273.

28. Wout Saelens, «Comforts of Difference. Social Inequality and the Material Culture of Energy in Eighteenth-Century Ghent», in Bruno Blondé, et al. (ed.), *Inequality and the City in the Low Countries (1200-2020)*, Turnhout, Brepols 2020, 309-28, 314; Rembrandt Duits (ed.), *The Art of the Poor. The Aesthetic Material Culture of the Lower Classes in Europe, 1300-1600*, London/New York/Oxford/New Delhi/Sydney, Bloomsbury Academic, 2020.

29. Roger Fouquet and Peter J. G. Pearson, «Seven Centuries of Energy Services: The Price and Use of Light in the United Kingdom (1300-2000)», *The Energy Journal*, 27/1 (2006), 139-77.

Does this argument present itself as a criterion for describing this stagnation in or moderate growth of candle consumption in the eighteenth century? The practices of artificial lighting referred to in the tax debate offer the prospect of further explanations.

How to Illuminate?

In the aftermath of the American War of Independence, William Pitt the Younger (1759-1806), Chancellor and First Lord of the Treasury, proposed «a long catalogue of taxation»[30] to «pay the interest of the loan, and the interest of the remaining unfunded debt»[31], which was amounting to more than 900,000 pounds, annually. Despite levying duties on textile luxuries such as hats, ribbons, and printed or dyed linens, his proposal also expanded the scope of goods to be taxed to include paper, hackney coaches, bricks and tiles, qualifications of shooters, horses, coal, and – of the utmost importance for the topic under consideration here – candles. As they were characterized as «a necessary of life, and a necessary as indispensable with the poorest as with the richest families in the kingdom»[32], William Pitt's suggestion unfolded a lively and controversial debate among the members of the House of Commons. Within that, a number of Members of Parliament came up and explained their views.

The discussion suggested that the practical use of candles did indeed vary according to socio-economic class. Poorer households, it was argued, 'obviously' used candles weighing between 16 and 24 to the pound, whereas wealthier families either bought candles weighing between six and eight to the pound, molded candles, or candles made of wax[33]. Given the fact that a 'cottager' would consume only a 'small number of pounds' in a year, the additional duty would not affect poor families in their gen-

30. *Parliamentary Papers*, 30 June 1784, Debates, 281.
31. *Ibid.*, 279.
32. *Ibid.*, 284.
33. That there existed a variety of different forms and kinds of candle can be gleaned from the following statement: Sir James Johnsone referring to «Mould Candles,» to «Candles of a superior sort and size», and to «farthing Candles», *Morning Chronicle*, 13 July 1784, 2.

eral supply of candles. Even more precisely, William Pitt quantified the consumption of candles by the lower classes: He was informed that poorer families would not buy more than 10 pounds of candles in a year. If the proposed tax increase of half a penny is taken as a basis for the calculation, he continued, the additional annual cost would amount only to five pence.

However, since the opposition could not be convinced by those well-calculated figures either, alternatives were considered, discussed, and – ultimately – rejected. The line of argument presented during the debates, both for and against raising taxes on candles, basically revolved around three main aspects: First, the issue at stake concerned the available options for taxing consumer goods without denying the lower classes access to candles. There remained, second, the question of fair and just taxation and possible strategies for reducing national debt. Third, the arguments provide us with insights not only into a complex and multifaceted process of decision-making in the British Parliament of the eighteenth century, but also into the social context in which candles were used. Despite explicit references to supposedly tangible and objective consumption data, empirical knowledge about private lighting practices was of paramount importance for the discussion. Social differentiation can thus not only be derived from figures on the consumption of candles itself. Exploring pre-industrial Ottoman illumination, Avner Wishnitzer recently requested that these prerequisites be taken more seriously in order to enhance our understanding of pre-industrial lighting as both a multifaceted, complex, 'basic commodity,' and, simultaneously, as 'a shiny index of power'[34]. He stressed that the wider framework of how raw materials were used and processed and candles manufactured also contributed to the manifestation of socio-economic differences and, in turn, established different lighting practices in society. Lighting practices, quality, and experience before industrialization, which largely 'standardized and homogenized' illumination at least across Europe and North America, were closely linked to the employed raw materials and thus to environmental preconditions[35].

34. Wishnitzer, *As Night Falls*, 145.
35. *Ibid.*, 145.

Artificial Illumination – A Sensuous Experience

Similarly to Avner Wishnitzer's findings, candles in premodern Europe were predominantly made of tallow, wax, and, since the first half of the eighteenth century, increasingly of spermaceti-wax (whale oil)[36]. Vegetable oils made of fruits, flowers, or seeds such as olive-, palm-, or castor oil have been used since early times[37]. In colonial Mexico, for example, the oil supplied for public streetlighting consisted of a broad range of vegetable oils including sesame or peanut-oil, while in Europe, according to climatic and soil conditions, primarily rapeseed was cultivated, harvested, and processed into oil[38]. Nonetheless, whereas public streetlighting depended on large quantities of rapeseed oil, private lighting practices usually relied on animal fat: Before whale oil conquered the market, private rooms were usually lit by tallow candles[39]. Wax candles played only a minor role in private lighting methods, and were used generally in the households of the rich and the 'middling line of life,' according to the Excise statistics for 1783: the taxed number of candles made from tallow was substantially higher than the number of wax candles. The *Account of the Quantity of all Articles charged with a Duty of Excise* elucidates that tallow candles brought in more than 200,000 pounds, with a total amount of 48,447,165 ½ pounds. The revenue from candles made of wax was considerably less (approximately 5,000 pounds) – which was one of the core arguments why the consumption of wax candles was characterized as «too small to make it an object»[40] of general taxation.

36. Felix Schürmann, *Der graue Unterstrom. Walfänger und Küstengesellschaften an den tiefen Stränden Afrikas (1770-1920)*, Frankfurt/New York, Campus Verlag, 2017.

37. Reculin, *Le régne*, 25-26.

38. *The Northampton Mercury*, LVI, No. 6, 1 informs that an increase in the price of rapeseed in 1775 might be strongly connected to the fact that «in the Metropolis alone, the Value of Oil consumed, as a Substitute for Tallow» had increased substantially.

39. *The London Magazine*, IV, London 1785, 328 indicates that the tallow candle was «commonly used in families».

40. *Ibid*.

In general, tallow candles, usually consisting of pig or mutton tallow – depending on the surrounding farmland context – dominated the nights of the lower classes, even though candles of this sort emitted «noxious and putrescent vapours»[41]. The *Encyclopaedia Britannica*, for example, mentions that especially «hog's tallow makes the candle gutter, and always gives an offensive smell with a thick black smoke»[42]. It is thus not surprising that the burning and lighting quality of candles was discussed frequently during the pre-modern period, and innovations envisaged[43]. To produce rushlights that provided the best level of light, the naturalist Gilbert White (1720-1793), for example, advised that rushes should be collected in autumn rather than in summer, and must be prepared carefully[44].

Although the production and sale of tallow candles had been in the custody of the tallow chandlers since the fourteenth century, and the guild repeatedly claimed their privilege of making tallow candles or overseeing the monitoring of tallow, candle, oil, and vinegar qualities, the recipes or encyclopedia entries that were also in circulation prove that the knowledge and informal practice of manufacturing lights, particularly for domestic use, were widespread and in common use.

In his *Natural History and Antiquities of Selborne* (1789), based on a «compelling 'historical memory' of ecological engagement [...] that hinges on his absorption with timescales, rhythms, habits of daily living»[45], Gilbert White described a procedure for making simple, but effective, burning rushlights, «the labourer's alternative to candles»[46]. Based on his local observations, White

41. *The Annual Register, or a View of the History, Politicks, and Literature, for the Year 1765*, London 1766, 58.

42. *Encyclopaedia Britannica, or a Dictionary of Arts, Sciences, and Miscellaneous Literature*..., VI, Edinburgh 1797, 93.

43. See for example *The London Magazine*, IV, London 1785, 327-31.

44. Gilbert White, *The Natural History and Antiquities of Selborne*, London 1789.

45. Williams Rhian, «Gilbert White's Eighteenth-Century Nature Journals as 'Everyday' Ecology», *Interdisciplinary Studies in Literature and Environment*, 24/3 (2017), 432-56, 434.

46. Ted Dadswell, *The Selborne Pioneer. Gilbert White as Naturalist and Scientist: a Re-Examination*, Aldershot, Ashgate, 2003, 18.

neatly explained in a comprehensive instruction the fundamental aspects of manufacturing rushlights by transferring local knowledge and everyday practices into a systematized, overarching pattern. Approaching natural history from this angle, he linked «sensuous lived experience»[47], environmental prerequisites, and local needs to depict «habituated knowledge»[48]. By so doing he referred to the potential of common practices for a balanced household economy. The manufacturing of rushlights was – alongside numerous other aspects he specified – part of this knowledge. Most importantly for our purpose, and systematically differentiated into 1) material requirements, 2) personal experience, and 3) objective numerical data, White meticulously described how to create a cheap and long-burning «good clear light»[49].

Starting with material requirements, White outlined how rushlights – in contrast to tallow candles – usually consist of Juncus Conglomeratus, the «common soft rush [...] found in most moist pastures» and which grow all over Great Britain[50]. Furthermore, grease that «the careful wife of an industrious Hampshire labourer obtains [...] for nothing» by saving the «scummings of her bacon-pot» was used as fuel, but in districts «where hogs are not much in use, and especially by the sea-side, the coarser animal-oils will come very cheap»[51]. To improve the consistency, obtain a clearer quality of light, and prolong burning capacity, hog grease could be mixed with beeswax and/or mutton tallow[52]. Blending tallow and wax seems to have been common practice, favored not only because the consistency of the candle produced was more refined, but also because it improved the smell.

As in the debates in the House of Commons, White, though, did not confine himself to this concise and condensed description of the manufacturing process or lighting practices; translated into numerical data and thus summarized in abstract terms.

47. Rhian, «Gilbert White's Eighteenth-Century Nature Journals», 437.
48. *Ibid.*, 438.
49. White, *The Natural History*, 195.
50. *Ibid.*, 194; the wick of tallow-candles usually consisted of spun and twisted cotton, see *Encyclopaedia Britannica*, 93.
51. White, *The Natural History*, 195.
52. *Ibid.*, 195.

Instead, he clearly illustrated the exceptional burning time of rushlights and thus amply demonstrated that locally bound knowledge as well as the practiced (informal) production of candles were highly economical and advantageous. White concluded: «A poor family will enjoy 5½ hours of comfortable light for a farthing»[53]. Yet if rushlights were prepared this way, one pound of rushes, containing a total of approximately 1,600 individual blades each burning for half an hour, would produce light for 800 hours or 33 days[54]. In any case, rushes and dipped candles in various weights[55] and forms represented the simplest and the cheapest type of artificial lighting methods in eighteenth-century Europe.

In addition to dipped candles, molded candles played an important role in pre-modern lighting practice, even though these kinds of candle were more expensive and used only by well-to-do individuals and families before the advent of industrial mass production[56]. A brief glimpse of a few newspaper advertisements unfolds the variety of (more or less expensive) illuminants offered for sale in 1784/85. In his advertisement, Barret, «Wax-Chandler to their Majesties», informs «the Nobility, Gentry, and Publick in general» about his assortment of illuminants by specifying an entire catalogue, which included:

Flambeaux, Spermaceti Candles, White Wax, and refined Spermaceti […]; Wafers of various sorts and colours; a variety of Wax Night Lights, in cases for travelling; neat Spermaceti Oil, and remarkable fine perfumed Chamber Oil for bedchambers, with lamps on new constructions; lamp wick and cotton, &c. travelling illuminators and torch lights;

53. *Ibid.*, 196. It is said that these rushlights were exempted from candle duties, see Richard Burn, *The Justice of the Peace and Parish Officer*, II, London 1785, 51.

54. White, *The Natural History*, 196.

55. *The New London Magazine, enlarged and improved*, IV, January to June 1785, London 1785 recorded that the «candle called a middling six, weighing upon an average the sixth part of a pound avoirdupois, is 10 ½ inches long, and 2 inches, and 8/10 in circumstances» was «most commonly used», 328.

56. *Chelmsford Chronicle*, No. 295, 2: «for certainly those who used mould candles could better afford to pay, than those that used those of 16 to the pound»; for manufacturing mould candles, see: *Encyclopaedia Britannica*, 93.

philosophical wax matches, and spring-candlesticks, so constructed as to prevent any danger of fire[57].

This advertisement featured a remarkable variety of purchasable illuminants of diverse kinds, suitable for bourgeois or aristocratic expectations, such as «Wax Night Lights for travelling» or «perfumed Chamber Oil». Quite unlike Gilbert White's intention of providing the simplest possible instructions on how to manufacture candles cheaply and independently of wax or tallow chandlers, the newspaper advertisements portrayed a totally different practice and world. There are three important aspects to emphasize. The first relates to the broad range of illuminants. Whereas poorer households relied almost exclusively on cheap, small, and short-lived tallow candles or rushlights, wealthier families enjoyed a broad scope of candles to choose from. In addition to (more or less) simple candles and torches, the texts praised white, virgin candles or colorful wax plates or highlighted developments in lighting technologies.

Examining the advertising closely, the texts alluded to the fact that socio-economic distinction was not reflected only through quantity and variety but, primarily, through quality – the second aspect to bring to the fore here. Wax candles and candles made of spermaceti, as mentioned above, burned for longer, and gave «transparent and beautiful» light, «to admiration without guttering, or snuffing», as another advertisement noted[58]. In conjunction with this, and especially emphasized by «perfumed Chamber Oil», social differentiation is particularly reflected in a certain olfactory atmosphere. Customers purchased «Perfumed Chamber Oil» specifically to create an olfactory atmosphere in elegant rooms that corresponded to social norms and expectations and to mark themselves as «persons of fashion» by fragrance[59].

Thirdly, and most importantly, however, much of the evidence in the newspaper advertisements substantiates the fact that both the dark hours of the night and the constant technological development of lighting practices transformed nocturnal human

57. *The Morning Chronicle*, 16 February 1785.
58. *The Morning Herald*, 26 January 1785.
59. *The Morning Chronicle*, 15 March 1784.

activity. As we can observe from the empirical evidence, light was needed not only to illuminate domestic spaces; constant technical developments and inventions as mentioned in the advertisement facilitated nighttime travel, for example, and this suggests that *nocturnalization* manifested itself not only in courtly festivities or streetlighting but in everyday lighting practices, whether among the bourgeois elite or in the countryside, shaping human behavior and establishing new social logics[60]. Although access to better materials and a wider range of products remained exclusively limited to higher socio-economic strata, candle fashions were imitated and copied. Advertisements repeatedly warned and informed the «Nobility» that «a Combination of Tallow Chandlers are now making and vending Candles, which they call Wax, but have only a strong infusion of deers fuet in their body, and a wax skin to cover their deception»[61]. Lighting, as well as the night itself, was a contested space[62].

Lighting – A Bundle of Activities Rooted in Social Norms?

Examining the methods and materialities of private lighting as well as considering the fact that the production of artificial illuminants was officially regulated, but could easily be circumvented[63], already illustrates that one falls short if merely gauging the importance of candles by analyzing tax revenues or con-

60. Wishnitzer, *As Night Falls*; Koslofsky, *Evening's Empire*.

61. *The Morning Herald*, 23 March 1784.

62. Koslofsky, *Evening's Empire*, 162.

63. At this point, the tax debate in 1784 provides a pertinent example, because the Members of Parliament discussed not only how to tax candles but also how to prevent tax evasion (The Morning Herald epitomized this ambiguity by stating that candles were «a considerable branch of revenue, and subject to great frauds». *The Morning Herald*, 29 January 1784). In attempting to make candle consumption an efficient means of funding the reduction of the national debt, Members of Parliament thought of ways and means of preventing widespread illegal and illicit candle production. The result of this debate was a bill that subjected the production of candles to strict control. This bill went as far as to allow officers to enter houses at night where it was believed that candles were being made without permission or license.

sumption data. In order to enhance our understanding of premodern nocturnal activities and to reconstruct everyday practices defined as bundles of activities, such as artificial lighting, it is necessary for further research to take into account the wider social framework, the used material as well as the infrastructural, institutional, and time-dependent environment under scrutiny. Avner Wishnitzer has already pointed out that «[w]hen thinking about access to light we must consider not only how much light one could afford, but also what kind of light»[64]. Lighting did not just depend on access to lighting material but, moreover, distinguished social groups and individuals and was inevitably linked to status and social belonging. What is vital in this regard is that light and lighting practices were – through processes of negotiation and adaptation – «inhabited, manipulated, and used»[65].

Given the results presented, it becomes evident that eighteenth-century private lighting practices are key aspects of nocturnal activities. They provided the possibility of transcending nocturnal boundaries. Thus, to highlight the multilayered complexity of night, I have endeavored to shift the perspective from a court-dominated 'regime of light' toward lighting methods characterized as a «culturally mediated system of knowledge»[66], of practices, as well as of sayings and doings. Approaching night and lighting practices as an assemblage that encompasses «spatial, material, institutional, political, and cultural dimensions»[67] can enhance our understanding of and sharpen our view of night as an enabler.

64. Wishnitzer, *As Night Falls*, 146.

65. Bille/Sørensen, «An Anthropology of Luminosity», 266.

66. Michael Lewis, «And All was Light? – Science and Environmental History», in Andrew C. Isenberg (ed.), *The Oxford Handbook of Environmental History*, Oxford, Oxford University Press 2014, 208-26, here 208.

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ABSTRACT

Maria Weber, *Before the Bright Night? Methods and Materialities of Lighting in Early Modern Europe*

It was not just the court, the princes, and the authorities who conquered the pre-modern night. In fact, light was a fundamental part of everyday life that enabled nocturnal activities. Light and access to artificial lighting sources can thus be interpreted as a means of social distinction. This article examines how the middle and lower classes developed methods of coping with the scarce resources of artificial light and rising taxes on candles. It also looks at how knowledge of common lighting methods and techniques was preserved and passed on. The aim is to analyze lighting methods as an intertwined system of knowledge and cultural practices with multiple economic and social dimensions.

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