NEW LIGHT ON CANDLES ON THE SEVENTEENTH-CENTURY FRENCH STAGE

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Abstract

Modern accounts of the seventeenth-century French stage have repeatedly asserted that plays were divided into short acts of some twenty to thirty minutes in performance because the candles that lit the theatres had to be snuffed at frequent intervals. This article claims that there is no evidence for this assertion and aims to evoke the technological constraints of candle usage at the time so as to suggest that candles could be managed in such a way that they did not actually dictate dramaturgical practice. The article considers seventeenth-century theoretical discussion of the division of plays into acts: such discussion never alludes to candles, but refers to historical precedent and spectator attention spans as perceived explanations for the phenomenon of act division. It aims to adduce compelling evidence against the traditional view and concludes that the snuffing of candles took advantage of the opportunity offered by act division, but was never its cause.

There is a tenacious orthodoxy in accounts of seventeenth-century French theatre concerning the use of candles and the length of the acts of plays. Acts, it is often alleged, had to be relatively short, and followed by intervals, so that the candles could be frequently snuffed. Wilma Deierkauf-Holsboer says that Henri Lyonnet was the first to express this view, and, though she gives no reasons for doing so, she categorically states that it is wrong: 'cette opinion est erronée'.[1] In the most up-to-date survey of lighting on the seventeenth-century French stage, Jan Clarke has repeated Deierkauf-Holsboer's opposition to any causal link

between candle usage and the length of acts: ‘C’est une erreur de penser que la longueur d'un acte était fixée par le temps que mettait une chandelle à se consumer’.[2] In support, she refers to the existence of ‘chandelles de veille’, which must, by definition, have been able to last more than thirty minutes (p. 122). Despite these two voices of opposition, the traditional claim can be found almost everywhere in accounts of seventeenth-century French theatre, and it is interesting to see how a shaky supposition, by dint of repetition, comes to be seen as orthodoxy. My aim is to add weight to the voices of Deierkauf-Holsboer and Clarke by bringing to bear lexical and technological evidence against the traditional view.

Orthodoxy

Many accounts of the seventeenth-century French stage insist on a link between candles and the length of acts. Here are three variations on the theme. First, John Lough:

> The stage had to be illuminated by candles. Snuffing all these candles so as to prevent them from making a most unpleasant smell was quite a large task […] It has been suggested that what above all limited the separate acts of a seventeenth-century play to something like half an hour was the necessity for snuffing the candles in the theatre at such intervals of time.[3]

Second, Christian Biet:

> Les chandelles, et non les bougies trop coûteuses pour les spectacles de ville, fument et ne doivent pas gêner la vision qu’on doit avoir des comédiens, de plus, les chandelles, en suif, doivent êtres mouchées toutes les vingt minutes durant les entractes.[4]

And third, Hélène Baby and Alain Viala:

> Toutes ces salles sont éclairées à la bougie, à la chandelle ou à la lampe à huile, éclairage le moins coûteux et donc le plus utilisé; il faut moucher la mèche toutes les

> demi-heures, l'huile répand une mauvaise odeur, et les chandelles de la fumée. La division en cinq actes s'est imposée en partie à cause du besoin de moucher les chandelles.[5]

All agree that the candles had to be snuffed frequently, during the intervals, though this is variously identified as every twenty and every thirty minutes. All agree that this had to be done because the candles represented some kind of inconvenience, variously identified as unpleasant smell or smoke and visual impediment. Lough, Baby and Viala (though not Biet) intimate a causal link between the need to snuff the candles and the length of an act. It is true that Lough says that this causal link is a suggestion, though he does not say who made it; and it is also true that Baby and Viala do not say that the need to snuff candles is the whole explanation for the length of acts, only a partial explanation. As to the different sources of light, Lough mentions simply candles; Biet distinguishes between 'chandelles' and 'bougies'; Baby and Viala mention 'chandelles', 'bougies', and also oil lamps.

None of these scholars cites references with the exception of Lough, and this is entirely understandable in works of popularization. Even scholars writing for a more specialist readership, however, repeat the same orthodoxy without citing references. Jacques Scherer, from whose account those already mentioned may well have derived their own, suggests that the need to snuff the candles is a partial explanation of the length of the acts:

> La fréquence des actes peut s'expliquer aussi par les nécessités de l'éclairage […] Qu'il s'agisse de lampes à huile, de chandelles ou même de bougies, il faut souvent penser à la mèche. Si on ne la mouche pas assez fréquemment, elle se met à fumer; elle empeste un air déjà vicié et obscurcit la vision. Il semble que la nécessité du mouchage devienne impérative au bout d'une demi-heure.[6]

Scherer's use of the phrase 'il semble que' seems to recognize that the concept of half-hour acts due to half-hour snuffing of candles is a speculative deduction and is not based directly on evidence.

In their edition of Corneille's *Discours*, Bénédicte Louvat and Marc Escola comment on his discussion of the length of acts and state, with apparent certainty, that there is a causal link between act length and the use of candles: 'Au demeurant, la longueur des actes est conditionnée par une nécessité toute pratique: l'éclairage artificiel des salles imposait qu'on renouvelât les bougies de suif toutes les trente minutes environ'.[7] It is not clear what they mean by the word 'renouveler': if they think that the candles had to be replaced, we shall see that this is not what happened. They refer to 'bougies de suif', and we shall see that this terminology is problematic.

In an article that deftly distinguishes the terminology of 'intervalles', 'entractes', and 'intermèdes' in order to explore the significance of the time between the acts in the performance of a play, William Brooks has frequent recourse to the same orthodoxy about candles and act length without (quite untypically) citing supporting evidence. Indeed Brooks makes the most emphatic statements about the causal link between act length and the use of candles:

> The reason for the existence of intervals in the French classical theatre lies in the *well-known fact* that the length of an act is limited by the time a candle will burn without its wick being trimmed to prevent it from smoking.[8]

The premise of a causal link between act length and the need to trim wicks to prevent smoking is the basis of Brooks' article: a shaky supposition has now become a 'well-known fact'. Scholars who have given no evidence for the alleged link between candles and act length may, perhaps, be relying upon generalized notions of candle usage in pre-modern

times. Consideration of the evidence, however, supports the view of Deierkauf-Holsboer and Clarke that candle technology imposed no constraints on act length.

Candles

I have said that modern scholars claiming a link between candles and act length do not generally cite evidence. There is in fact one key piece of evidence that is quoted (at least in part) by both Lough (p. 61) and Brooks (p. 109), and this is Samuel Chappuzeau's discussion of the role of the *décorateurs* employed by each troupe of actors:

> C'est aussi à eux à pourvoir de *deux Moucheurs* pour les lumieres, s'ils ne veulent pas eux-mémes s'employer à cet Office. Soit eux, soit d'autres, ils doivent s'en acquiter prontement pour ne faire pas languir l'Auditeur entre les Actes; et avec propreté pour ne luy donner pas de mauvaise odeur.
>
> L'un mouche le devant du Theatre, et l'autre le fond, et sur tout ils ont l'oeil que le feu ne prenne aux toiles. […] Les restes des lumieres font partie des petits profits des Decorateurs.[9]

Chappuzeau provides one further piece of evidence in his discussion of the role of the troupe's chandler:

> *Le Chandelier* doit fournir de bonnes lumieres, du poids, et de la longueur et grosseur qu'elle est commandée. Il faut que la blancheur suive, et que la matiere qu'il y employe n'ayt aucun defaut. Je ne parle point des lumieres extraordinaires, parce qu'on n'en peut fixer la quantité, non plus que le temps où on les doit employer. Quand le Roi vient voir les Comediens, ce sont ses Officiers qui fournissent les bougies. (p. 231)

What do these quotations imply about the illumination of theatres in the 1670s when Chappuzeau was writing? I should like to address this question by drawing on other

appropriate evidence along the way. The most important point, however, is that, by themselves, they provide no evidence for a causal link between the need to snuff candles and the length of acts. They teach us other things, though not as much as we might wish.

It is clear that the snuffing of candles took place between acts, and that it was the responsibility of the (normally) two *décorateurs,* who might, however, employ two specially designated *moucheurs*. One snuffed candles at the front of the stage, the other at the back. This is the sense of the phrase 'l'un mouche le devant du Theatre, et l'autre le fond'. It is difficult to know the precise lighting arrangements for the different Paris stages, but Clarke's work on the Guénégaud theatre that operated between 1673 and 1680 (combining the former Palais-Royal troupe of Molière and that of the Marais) leads us to believe that eight chandeliers were suspended above the stage and that there was a row of footlights at the front.[10] Additional arrangements would have been necessary for special effects in machine plays and these might be what Chappuzeau has in mind when he writes of 'lumieres extraordinaires'. There is the matter of how the candles in the chandeliers were reached. The chandeliers themselves would have been on pullies. Clarke has found evidence in the account books of the Guénégaud that a special payment was made in December 1674 for lowering the chandeliers twice ('Illuminating', p. 6). The evidence implies that the chandeliers would not normally have been lowered. Clarke speculates that the chandeliers may 'have been raised so as to be snuffed or trimmed by employees positioned on the gantries that ran above the stage' ('Illuminating', p. 6).[11]

It is hard to know how many candles were involved. By way of indication, the well-known painting of about 1670 showing 'Les Farceurs italiens et français' on stage includes footlights with thirty-four candles and six chandeliers each with eight candles, making a total of ninety-eight candles.[12] But there is no evidence that this represents a real stage. The actual number of candles on Paris stages might have been significantly greater. We know about the

eight chandeliers on the Guénégaud stage, though we do not know how many candles each one held. Jérôme de La Gorce has found evidence that the stage at Lully's Académie royale de musique had fifty footlights and has deduced that each one contained five candles, though this provision is almost certainly greater than other theatres would have enjoyed.[13] Clarke has deduced from the accounts that the normal daily requirement at the Guénégaud was a weight of thirty-two pounds of candle, though this would have included provision for the auditorium as well as the stage ('Illuminating', p. 5).

Chappuzeau is silent on the lighting and the snuffing of candles in the auditorium and public areas of the theatre. Gösta Bergman tells us that six to twelve chandeliers hung in rows in the auditoria of theatres in the second half of the seventeenth century and shone throughout the performance, though he provides no evidence for his assertion.[14] It is true that Nicola Sabbatini, writing about the Italian stage in 1638, envisaged chandeliers for the auditorium and that they would be alight throughout the performance.[15] There is a 1641 engraving by Jean de Saint-Igny of a performance of Desmarets' *Mirame* at the Palais-Cardinal in which the auditorium is lit by at least fifteen chandeliers, each with four candles, but there is no visible sign of lighting on the stage (Rey, p. 64-65).[16] From her scrutiny of the Guénégaud account books Clarke speculates that 'devices other than chandeliers were probably used to light the Guénégaud auditorium' – like wall sconces ('Illuminating', p. 3). In short, we cannot know for sure what the precise lighting arrangements were in the public areas of theatres, or when the lighting functioned, or who tended it.

Chappuzeau's evidence is helpful, however, on the attention required during the interval by the on-stage lighting. Snuffing had to take place. 'To snuff' is the standard translation into English of the verb 'moucher'. But care is needed. 'To snuff', in English, has an older and a more recent meaning. The more recent meaning is to extinguish the flame. The older meaning is to trim the wick.[17] Furetière defines 'moucher' as follows: 'Retrancher une

partie du lumignon d'une chandelle, lorsqu'il est trop grand, & qu'il empêche qu'elle n'éclaire'.[18] The 'lumignon' is that part of the wick (*mèche*) which is alight, and the part of the 'lumignon' that is removed during trimming is that which is charred. The operation was performed with snuffers. Care again is needed with this word. A snuffer, in the singular, is a small metal bell-like construction at the end of a length of metal; the bell-like part is lowered over the flame to deprive it instantly of oxygen, and so to extinguish the flame without producing smoke. This is the more recent sense. Snuffers, in the plural, are a different kind of instrument, however, used not to extinguish the flame, but to trim the wick (*Dictionary*, p. 1765). More like a pair of scissors with a small box-like construction on one of the blades for catching the snuff (*mouchure*), it was known in early modern France as *mouchettes*. Furetière's definition also tells us why the snuffing operation was necessary: when the *lumignon*, i.e. the burning and the burnt part of the wick, was too long, less light was produced; by implication, when the charred part was removed, more light was produced. Interestingly, this tallies with the definition and explanation of *moucher* given by the Académie Française: 'Se dit aussi d'une chandelle, d'une bougie, d'un flambeau, pour dire, Oster le bout du lumignon lorsqu'il empesche de bien esclairer'.[19] I insist on these two definitions and explanations because they make it clear that the trimming is performed in order to renew the quantity of light produced; they say nothing about the need to control smoke or smell, which is the reason that has often been alleged.[20]

Trimming was essential, though the degree of need varied according to the kind of lighting used. Chappuzeau is helpful here too. First of all, his account implies the use of candles. This is suggested by his claim that the 'restes des lumieres' formed part of the financial reward of the *décorateurs*. Candles were an expensive commodity, and stumps could be resold and reused. The use of candles is also suggested by Chappuzeau's evocation of the chandler. The point here is that another form of lighting could in theory have been used: oil

lamps. Their use on the Italian stage is evoked by Sabbattini (pp. 66-67). Evidence for their use on the French stage is patchy. Clarke has found none for their use at the Guénégaud in her scrutiny of the account books ('Illuminating', p. 3), though she has found evidence of systematic usage by the Comédiens-Français in the 1680s ('L'Eclairage', p. 130).

In the matter of candles, there were two main options, and again Chappuzeau is helpful. He tells us that candles were supplied by a *chandelier*. In other words, the candles used were normally *chandelles*, as opposed to *bougies*.[21] The latter were only used on special occasions. When the king visited the theatre, Chappuzeau says that his officers supplied *bougies*. The significance of the different types of candle is important. *Bougies* were luxury candles made of wax. Furetière's definition makes this clear: 'Chandelle de cire pour éclairer les chambres. Chez le Roi on ne brûle que de la bougie'. *Bougie* has therefore a very specific sense, and *chandelle* a more generic one. Furetière explains *chandelle,* its fabrication and its different social significance from that of *bougie*:

> Composition de suif fondu, ou de cire, qu'on fait prendre autour d'une meche, & qui sert à éclairer. Celles dont on use dans les maisons bourgeoises s'appellent simplement *chandelles*. Elles se font de suif de boeuf en dedans, & de mouton en dehors. Il est deffendu par la police d'en faire de suif de porc. Celles qu'on brûle dans les Eglises sont de pure cire, & s'appellent *cierges*, & chez les Grands Seigneurs s'appellent *bougies*.[22]

In short, the extremely well-off used wax candles called *bougies*, churches used wax candles called *cierges*, and everybody else used ordinary *chandelles* made of boiled down animal fats known as tallow or *suif*. This is why the claim by Louvat and Escola that theatres used 'bougies de suif' is terminologically problematic. It is a comically impossible concept. Indeed Molière makes fun of it in *La Comtesse d'Escarbagnas* (scene 2). The Comtesse asks her servant to light two 'bougies'. The servant objects: 'je n'ai point de bougie'. The Comtesse is

incredulous. The servant insists: ‘Non, Madame, si ce n’est des bougies de suif’. This terminological nonsense exasperates the Comtesse, who replies rudely: ‘La bouvière. Où est donc la cire que je fis acheter ces jours passés?’.[23]

Apart from the clearly implied difference in expense, what other significance is there in the difference between tallow and wax candles? One major difference is the temperature at which each substance melts. Tallow has a lower melting point than wax; in other words it melts more quickly.[24] This fact has serious consequences. The low melting point of tallow means that it is more rapidly turned to liquid; it is a less solid substance than wax. If the wick droops or if charred parts of the wick fall on to the top edges of the candle, spillways are created, which allow the molten fat to run away. There is therefore less molten fuel to maintain a bright flame; and the candle is consumed too quickly, since much of it is wasted. The way to minimize these problems is to keep the wick trimmed to an appropriate length. The evidence for these observations can be found in some of Furetière’s definitions and examples. ‘To gutter’ is the English term meaning to spill molten tallow; the French is ‘couler’. Here is Furetière’s definition:

> On dit, que la chandelle *coule*, quand on y a mêlé du suif de pourceau, qui n’a pas assez de consistence pour soutenir celui qui est fondu, & qui sert d’aliment au feu de la meche; ou bien quand quelque bout de meche est tombé sur les bouts, qui les a fondus.

Furetière gives two reasons for guttering here. Only the second concerns a fallen piece of wick. The first concerns the lack of consistency of poor-quality tallow, which no amount of wick trimming will change (some *chandeliers* would appear to have used pig tallow despite the interdiction). Furetière reveals a special term, *larron*, for the piece of fallen wick that causes guttering: ‘On dit qu’il y a un *larron* dans la chandelle, lorsqu’il y a quelque morceau détaché du lumignon qui la fait couler’. The fallen wick steals (hence *larron*) the tallow. From

the observations of Chappuzeau and Furetière, we can conclude that wicks needed to be trimmed more frequently on tallow candles in order to maximize the burning time of the candle (by reducing guttering) and to maintain the quality of light (by ensuring that the reservoir of molten wax that fed the wick was not unnecessarily lost through guttering). Whenever Furetière evokes snuffing, he gives the same reason for it: the need to maintain the quality of light. He defines *lumignon* as 'Meche de la chandelle, bougie ou lampe qui est allumée, & qui se consume, qu'il faut avoir soin de moucher, *quand on veut avoir une lumiere claire*' (my emphasis). As an example of the use of the word *chandelle*, he redefines *moucher*: 'c'est, couper le haut de la meche qui est brûlée, *qui empeche qu'on ne voye toute la lumiere*' (my emphasis). In other words, trimming is not, on the basis of this evidence, governed by any need to control smokiness or smell, as modern accounts have repeatedly claimed.

It is worth revisiting Chappuzeau on this score. He makes two comments on how the candles are to be snuffed. The first is 'prontement' so that the interval should not become too long and the spectator too impatient. The second is 'avec propreté pour ne luy donner pas de mauvaise odeur'. This phrase seems usually to be interpreted as meaning that snuffing was necessary to control a bad smell produced by the tallow candles; but it is actually an injunction to trim the wicks cleanly so that no trimmed charred wicks should be allowed to *start* smoking and smelling badly; all trimmed wicks should be cleanly extinguished. I am not claiming that tallow candles did not have an unpleasant smell and did not smoke. *Prima facie* molten beeswax is likely to smell more agreeable than molten animal fat. Moreover, the bulkier wicks that were needed to cope with the more quickly liquefied fuel of tallow 'produced a correspondingly large flame, which, starved of oxygen in the middle, was inclined to smoke owing to the escape of unburnt carbon' (Eveleigh, p. 16). My point is that

smell and smoke were not invoked as reasons for trimming wicks. Quality of light was the repeatedly cited reason.

How often did tallow candles have to be trimmed? In a sense, this is the vital question. Unfortunately no seventeenth-century document that I have found answers it. Yet this does not prevent modern commentators from doing so. Theatre scholars have often said that candles needed to be snuffed every twenty or thirty minutes. But they give no evidence. It is hard not to believe that their argument is circular. They explain the length of acts (at least in part) by the need to snuff the candles frequently. Acts take twenty to thirty minutes to perform. Therefore candles need to be snuffed every twenty or thirty minutes, which is why acts only last that length of time.[25]

There is a problematic piece of eighteenth-century evidence, referred to by Robert Graves (p. 14, note 9). A French advertisement proudly offers tallow candles that only need to be snuffed eight to ten times an hour. If this were true of the tallow candles used on the seventeenth-century stage, acts would have had to last hardly more than six minutes. Chappuzeau does not say that the snuffers went about their business whilst the actors were performing, so it is reasonable to assume that the candles were not in fact snuffed at this extremely high frequency.

A twentieth-century museum curator, William O'Dea, had some tallow candles made specially as an experiment. He found them 'wretched and infuriating':

> Snuffing was supposed to be necessary every half hour with candles of the best London tallow. With those I tested the operation had to be done every twenty minutes and in some cases was necessary after five. An unsnuffed candle gave not only a fraction of the original light, but great gullies might appear in the pool of molten tallow beneath the flame.[26]

O’Dea’s account confirms some of the conclusions we have drawn from the seventeenth-century evidence: that guttering was a problem; and that trimming was done in order to maintain the quantity of light. His observations on timing are just about consistent with a snuffing operation being carried out every twenty minutes on the seventeenth-century stage; but they allow no room for leeway.

And yet leeway there must have been. The frequency with which candles were snuffed was not defined by the length of an act, but by the length of an act and an interval combined, since the snuffing operation happened once for every act and interval, taken together. It must have been possible for candles on the seventeenth-century stage to be snuffed at longer intervals than those envisaged by O’Dea, and *a fortiori* than those envisaged in the eighteenth-century advertisement. At all events, O'Dea admits that, in his own experiment, he did not acquire the necessary dexterity for the snuffing process (p. 3).

The evidence I can offer lacks precise timings and is circumstantial. It starts with Chappuzeau’s comments on the role of the *chandelier*, already quoted. He is absolutely insistent on the quality of the candles to be supplied and on their size (‘bonnes lumieres’, ‘la matiere qu’il y employe n’ait aucun defaut’, ‘la longueur et grosseur qu’elle est commandée’). Beneath this insistence we can read a troupe’s concern to ensure that it has the best possible tallow candles for the conditions of dramatic performance. The discussion so far has treated tallow candles as a single group with a single set of problems. But there were more and less effective ways of making tallow candles. According to Furetière, it was possible to make *suif* out of ‘graisse de mouton, de boeuf, de porc’, but the quality varied according to the ingredient. His definition of *couler*, already quoted, makes it clear that the lowest quality tallow comes from pig, because it does not have ‘assez de consistence’ and melts too quickly, and this is no doubt why he records its use as being theoretically prohibited. Of the remaining two types, beef and mutton, Chappuzeau implies that the latter is better quality. Under the

heading *mouton*, he says that 'la bonne chandelle se fait de suif de mouton'. Writing at the beginning of the seventeenth century, Olivier de Serres offers an even more refined rank order.[27] The best tallow comes from goat, then bull, cow, ram and ewe. He advises against tallow from pigs. Interestingly, he suggests ways of alleviating problems. He suggests, for instance, that it is possible to make tallow candles last longer by giving the wick a preliminary coat of wax (p. 382). This also has the advantage, when the flame is extinguished, of producing less smoke. He also recommends that cotton rather than hemp or flax be used for the wicks 'tant pour la beauté que pour l'espargne, estant de plus plaisant service, pour la clairté du feu, et de plus longue durée' (p. 381). Tallow candles could, therefore, come in many variations of quality. In an age when people relied on candles, there was a general sensitivity to avoiding the worst quality. In his book on household management, Audiger urges the female servant of a bourgeois master to avoid engaging in distracting gossip with the chandler's wife so as not to be sold 'la chandelle la plus coulante' (p. 137). It is not unreasonable to think that an experienced theatrical troupe, whose livelihood depended on being able to light the theatre, knew how to get the best tallow for their needs. Clarke cites a minute of 8 May 1684 in the Archives of the Comédie-Française to the effect that the actors decided 'que l'on changera la chandelle et que le chandelier qui la fera la meilleure a six sols et demye la livre sera preferé' ('L'Eclairage', p. 121).

One final piece of circumstantial evidence, already alluded to at the beginning of the article, is that tallow candles were made that could burn throughout the night. Under the heading *veille*, Furetière says: 'On appele chandelle de *veille*, une longue chandelle qui peut durer toute la nuit'. It is clear that such candles were unusually long, and one implication might be that they lasted without being snuffed, or at least without being snuffed as frequently as usual.[28]

Tallow candles were snuffed during intervals in the seventeenth-century Parisian theatre to maintain the quantity of light and to maximize durability. No discussion of candles at the time alleges any influence on the dramatic construction of a play.

Acts

Equally no discussion of acts in the seventeenth-century by practising dramatists or theorists relates their construction to the technological limitations of tallow candles. Such writers certainly write about acts; and they certainly show an awareness of the material conditions of dramatic performance, including the use of candles. But the two preoccupations are never linked.

Corneille is very aware of the presence of the specially employed *moucheurs* in the theatre when, in the 'Examen du Cid' (1660), he explains why he shows Don Dièguе all alone as he looks for the son who has avenged him by committing murder (*Le Cid*, III, 5). Corneille admits that it would have been more plausible to show Don Dièguе scouring Seville for Rodrigue in the company of a friend. But it would not have made for a theatrically successful scene, because, for such episodic, non-speaking roles, troupes engaged 'que leurs moucheurs de chandelles et leurs valets, qui ne savent quelle posture tenir' (I, 706).

Racine too would have been sensitive to the significance of the *moucheurs* to judge by an anecdote told posthumously by Brossette (Boileau's friend) in his commentary on Boileau's third satire, which mentions Racine's *Alexandre le grand*. Racine wanted Molière's troupe to perform the play; the abbé de Bernay preferred the Hôtel de Bourgogne; Boileau decided the matter by joking that '*il n'y avoit plus de bons Acteurs à l'Hôtel de Bourgogne: qu'à la vérité il y avoit encore le plus habile Moucheur de chandelles qui fût au monde, & que cela pourroit bien contribuer au succès d'une Pièce*'.[29] Racine opted for the theatre with the allegedly better actors rather than the one with the best candle snuffer. An apocryphal

story, no doubt, but one which reveals that the candle-snuffing personnel were present in the minds of theatre-goers and dramatists.

This is evident also from the text of some plays, in which the work of the *moucheurs* is invoked and, on occasion, even represented as part of the dramatic action. In Rotrou's *Le Véritable Saint-Genest* (published 1647), Genest rehearses his role and is interrupted by the *décorateur* who comes on stage to light the candles and urge him to make ready for the performance. His arrival is marked by the stage direction 'venant allumer les chandelles' and his departure by 's'en allant, ayant allumé', though only six lines have been spoken in between.[30]

In Molière's *Les Précieuses ridicules* (performed 1659), Mascarille boasts in scene 9 that he can help dramatists to succeed by enthusing the *parterre* even before the performance has begun: 'quand j'ai promis à quelque Poète, je crie toujours, voilà qui est beau, devant que les chandelles soient allumées' (scene 9, I, 20). This implies that the on-stage candles would normally be lit after the spectators had entered the auditorium and just before the performance started.

Dramatists, therefore, show their awareness of the role of the *moucheurs*, but never in connection with the frequency with which candles were snuffed. Theorists, when they turn their attention explicitly to act length, never discuss candles. In his unpublished *Discours de la poésie représentative*, thought to be written around 1635 and to constitute a sketch for a poetics of drama, Chapelain ascribes the five-act division to Roman dramatists: 'Les pièces de théâtre ont été divisées par les Latins en cinq actes. Les Grecs les faisaient toutes d'une pièce'.[31] D'Aubignac is more precise. He explains that the structure of Latin plays is what is recognizable as the modern five-act division, though, with the exception of a few problematic plays, the Greek dramatists had practised a similar structure too, their episodes equating to modern acts and their choruses to modern intervals.[32] He attributes the

formulation of the five-act concept to the Roman poet Horace (p. 333), a reference to lines 189-90 of the *Ars poetica*: 'neve minor neu sit quinto productior actu / fabula, quae posci volt et spectata reponi' ('if a play, once seen, wants to keep being demanded back on stage, it should not have more or fewer than five acts').[33]

As to the length of the acts, one consideration was that they should be of more or less equal duration. Corneille's *La Suivante* has five acts each of 340 lines. He writes reassuringly in the 'Examen': 'Il n'est point besoin de cette exactitude. Il suffit qu'il n'y ait point d'inégalité notable qui fatigue l'attention de l'Auditeur en quelques-uns, et ne la remplisse pas dans les autres' (I, 391). The perceived attention span of the spectators is the primary concern.

A related (and consequential) consideration was that regular intervals allow spectators necessary relaxation, which forestalls boredom. This is why d'Aubignac, whilst insisting on the continuity of action *within* each act, does not want continuity of action across the play as a whole: 'L'expérience nous apprend que les hommes n'ont point d'attention assez forte pour supporter une Pièce de Théâtre toute entière et sans relâche, vu qu'un seul Acte nous est ennuyeux et insupportable, quand il est un peu trop long' (p. 350). For basing his case upon perceived spectator responses, d'Aubignac is accused by his editor Hélène Baby of making a circular argument (p. 325, n. 208). It is indubitable that short acts and intervals are modelled, with some adjustment, on ancient practice. Whether or not we are persuaded by the argument about spectator attention spans, we have to admit that the theorists never concerned themselves with candles.

Conclusion

The much repeated view that the need to snuff candles every twenty to thirty minutes required dramatists to write plays with acts needing only that amount of time in performance is not borne out by the writings of dramatists and theorists. Nor is it borne out by the evidence of

seventeenth-century candle technology. It is clear that the tallow candles mostly used in theatres burnt more quickly than the much more expensive wax alternatives; and it is clear that there was a consequent preoccupation with frequent trimming of the wick in order to maximize the life of the candle (by avoiding guttering) and to maintain the quantity of light produced. Smoke and smell, often cited as problems by modern commentators, are not much invoked as such in seventeenth-century writing, except in connection with the trimming process itself. If trimming is done cleanly, that diminishes the amount of smoke produced by the extinguished part of the wick. It is very difficult to determine an ideal frequency with which tallow candles had to have their wicks trimmed, and that is no doubt because there were many qualities of candle. Careful attention to the type of tallow used, its preparation, the initial coating of the wick, and the length and thickness of the candle could result in better-quality candles. It is not without significance that Chappuzeau's description of the role of the *chandelier* dwells on the quality of candles he is to provide.

It is clear that candle-snuffing is not (and not even in part) the *cause* of act division and intervals, but rather that act division and intervals provided troupes with an *opportunity* for candle-snuffing. The first cause of the five-act division and intervals is the historical precedent of ancient drama; dramatists and theorists explained this to themselves as the need to manage the spectator's attention span. When she states that Lyonnet's assertion of a causal link between candle snuffing and act length is wrong, Deierkauf Holsboer speculates that dramatists would not have tailored their acts to the needs of performance, because 'les auteurs dramatiques du XVIIe siècle […] ne composaient pas leur pièces en vue de la représentation, mais seulement pour être lues' (p. 77). There is ample evidence in their critical and prefatory writings (as well as in the writings of numerous modern scholars) that dramatists wrote very much with actors and spectators in mind. So her speculation is awry, but her instinct is right, and it is supported by Clarke and by the evidence adduced in this article for the technology of

candle usage in the seventeenth century. The claim that candle-snuffing constrained dramatists to write plays containing short acts is quaint, but without substantiation.

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[1] Wilma Deierkauf-Holsboer, *L'Histoire de la mise en scène dans le théâtre français à Paris de 1600 à 1673*, Paris: Nizet, 1960, p. 77. She gives no reference for Lyonnet's alleged claim and I have not been able to find one.

[2] Jan Clarke, 'L'Eclairage' in Pierre Pasquier and Anne Surgers (eds), *La Représentation théâtrale en France au XVII^e^ siècle*, Paris: Armand Colin, 2011, pp. 119-40 (p. 122).

[3] John Lough, *Seventeenth-Century French Drama: The Background*, Oxford: Clarendon Press, 1979, pp. 61-62.

[4] Christian Biet, *La Tragédie*, Paris: Armand Colin, 2010, p. 57.

[5] Hélène Baby and Alain Viala, 'Le XVII^e^ siècle ou l'institution du théâtre' in Alain Viala (ed.), *Le Théâtre en France*, Paris: PUF, 2009, pp. 149-230 (p. 155).

[6] Jacques Scherer, *La Dramaturgie classique en France*, Paris: Nizet, [1950], p. 150.

[7] Pierre Corneille, *Trois Discours sur le poème dramatique*, ed. Bénédicte Louvat and Marc Escola, Paris, Flammarion: 1999, p. 201.

[8] William Brooks, '*Intervalles*, *Entractes*, and *Intermèdes* in the Paris Theatre', *Seventeenth-Century French Studies*, 24 (2002), 107-25 (p. 108) (my emphasis).

[9] Samuel Chappuzeau, *Le Théâtre françois*, ed. C.J. Gossip, Tübingen: Gunter Narr, 2009, pp. 229-31. The omission in the quotation concerns buckets of water, not candles.

[10] See Jan Clarke, 'Illuminating the Gunénégaud Stage: Some Seventeenth-Century Lighting Effects', *French Studies*, 53 (1999), 1-15 (p. 1, p. 3). On footlights in different theatres, variously candles or oil lamps, see Clarke, 'L'Eclairage', p. 127.

[11] Charles Perrault's evidence of 1692 confirms the system of pullies, but is inconclusive on the matter of lowering or raising: 'ces chandeliers suspendus grossierement avec des cordes & des poulies apparentes, qui se haussoient & se baissoient, sans artifice & par main d'homme,

pour les allumer & les moucher' (*Parallèle des anciens et des modernes*, 4 vols, Paris: Jean-Baptiste Coignard, 1688-97, III, 192). Perrault evokes the use of sconces secured to the scenery, replaced by early chandeliers with four candles, but he is clearly referring to many decades earlier.

[12] The illustration is frequently reproduced. See, for instance, François Rey, *Album Molière*, Paris: Gallimard, 2010, p. 49.

[13] Jérôme de La Gorce, *L'Opéra à Paris au temps de Louis XIV*, Paris: Desjonquères, 1992, p. 84.

[14] Gösta Bergman, *Lighting in the Theatre*, Stockholm: Almqvist and Wicksell, 1977, p. 149.

[15] Nicola Sabbattini, *Pratique pour fabriquer scènes et machines de théâtre*, trans. Maria and Renée Canavaggia and Louis Jouvet, Neuchâtel: Ides et Calendes, 1942, pp. 62-63.

[16] Bergman speculates that the newly built stage at the Palais Cardinal might have been 'illuminated with footlights' (not shown in the engraving) 'and wing lights after the Italian model' (*Lighting*, p. 149).

[17] See *The New Oxford English Dictionary*, ed. Judy Pearsall, Oxford University Press, 2001, which describes 'to snuff' meaning 'to trim' as 'dated' (p. 1765).

[18] Furetière, *Dictionnaire universel*, 2 vols, 2nd edn, Amsterdam, Rotterdam: Arnoud and Reinier Leers, 1702.

[19] *Dictionnaire de l'Académie Française*, 2 vols, Paris: Veuve Jean-Baptiste Coignard and Jean-Baptiste Coignard, 1694.

[20] 'In the eighteenth century Antoine-Laurent Lavoisier estimated that an unsnuffed candle lost four-fifths of its luminous strength' (Robert B. Graves, *Lighting the Shakespearian Stage 1567-1642*, Carbondale, IL: Southern Illinois University Press, 1999, p. 16). Wicks needed less trimming from the nineteenth century thanks to a discovery in 1820 by the Frenchman Jean-Jacques Cambacères (Graves, p. 14). Traditional wicks were made of cotton, thread, or

even paper, that was *twisted* into shape.[20] Cambacères discovered that if the material was *plaited* rather than twisted, the charred part of the wick automatically curled over into the outer part of the flame, where it was consumed: the twisted wick therefore trimmed itself and, at the very least, reduced the need for separate trimming.

[21] The *chandelier* supplied *chandelles* and the *épicier* supplied *bougies*. See Nicolas Audiger, *La Maison réglée*, Paris: Nicolas Le Gras, 1692, p. 36.

[22] The interdiction against the use of pig tallow is also implied later in the eighteenth century in the *Encyclopédie* article on *chandelles* (*Encyclopédie, ou dictionnaire raisonné des sciences, des arts et des métiers*, 17 vols, Paris: Briasson, David, Le Breton, Durand, 1751-65). After sheep and cows, 'il n'est pas permis au chandelier d'employer d'autres' (III, 125).

[23] Molière, *Œuvres complètes*, 2 vols, ed. Georges Forestier and Claude Bourqui, Paris: Gallimard, 2010 (II, 1025).

[24] Tallow melts at 33 degrees Celsius, wax at 68. See David J. Eveleigh, *Candle Lighting*, Princes Risborough: Shire Publications, 2003, p. 14.

[25] We do not, in fact, have scrupulously precise evidence on the duration of dramatic performances. William Brooks refers to Boursault's claim that he left the first performance of Racine's *Britannicus* at 7 p.m. and deduces that if the performance had started at the usual time (5 p.m.), the five acts, along with intervals, 'occupied barely two hours' (pp. 107-08). This deduction tallies with Corneille's repeated references in the *Discours* to a performance time of two hours : 'la représentation dure deux heures' (3rd *Discours*), 'un peu moins de deux heures' (1st *Discours*) (Pierre Corneille, *Œuvres complètes*, ed. Georges Couton, 3 vols, Paris: Gallimard, 1980-87, III, 184, 128). Of relevance to the duration of a performance is the speed of delivery. For recent research on this, see Pierre-Alain Clerc, *Le Débit de la déclamation au XVII^{e} siècle. D'Aubignac et Corneille confrontés à leur postérité*, Geneva:

Calwer & Luthin, 2004. For Clerc a 1500-line play could well be performed in two hours (not including intervals and silent *jeux de scène*).

[26] William O'Dea, *The Social History of Lighting*, London: Routledge and Kegan Paul, 1958, p. 3. Quoted by Graves, p. 16.

[27] Olivier de Serres, *Le Théâtre d'agriculture et mesnage des champs*, 2 vols, Grenoble : Dardelet, 1973 (based on the 1603 edn), II, 381.

[28] Sabbatini clearly envisages long burning times for candles used in chandeliers in the auditorium: 'qu'on fasse les flambeaux [...] gros et courts, suffisants toutefois, pour durer tout le temps de la comédie' (p. 64). He does, however, have wax candles in mind for this purpose.

[29] Nicolas Boileau, *Œuvres*, 2 vols, Amsterdam: David Mortier, 1718, I, 39.

[30] Jean Rotrou, *Le Veritable St-Genest*, Paris: Toussaint Quinet, 1647 (II, 5).

[31] Jean Chapelain, *Opuscules critiques*, ed. Anne Duprat, Geneva: Droz, 2007, p. 273.

[32] Abbé d'Aubignac, *La Pratique du théâtre*, ed. Hélène Baby, Paris: Champion, 2001, pp. 323-24.

[33] Horace, *Opera*, ed. Edward C. Wickham, Oxford: Clarendon Press, 1975, p. (my translation).