Shot length distributions in the short films of Laurel and Hardy, 1927 to 1933

Nick Redfern

Abstract

Stan Laurel and Oliver Hardy were one of the few comedy acts to successfully make the transition from the silent era to sound cinema in the late-1920s. The impact of sound technology on Laurel and Hardy films is analysed by comparing the median shot lengths and the dispersion of shot lengths of silent shorts (n = 12) produced from 1927 to 1929 inclusive, and sound shorts (n = 20) produced from 1929 to 1933, inclusive. The results show that there is a significant difference (U = 56.0, p = 0.0128, PS = 0.2333) between the median shot lengths of the silent films (median = 3.5s [95% CI: 3.2, 3.7]) and those of the sound films (median = 3.9s [95% CI: 3.5, 4.3]); and this represents an increase in shot lengths in the sound films by HLΔ = 0.5s (95% CI: 0.1, 1.1). The comparison of Q_n for the silent films (median = 2.4s [95% CI: 2.1, 2.7]) with the sound films (median = 3.0s [95% CI: 2.6, 3.4]) reveals a statistically significant increase is the dispersion of shot lengths (U = 54.5, p = 0.0109, PS = 0.2271) estimated to be HLΔ = 0.6s (95% CI: 0.1, 1.1). Although statistically significant, these differences are smaller than those reported in other quantitative analyses of film style and sound technology, and this may be attributed to Hal Roach's commitment to pantomime, the working methods of Laurel, Hardy, and their writing/producing team, and the continuity of personnel in Roach's unit mode of production which did not change substantially with the introduction of sound.

The introduction of synchronous sound technology had an immediate and significant impact on the style of Hollywood cinema, as the studios adapted to new production practises. Filmmaking became studio-bound with cameras immobilised in sound-proof booths to protect sensitive omni-directional microphones. Multiple-camera shooting was temporarily employed as a means of preserving narrative space, and reframing replaced cutting as the primary means by which the viewer's attention was organised. Editing patterns became formulaic and dependent upon the master shot with few cutaways. The length of takes was determined by dialogue and the image was edited to match the soundtrack, so that the recording of sound determined the tempo of a film (see Bordwell et al. 1985: 298-308, Maltby 2003: 238-248, O'Brien 2005). One result of these changes was a change in film style that can be quantified by looking at the distribution of shot lengths in Hollywood movies before and after the introduction of sound. Statistical analysis of shot length data for Hollywood cinema in the 1920s and early 1930s reveals an increase in the median shot lengths of approximately 2.9 seconds as cutting rates slowed; and, although editing patterns became more formulaic, the dispersion of shot lengths actually increased (Redfern 2009).

The coming of sound also shaped the development of genres and film acting, and film comedy in particular. Gerald Mast identifies a particular style of pantomime comedy in the silent cinema embodied by performers such as Charles Chaplin, Buster Keaton, and Harold Lloyd that was lost with sound.

There are no Chaplins or Keatons today because the sound film has no use for them. One of the reasons great physical comedians developed in the teens and the twenties was that the potential of the medium demanded their services. The physical comedian who communicated personality, social attitudes, and human relationships by physical means – gesture, stunt, the expression (or lack of it) on a face – was an outgrowth of a medium whose only tools were movement, rhythm, and physical objects and surfaces (1979: 199).

Sound comedy for Mast is dialogue driven, and is exemplified by the work of the Marx Brothers, the social comedies of Frank Capra, romantic screwball comedies such as Howard Hawks' *His Girl Friday* (1940), and the films of Woody Allen, who he claims is a more effective screenwriter than clown. It is the relationship between writer and director that Mast states is most important in sound comedy, replacing the relationship between comic and director or cameraman that was so crucial to the silent comic film. Sound comedy is 'conceived,' 'shaped,' 'planned,' or 'constructed;' with the comedy carefully moulded prior to production. Mast acknowledges the role of clownish motion in the Marx Brother's films, but argues that sound comedy is a 'comedy of manners' and not a 'comedy of motion,' and that whereas 'silent comedy is most concerned with *how* the comic goes about his actions and *who* he is, sound comedies focus

on *what* the action is and *why* it should be so' (1979: 200, original emphasis).

The impact of sound on film comedy, in Mast's opinion, was to destroy the 'hypnotic effects of visual, physical motion' of silent comedy that 'worked on the ear solely by means of cutting and motion on the eye,' and put in its place a world on the screen that imitated reality. Gone was the 'balletic motion' of Chaplin and Keaton, underscored by 'fluid, rhythmic, and contrapuntal cutting' and by musical accompaniment that supports movement, to be replaced with the underscoring of 'traffic noises, banging doors, chirping crickets and birds, ringing doorbells and telephones, wind, waves, explosions, crackling fires, and so on.' The filmmaker can, of course, divorce sound from image, but this serves only to emphasise the unreality of the world of the film (1979: 202-203).

Two comedians who not only survived the coming of sound, but prospered in its wake were Stan Laurel and Oliver Hardy. Laurel and Hardy appeared in numerous films together from *The Lucky Dog* in 1919, but it was at Leo McCarey's suggestion that they were paired as a team for the first time in 1927 for *The Second Hundred Years*. They subsequently went on to appear in a total 62 shorts (of which 22 were silent) and 13 feature films for Hal Roach studios, before leaving in 1940. *The Music Box* (1932) won the Academy Award for Best Short Subject, and stands as evidence that Laurel and Hardy at Roach were making films of high quality in the new era of cinema while other comedians such as Keaton, Lloyd, or Harry Langdon were producing films that did not compare with the standard of their earlier silent work.

The extent to which Mast's dramatic break between sound and silent comedy is useful has been challenged by Brunovska Karnick and Jenkins (1995: 6-8) for adopting a 'masterpiece' approach to film history that prioritises critical evaluation over historical understanding in general and for failing to take into account the larger histories of Hollywood institutions and practices in particular, as well as failing to recognise the continuity between different eras. This article analyses the distribution of shot lengths in the short films of Laurel and Hardy to determine what impact, if any, the introduction of synchronous sound technology had on this aspect of film style and interprets these results in the context of the mode of production at the Hal Roach studios.

Methods

Films were selected from the DVDs comprising *The Laurel and Hardy Collection* (Universal 2004, ASIN: B0001K2KE8), with the exception of *You're Darn Tootin'*, where the restored version broadcast as part of *Paul Merton's Silent Clowns* (BBC 2006) was used. Shot length data was collected by loading films into Movie Edit Pro 14 (Magix 2008) and analysing them frame-by-frame. Shot length data from PAL DVD sources were corrected

by a factor of 1.0416. Only English language productions were included in the study; and all films included in the study are the black-and-white (i.e. non-colourised) versions. Unless part of the action of the film, the opening and closing titles are not included in the data; while expository and dialogue titles are included for both the silent and the sound films.

As the distribution of shot lengths in a motion picture is typically positively skewed with a number of outlying data points, robust statistics are employed in describing and comparing the style these films. The median shot length locates the middle of a distribution irrespective of its shape, and can be thought of as the 'mid-point' of a film's tempo (Adams et al. 2000). The median is resistant to the effect of outliers. To analyse the change in the dispersion in shot lengths between silent and sound films, Q_n was employed as a robust estimator of scale:

$$Q_n = c_{Qn} \times 2.2219 \times \left\{ \left| X_i - X_j \right| ; \; i < j \right\}_{(k)},$$

where the factor 2.2219 is for consistency, and $k = \binom{h}{2}$ and $h = [n/2] + 1$. Q_n is the kth order statistic of the $\binom{n}{2}$ absolute pairwise differences between shot lengths, and which for large n is equal to the lower quartile of these values. c_{Qn} is a bias correction factor based on the sample size, and is $n/(n + 1.4)$ if n is odd or $n/(n + 3.8)$ if n is even (Rouseeuw and Croux 1993). Q_n calculates the distance of each data point from every other, and as such it is not dependent on a measure of location and can therefore be used for asymmetric shot length distributions. Both the median shot length and Q_n and have breakdown points of 0.5 and bounded influence functions (which for is Q_n is smooth), and as such they are excellent statistics to describe the style of a film.

The samples were compared using the Mann-Whitney U test, with a two-tailed asymptotic p-value of less than 0.05 considered significant. Confidence intervals for the sample medians were constructed using the method outlined in Bonett and Price (2002). The effect size of the difference between the two samples was quantified using an estimate of the probability of superiority, where $PS = U/n_1 n_2$; and the Hodges-Lehmann estimator of the median difference of all pairwise comparisons (HLΔ) with a distribution free (Moses) confidence interval. All statistical analyses were carried out using and Microsoft Excel 2007.

Results

From the 56 short films in which Laurel and Hardy appeared for the Hal Roach Studios from their 'official' pairing as a comedy team in 1927 to 1933 inclusive, a total of 32 films were selected for the study, of which 12 are silent and 20 are sound films. Each of the samples represents approximately 60% of the population from

which they are drawn, and the difference in the size of the samples reflects the difference in the number of silent and sound films produced during this period. *Call of the Cuckoos* (1927) was not considered for the study, as Laurel and Hardy appear only in cameo alongside other Roach stars in a vehicle for Max Davidson – like those films produced before the comedians were officially paired, it is a film in which Laurel and Hardy appear but *not* a 'Laurel and Hardy' film. *Hats Off* (1927) could not be included in the study as no copy is extant. The films that are included in the study are listed in Table 1 for the silent films and Table 2 for the sound films; and the descriptive statistics for these films can be found in Tables 3 and 4.

TABLE 1 Sample of silent Laurel and Hardy films produced by Hal Roach Studios from 1927 to 1929, inclusive (n = 12)

Title	Director	Produced	Released
Second Hundred Years, The	Fred Guiol	June 1927	October 1927
Putting Pants on Philip	Clyde Bruckman	August 1927	December 1927
Leave 'Em Laughing	Clyde Bruckman	October 1927	January 1928
From Soup to Nuts	Edgar Kennedy	December 1927	January 1928
Finishing Touch, The	Clyde Bruckman	November/December 1927	February 1928
You're Darn Tootin'	Edgar Kennedy	January 1928	April 1928
Early to Bed	Emmett J Flynn	May 1928	October 1928
Habeus Corpus	James Parrott	July 1928	December 1928
Liberty	Leo McCarey	September 1928	January 1929
Wrong Again	Leo McCarey	October/November 1928	January 1929
Bacon Grabbers	Lewis Foster	February/March 1929	October 1929
Angora Love	Lewis Foster	March 1929	December 1929

TABLE 2 Sample of sound Laurel and Hardy films produced by Hal Roach Studios from 1929 to 1933, inclusive (n = 20)

Title	Director	Produced	Released
Berth Marks	Lewis Foster	April 1929	June 1929
Men O'War	Lewis Foster	May 1929	June 1929
Perfect Day	James Parrott	June 1929	August 1929
They Go Boom	James Parrott	July 1929	September 1929
Night Owls	James Parrott	October/November 1929	January 1930
Blotto	James Parrott	December 1929	February 1930
Hog Wild	James Parrott	April 1930	May 1930
Laurel and Hardy Murder Case, The	James Parrott	May 1930	September 1930
Another Fine Mess	James Parrott	September 1930	November 1930
Chickens Come Home	James W Horne	January 1931	February 1931
Our Wife	James W Horne	March 1931	May 1931
Come Clean	James W Horne	May 1931	September 1931
Beau Hunks	James W Horne	September 1931	December 1931
Helpmates	James Parrott	October 1931	December 1931
Music Box, The	James Parrott	December 1931	April 1932
Scram!	Raymond McCarey	June 1932	September 1932
Towed in a Hole	George Marshall	November 1932	December 1932
Me and My Pal	Charles Rogers/Lloyd French	March 1933	April 1933
Midnight Patrol, The	Lloyd French	June/July 1933	August 1933
Busy Bodies	Lloyd French	July 1933	October 1933

The median shot lengths of the silent films show little variation, with a median of 3.5s (95% CI: 3.2, 3.7) and a range of 2.8s to 4.0s. For the sound films, the median of the sample is 3.9s (95% CI: 3.5, 4.3), and the dispersion of the median shot lengths is much greater with a range of 3.0s to 8.8s. There is a statistically significant difference between the median shot lengths of the silent and sound films: U = 56.0, p = 0.0128, PS = 0.2333. This difference is estimated to be a small increase in the median shot lengths of the sound films of HLΔ = 0.5s (95% CI: 0.1, 1.1). The distributions of the median shot lengths for each sample are presented in Figure 1.

Looking at the values of Q_n these films we see slightly greater dispersion in the shot lengths of the sound films compared to the films in the silent sample. The median of Q_n for the silent films is 2.4 seconds (95% CI: 2.1, 2.7) and that of Q_n for the sound films is 3.0 seconds (95% CI: 2.6, 3.4). The difference between the two samples is significant, and Q_n for a sound film is more likely to be greater than that of a silent film: U = 54.5, p = 0.0109, PS = 0.2271. The increase in Q_n from the silent to the sound films is estimated to be HLΔ = 0.6 seconds (95% CI: 0.1, 1.1), and so although this is a statistically significant difference it is again only a small difference. The distributions of Q_n for each sample are presented in Figure 2.

From the five-number summaries in Tables 3 and 4, it is clear that the major part of this increase in the dispersion of shot lengths occurs above the median shot length. The median of the lower quartiles for the silent films is 2.0s (range: 1.8 – 2.3), while the median for the sound films is 2.2s (range: 1.5 – 4.1). In contrast, the median of the upper quartiles for the silent films 6.5s (range: 5.2 – 9.0), while the median for the sound films is 8.3s (range: 6.4 – 16.3). There is also an increase in the distance between the upper quartiles and the maximum shot length, as the 9 of the silent films have a maximum shot length of less than or equal to 50 seconds, compared to only five of the twenty sound films.

In summary, the results of this study show that when comparing the silent and sound short films of Laurel and Hardy (i) there is a small increase in the median shot lengths; (ii) there is an increase in the dispersion of the median shot lengths; (iii) there is a small increase in the dispersion of shot lengths; and (iv) the major part of this increase in the dispersion of shots occurs above the median. Comparing these results with those published in Redfern (2009), for silent and sound Hollywood films produced between 1920 and 1931 inclusive, we see the same general patterns in the transformation of shot length distributions with the introduction sound technology; but in the case of the Laurel and Hardy films the size of the estimated effects are much smaller.
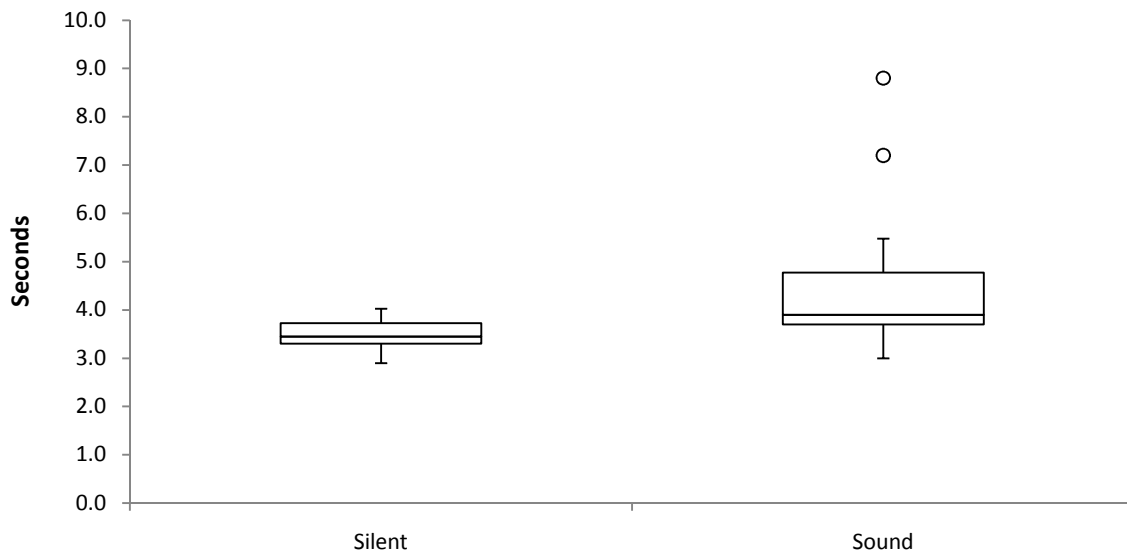

FIGURE 1 The distribution of median shot lengths for silent films (n = 12) and sound films (n = 20) produced by the Hal Roach Studios, 1927 to 1933.
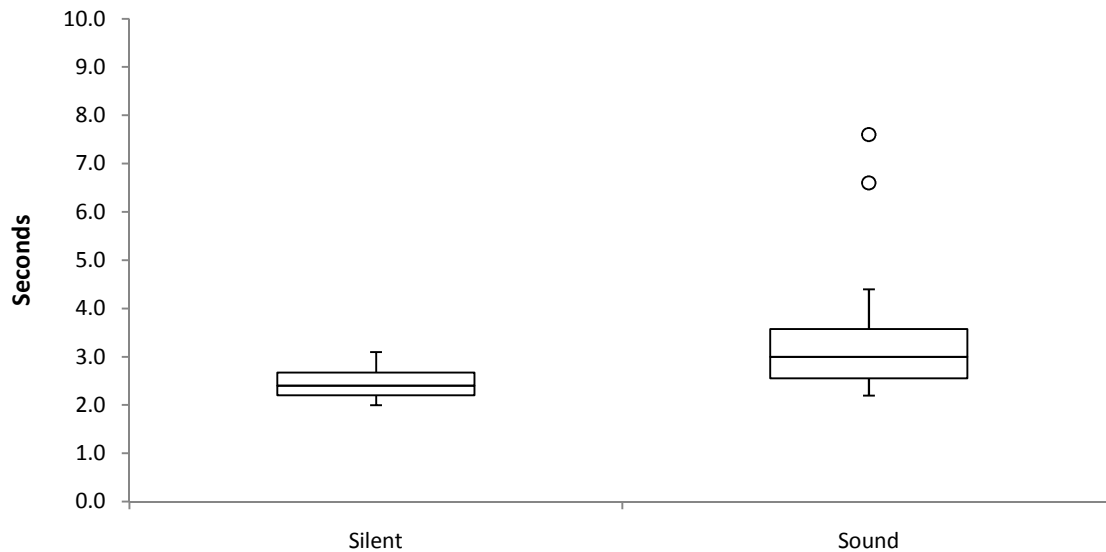
FIGURE 2 The distribution of Q_n for silent films (n = 12) and sound films (n = 20) produced by the Hal Roach Studios, 1927 to 1933.

Two films in the study stand out as having median shot lengths obviously greater than the rest, as well as having shot lengths that are also notably more widely dispersed than the other films. These are *Berth Marks* and *Perfect Day*; although both are among the earliest of the sound films in which the duo appeared being produced shortly after Roach had opened his sound stage, it does not appear that the increase in shot lengths is associated with sound in general and dialogue in particular.

In *Berth Marks* the opening sequence at the railway station uses sound for humour, with the announcements of the station master incomprehensible to Stan and Ollie. This gag is spread over five shots lasting 65.7 seconds – the first and longest of which is 41.6s (Figure 3) – and includes cut-aways to Ollie (2.9s), Stan (3.0s), and back to Ollie (2.0s) while the voice of the station master continues off-screen, before returning to the first set-up (16.2s). When Ollie asks if the train goes to Pottsville, the unintelligible station master responds 'Weren't you listening?' The cut-aways to close-ups of Stan and Ollie in this scene do not follow a shot-reverse shot pattern, and are taken from the same position as the medium long shot in Figure 3 and respect the same axis of action.

While dialogue is used for humorous effect in the scene at the railway station, it does not play such an important role in the rest of the film. *Berth Marks* is comprised largely of sequences in which Stan and Ollie try to get into their berth and then ready for bed, while the other passengers rip off one another's clothes in a collective fit of pique. These gags are not based on verbal humour, and each is dependent upon the physicality of the performers in a confined space. Stan

Figure 3 The unintelligible station announcer bemuses Stan and Ollie in *Berth Marks* (1929)

and Ollie's efforts in getting into the berth and in getting ready for bed are framed in static two-shots from a distance that, with cut-ins used to provide close-ups of Stan and Ollie's faces. The passengers stripping the clothes off one another is shot in a continuous long shot without cut-ins, and in this respect is similar to the way in which same gag was filmed in the silent film, *You're Darn Tootin'*.

Thus, in *Berth Marks* we find that the longer takes are associated with the restricted spaces of the train and are not specifically related to the use of sound. For example, the sequence in which the duo tries to climb into their berth lasts for a total of 269.6 seconds and is comprised of six shots, all bar one of which are much longer than the median of 8.8s (see Table 5). There is

TABLE 5 Stan and Ollie struggle to get into their berth from *Berth Marks* (1929)

Shot		Length (s)	Scale	Description
34		75.2	MLS	Stan and Ollie are causing a disturbance as they argue in a carriage, and are told to be quiet by the conductor. Off-screen sounds: baby crying
35		42.5	LS	Stan and Ollie struggle to get into the berth. Off-screen sounds: the train
36		15.6	LS	Stan and Ollie find they have been trying to get into the wrong berth, and have woken their sleeping neighbour.
37		18.5	MS	Frustrated, Ollie belts Stan and Stan thumps Ollie.
38		109.4	LS	Ollie gives Stan a lift into the berth and then tries to climb in after him, only for both to pull the curtains and bedding down onto the floor.
39		8.4	MCU	Stan and Ollie end up in a heap on the floor. Ollie: 'I wish I'd checked you with the baggage.'

little dialogue in this scene, but this is not to say that sound is not important. The impression of a moving train is created entirely via the use of sound in the absence of any visual clues. As Stan and Ollie try to get into their berth the conductor asks them to be quiet so as not to disturb the other passengers, but their efforts are in vain and we hear (but do not see) a baby crying. The sound of tearing fabric as Stan and Ollie destroy the upholstery emphasises their destruction of the carriage. The final shot of the scene includes one of Ollie's trademark withering putdowns of Stan that serves to punctuate the action, but such dialogue is not the main source of humour in this scene.

Perfect Day features more dialogue than *Berth marks*, but is similarly based around visual humour with appropriate sound effects. The opening shot is a medium long shot of Stan and Ollie's wives chatting away whilst preparing for the picnic, with a pan to reveal the uncle, who has an injured foot. At 49.1 seconds, this shot is one of the longest shots in the film, and is typical of the dialogue scenes we might expect from early Hollywood sound films: a single take of long duration, in which the characters remain largely motionless while talking and with the variation of the scene achieved through small camera movements rather than by cutting to a new setup. However, such long takes are not specifically associated with dialogue. The first sequence inside the house as the picnic is being prepared is comprised of just 19 shots but lasts for 305.1 seconds with a median of 12.6s, and although it is dialogue heavy compared to

other Laurel and Hardy films, it is organised around a series of physical gags in which Stan tips up a tray of sandwiches and subsequently brains Ollie leading to the tit-for-tat throwing of sandwiches while the dog attacks the bandage on the uncle's foot. These gags are also filmed as long takes with a static camera, with very short shots (i.e. <3s) used as inserts to prime the gag. For example, in the second shot of this sequence Stan and Ollie enter the room proudly carrying a tray of sandwiches (10.4s) and we then get a close-up of the tray (1.7s), before Stan bumps into Ollie tipping the whole lot onto the floor (27.6s). The function of dialogue in this scene is primarily expository, although though when one of the wives reminds the squabbling Stan and Ollie that it is the Sabbath and, therefore, a 'day of peace' this makes sandwich fight seem all the more childish.

The other gags in the film are also physically based and are similarly filmed in long static takes. These include the changing of the tire, the vandalism of their neighbour's house, the mix-up over the jackets. Dialogue is often used in these sequences to set up a gag: having changed the tire for first time, the uncle orders Stan to pull the jack out from under the car only for it to fall directly onto his injured foot and, of course, to hurt Ollie.

As in *Berth Marks*, sound effects have an important role to play. Having changed the tire on the car, Ollie is trying to drive off but cannot get any forward motion because Stan has forgotten to take the jack down. When Stan finally lowers the car, he places the new tire onto the same tack that caused the initial puncture. Furious, Ollie throws the jack at Stan, missing him but breaking a neighbour's window. We do not see the window break, but we hear it smash and the use of off-screen sound effects is the source of humour. Again, the scale of destruction as the duo and their neighbour engage in their tit-for-tat war is accentuated by the use of sound effects.

One part of *Perfect Day* is cut much quicker than the rest of the film: the car being all loaded up, the picnickers say goodbye to their neighbours who wish them a good time. This sequence is comprised of 13 shots lasting a total of 54.9s with a median of 3.3s, and unlike the earlier dialogue shots is edited rapidly. The constant well-wishing is in itself a joke, but there is also another role for this sequence. It is this excessive and repetitive neighbourliness that is to be shattered by Ollie pitching the jack through the window, and so again we might see this as another example of how dialogue is used to set up the physical gags.

It should also be noted that the other sound films produced in the first half of 1929 (*Men O'War*, *They Go Boom!*) do not show such large differences in their location or dispersion from the other sound films. The presence of these outlying values in the samples does not then appear to be related to a change in comic style associated with the introduction of sound technology, and we should not assume that slapstick necessarily

means rapid editing and that dialogue automatically means slow cutting during this period.

Discussion

In March 1926, Hal Roach signed a production deal with MGM for two-reel comedies (see Ward 2006: 65-70). The introduction of synchronous sound less than a year into the deal complicated this arrangement as the new sensation of talking pictures created a need for a new type of product. In 1928, Roach was releasing Our Gang shorts with sound effect tracks, with the construction of a sound stage beginning in March 1929 and the first talking pictures released only a couple of months later. However, Roach's commitment to a particular style of comedy based on pantomime remained firm:

The art of pantomime is as old as amusement itself and there isn't the slightest chance that dialogue ever will entirely displace pantomime on the screen. Dialogue can't possibly take the place of pantomime in causing laughs ... [sound effects] are going to add to the variety of the program. But they won't necessarily take the place of anything else on the programs. You may say that they take the place of the elaborate presentations, recently so much in vogue. Well, my answer to that is that when presentations came in they didn't take the place of anything (quoted in Ward 2006: 73)

Roach did not see the coming of sound as a fundamental shift in film comedy, and the mode of production at Hal Roach Studios did not change. This is the crucial factor in explaining why the effect sizes noted above are smaller than those observed for Hollywood films in general. The stability in style and production of the Laurel and Hardy films with the coming of sound is the result of the continuity of an informal writing process that survived the transition and the use of the same personnel from the 1920s into the 1930s.

Randy Skretvedt's detailed history of the production practices at the Hal Roach Studio shows that the writing process in the sound era was informal and that the script was used on set as a guideline rather than a 'blueprint' for production (Staiger 1985). Skretvedt describes the writing process on the Laurel and Hardy films thus: a story outline was developed that set out the context in which Stan and Ollie would find themselves and this would be fleshed out by Laurel and a team of gag writers until they had a script comprised of 'three to six legal-size pages, single spaced, with a description of the action and sometimes a few brief dialogue scenes if they were especially funny or important' (Skredtvedt 1988: 52). This was then sent to HM Walker, who added a few pages of dialogue. The existence of this final script did not dictate the form of the film as Skretvedt notes that dialogue written prior to the beginning of a production was often disregarded by Laurel and Hardy; and that the dialogue featured in the final versions of the films was a combination of the gags from the action script, gag writing during the production, and adlibbing by the

actors. For example, the script for *Busy Bodies* includes the following: 'There is another gag here, and then go into our last routine of cutting the Ford in two. The end' (quoted in Skredtvedt 1988: 264). Laurel and Hardy films had to be shot in sequence, as adlibbing would to lead to changes in the story. The comedy of these films was carefully moulded prior to production – the destruction of the house in *Helpmates*, the piano careering down the steps in *The Music Box*, or the bisection of the Ford in *Busy Bodies* all clearly required considerable planning – but every part of these films was worked and reworked on the set.

This method of working had originated in the silent period, and Anita Garvin recalled that the working methods of the Laurel and Hardy production crew did not change with the introduction of sound:

After sound came in, the filming took a little more time, but the talkies were made in rather the same way. I would just look through the script or get the basic idea, and go in without learning the lines letter-perfect. It was easier. If you came with your mind set that these were the lines, then tried to change them, it was very difficult. We ad-libbed more at Roach's than at other studios; we had more leeway to do what we wanted (quoted in Skretvedt 1988: 56).

The writing process on the Laurel and Hardy sound shorts did not, then, put dialogue first, but remained focussed on the action-based comedy of the silent films. It also retained much of the informality of the silent era, and gives a very difference impression to the type of humour Mast refers to when he talks about the dialogue tradition in sound comedy.

The Laurel and Hardy shorts are not famed for their use of dialogue, but the characters of Stan and Ollie were enhanced by hearing them talk, emphasising aspects of their characters that were already well developed – Ollie's pomposity and frustration, Stan's childlike simplicity. Often we find that it is the impossibility of talking that is itself funny in these films, as Ollie is so outraged he can produce only grunts and groans rather than intelligible sentences, while Stan is rendered incapable of speaking as he babbles on the verge of tears. The function of dialogue was restricted to exposition, while the gags were physically-based. For example, *Towed in a Hole* uses dialogue to establish the plot of Stan and Ollie expanding their fish empire by catching their own fish; while the gags are based around the physical danger to Ollie working alongside Stan. As noted above, in the case of *Perfect Day* dialogue was often also used as a set up for a physical gag; or as punctuation marking the end of a sequence in *Berth Marks*. Some forms of dialogue humour were rejected out of hand: Laurel and Hardy regarded wisecracks as 'fresh' and 'unbelievable' and so they do not feature in the duo's films (Skretvedt 1988: 196). Over time, the quantity of dialogue in the sound films was actually reduced, because, Walker noted, the laughter of the

audience often drowned out the dialogue: 'With each of their talking pictures, we have written less dialogue, only using enough conversation to carry the thread of the story' (quoted in Skretvedt 1988: 173).

We should not, however, make the mistake of assuming that Laurel and Hardy were not capable of providing their audience with quality laughs through dialogue humour. *Come Clean*, in particular, links the aural and the visual in an entertaining way when Stan confuses 'pitcher' with 'picture' (Figure 4). This film features some excellent wordplay between Stan, Ollie, and the soda jerk (played by Charlie Hall) in the ice cream parlour. Having been informed that the only available flavours of ice cream are strawberry, pineapple, and vanilla, Stan asks for chocolate and pistachio only to be told that they are out of these flavours:

STAN: What other flavours are you out of?

SODA JERK: Strawberry … [testily] we're out of orange, gooseberry, and chocolate.

STAN: Alright, I'll have it without chocolate.

OLLIE: Didn't the gentlemen just tell you that he didn't have any chocolate.

STAN: I just told the gentleman I didn't want any...

When the attendant places a carton of ice cream on the counter Stan asks what flavour it is, only to receive the response 'CHOCOLATE!' Skredtvedt (1988: 218) notes that the script for *Come Clean* has 'walnut' in the place of 'gooseberry' but is otherwise what we see on the screen. This example shows that Laurel and Hardy could deliver carefully scripted comedy to the same high standard with which they demolished a house whilst trying to build it. As the description of the writing process indicates, scripted verbal comedy of this sort did not play a major role in the Laurel and Hardy series, and linguistic detours such as this are few and far between.

Figure 4 Linguistic confusion in *Come Clean* (1931): Stan returns with a 'picture' rather than a 'pitcher.'

The other relevant dimension is the continuity of production personnel in Roach's unit production system. The Hal Roach Studios organised its production programme around four series of films – Laurel and Hardy, Charley Chase, 'Our Gang,' and the Roach All Stars. Ward (2006: 75) points out that Roach's employees would routinely – but not exclusively – work on one of the studio's series, thereby ensuring the continuity of personnel over time and across different groups of films.

Directors such as Lewis Foster and James Parrott worked with Laurel and Hardy on both silent and sound films. Other directors to work on these films had experience of filmmaking at the studio. For example, James W Horne directed silent films for Hal Roach before working with Laurel and Hardy; while Lloyd French had worked for Roach from 1919, fulfilling various roles on some of the Laurel and Hardy silent shorts before graduating to the role of director. Leo McCarey began working for Roach in 1924 and directed some Laurel and Hardy short films, including *Liberty* and *Wrong Again*, as well as serving as the supervising director until leaving Roach in 1928. Creative oversight of the series then passed to Stan Laurel, and so even though the personnel changed frequently, there was continuity in the creative supervision of the Laurel and Hardy series.

Other filmmakers also worked across the period covered here. Richard C. Currier and Bert Jordan edited all of the Laurel and Hardy films in the samples used in this study, with the latter taking over as head of the editing department at Hal Roach Studios in 1933. George Stevens was the regular director of photography for Laurel and Hardy from their silent days until 1930, and Art Lloyd took over this position from 1931. Both Stevens and Lloyd had worked for Roach since the early 1920s. Other cinematographers to regularly work on this series of films include Jack Stevens (4 films from the sample), Len Powers (3 films), and Jack Roach (3 films).

As noted above, H.M. Walker worked as a writer of both titles for the silent films and dialogue for the sound films before he left the studio in 1932. Indeed, Walker is the only credited writer for any of the Laurel and Hardy shorts in the study; although, as noted above, much of his dialogue for the sound films appears was reworked – if not actually ignored – by Laurel and Hardy once production had begun.

Finally, it should be remembered that Laurel and Hardy had worked in silent pictures for over a decade before they made their first sound film. Laurel was also an experienced stage comedian, which required both the ability to perform stunts and to address to the audience, while Hardy was a trained actor. They were experienced comics whose style was developed during the silent era, and there is no evidence that either changed their style of performing for the sake of sound humour. The continuity of style of comedy, mode of production, and personnel is also reflected in the recycling of material

from the silent era in the sound films. Many of the sound films are in fact remakes of silent productions. *Chickens Come Home*, for example, is a remake of *Love 'Em and Weep* (1927), in which Stan reprises his role of attorney but with Ollie taking over the role of the philandering husband from James Finlayson. As noted above, *Berth Marks* repeats the stripping routine from *You're Darn Tootin'*. Often these films feature the same gags, as Stan or Ollie falls from the roof of a building, or become stuck in some machine, or step on something and slip, or is hit on the head by some falling object. The use of gesture, stunt, and expression was as important after March 1929 as it was before. As their partnership began at the moment at which the cinema underwent such an important change, Laurel and Hardy can be described as the last of the silent comedians *and* the first of the sound comedians.

Conclusion

This study has looked at the impact of synchronous sound technology on the distribution of shot lengths in the short films of Laurel and Hardy from 1927 to 1933. The results show that the impact of sound technology was the same as that identified in other studies: an increase in the median shot lengths of the sound films, along with an increase in the dispersion of the median shot lengths; and an increase in the dispersion of the shots in a film. However, the size of this impact was smaller than other studies suggest, and sound was not the great stylistic upheaval that it was elsewhere. The Hal Roach Studios made the shift to sound without abandoning the style of comedy or mode of production they had employed in the silent era. The ability of Laurel and Hardy to not only survive the introduction of sound but to prosper may be in part attributed to this continuity. There is no empirical evidence to support the claim for the radical disjuncture between silent and sound comedy described by Mast, and his analysis with regard to Laurel and Hardy is clearly contradicted by both the statistical results and the historical accounts of the Hal Roach Studios.

References

Adams B, Dorai C, and Venkatesh S 2000 Role of shot length in characterizing tempo and dramatic story sections in motion pictures, IEEE Pacific Rim Conference on Multimedia, 13-15 December 2000, Sydney, Australia: 54–57.

Bonett DG and Price RM 2002 Statistical inference for a linear function of medians: confidence intervals, hypothesis testing, and sample size requirements, *Psychological Methods* 7 (3): 370-383.

Bordwell D, Staiger J, and Thompson K 1985 *Classical Hollywood Cinema: Film Style and Mode of Production to 1960*. London: Routledge.

Brunovska Karnick B and Jenkins H 1995 Introduction: golden eras and blind spots – genre,

history, and comedy, in B Brunovska Karnick and H Jenkins (eds.) *Classical Hollywood Comedy*. New York: Routledge: 1-13.

Maltby R 2003 *Hollywood Cinema: An Introduction*. Oxford: Blackwell.

Mast G 1979 *The Comic Mind: Comedy and the Movies*, second edition. Chicago: University of Chicago Press.

O'Brien C 2005 *Cinema's Conversion to Sound: Technology and Film Style in France and the U.S*. Bloomington: Indiana University Press.

Redfern N 2009 The impact of sound technology on the distribution of shot lengths in motion pictures, http://nickredfern.wordpress.com/2009/09/24/the -impact-of-sound-on-film-style/, accessed 20 October 2010.

Rousseeuw PJ and Croux C 1993 Alternatives to median absolute deviation, *Journal of the American Statistical Association* 88: 1273–1283.

Skretvedt R 1988 *Laurel and Hardy: The Magic Behind the Movies*. London: Apollo Press.

Staiger J 1985 Blueprints for feature films: Hollywood's continuity scripts, in T Balio (ed.) *The American Film Industry*, second edition. Madison, WI: The University of Wisconsin Press: 173-192.

Ward RL 2006 *A History of the Hal Roach Studios*. Carbondale, IL: Southern Illinois University Press.

TABLE 3 Descriptive statistics of silent Laurel and Hardy short films produced by Hal Roach Studios from 1927 to 1929, inclusive

	The Second Hundred Years	Putting Pants on Philip	Leave 'Em Laughing	From Soup to Nuts	The Finishing Touch	You're Darn Tootin'
Length (s)	1225.9	1138.1	1284.0	1086.3	1177.7	1253.0
Shots	242	175	222	197	207	189
Mean Shot Length (s)	5.1	6.5	5.8	5.5	5.7	6.6
Standard Deviation (s)	5.0	8.9	5.7	5.7	5.5	7.7
Skew	2.8	4.7	2.2	2.0	2.1	3.0
Minimum Shot Length (s)	0.5	0.8	0.7	0.5	0.7	0.7
Lower Quartile (s)	2.1	2.1	2.3	2.0	2.0	2.2
Median Shot Length (s)	3.6	3.8	3.8	3.3	3.5	4.0
Upper Quartile (s)	5.8	7.5	6.3	6.7	7.3	8.0
Maximum Shot Length (s)	36.4	72.8	29.8	28.7	29.5	49.8
Range (s)	35.9	72.0	29.1	28.2	28.8	49.1
Interquartile Range (s)	3.7	5.4	4.0	4.7	5.3	5.8
Qn	2.4	2.9	2.4	2.4	2.6	3.1

TABLE 3 (Continued) Descriptive statistics of silent Laurel and Hardy short films produced by Hal Roach Studios from 1927 to 1929, inclusive

	Early to Bed	Habeas Corpus	Liberty	Wrong Again	Bacon Grabbers	Angora Love
Length (s)	1143.9	1179.8	1093.7	1185.0	1170.8	1238.1
Shots	248	231	169	171	232	262.0
Mean Shot Length (s)	4.6	5.1	6.5	6.9	5.0	4.7
Standard Deviation (s)	4.1	7.6	8.3	9.3	4.8	4.8
Skew	1.7	7.6	2.9	3.8	2.0	3.3
Minimum Shot Length (s)	0.5	0.6	0.6	0.8	0.4	0.4
Lower Quartile (s)	1.8	1.9	2.0	2.1	2.0	1.9
Median Shot Length (s)	3.2	2.9	3.3	3.7	3.3	3.4
Upper Quartile (s)	5.8	5.8	6.8	9.0	5.9	5.2
Maximum Shot Length (s)	22.1	92.5	50.0	63.5	25.9	39.3
Range (s)	21.6	91.9	49.4	62.7	25.5	38.9
Interquartile Range (s)	4.0	3.9	4.8	7.0	3.9	3.3
Qn	2.2	2.0	2.6	2.9	2.2	2.2

TABLE 4 Descriptive statistics of sound Laurel and Hardy short films produced by Hal Roach Studios from 1929 to 1933, inclusive

	Berth Marks	Men O'War	Perfect Day	They Go Boom	Night Owls	Blotto	Hog Wild	The Laurel-Hardy Murder Case	Another Fine Mess	Chickens Come Home
Length (s)	1139.1	1144.5	1148.0	1183.7	1203.0	1532.0	1122.3	1772.6	1620.4	1771.4
Shots	77	148	93	151	175	185	169	199	231	227
Mean Shot Length (s)	14.8	7.7	12.3	7.8	6.9	8.3	6.6	8.9	7.0	7.8
Standard Deviation (s)	19.0	10.8	12.0	7.1	9.8	10.6	9.3	12.6	8.8	7.8
Skew	3.1	4.0	1.4	1.7	4.0	3.1	3.1	4.7	4.9	2.4
Minimum Shot Length (s)	0.8	0.9	1.2	0.6	0.7	0.8	0.5	0.1	0.5	0.5
Lower Quartile (s)	4.1	2.3	3.8	2.9	2.0	2.8	1.8	2.7	2.2	2.4
Median Shot Length (s)	8.8	4.0	7.2	5.5	3.8	4.7	3.0	5.0	4.2	5.0
Upper Quartile (s)	16.3	8.3	16.2	10.8	7.0	8.4	7.2	10.1	8.7	10.2
Maximum Shot Length (s)	109.4	86.0	50.2	36.4	79.7	64.1	65.1	116.5	89.5	52.0
Range (s)	108.6	85.1	49.0	35.8	79.0	63.3	64.6	116.4	89.0	51.5
Interquartile Range (s)	12.2	6.0	12.4	7.9	5.0	5.6	5.4	7.4	6.5	7.8
Qn	7.6	3.0	6.6	4.4	2.6	3.5	2.2	3.8	3.3	4.2

TABLE 4 (Continued) Descriptive statistics of sound Laurel and Hardy short films produced by Hal Roach Studios from 1929 to 1933, inclusive

	Our Wife	Come Clean	Beau Hunks	Helpmates	The Music Box	Scram!	Towed in a Hole	Me and My Pal	The Midnight Patrol	Busy Bodies
Length (s)	1211.7	1206.7	2191.0	1225.7	1707.9	1193.7	1218.4	1165.8	1158.6	1112.4
Shots	190	231	361	151	252	198	184	172	159	174
Mean Shot Length (s)	6.4	5.2	6.1	8.1	6.8	6.0	6.6	6.8	7.3	6.4
Standard Deviation (s)	8.2	5.7	7.4	11.0	8.4	6.5	12.1	7.0	10.1	8.4
Skew	5.0	3.0	3.7	3.1	3.4	2.8	5.4	2.1	4.6	2.6
Minimum Shot Length (s)	0.7	0.4	0.8	0.6	0.5	0.8	0.8	0.9	0.5	0.5
Lower Quartile (s)	2.5	1.8	2.1	1.9	2.0	2.3	1.5	2.2	2.2	1.7
Median Shot Length (s)	3.8	3.3	3.8	4.1	3.8	3.4	3.3	4.3	3.8	3.1
Upper Quartile (s)	7.4	6.4	7.0	9.3	8.4	7.1	6.4	7.9	8.5	7.0
Maximum Shot Length (s)	78.8	37.5	60.3	68.4	63.1	42.7	109.5	35.3	91.1	47.6
Range (s)	78.1	37.1	59.5	67.8	62.6	41.9	108.7	34.4	90.6	47.1
Interquartile Range (s)	4.9	4.6	4.9	7.4	6.4	4.8	4.9	5.7	6.3	5.3
Qn	2.6	2.4	2.7	3.5	2.8	2.2	2.4	3.0	3.3	2.4