Shedding Light on School Drama

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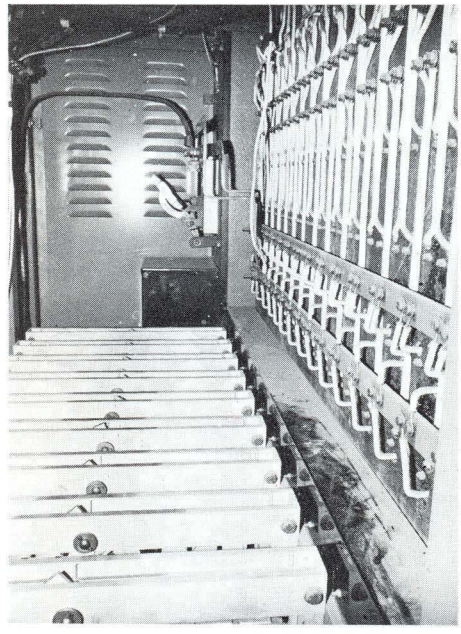
For many years I had vowed that I would have nothing to do with stage lighting. I was strictly a stage sound man and had been since the age of 13 (in the good old days of 78 rpm records, when the mere *look* of a groove would tell you what was on it, and one could write cues directly onto the discs with a wax pencil!). No union was needed to lay down demarcation rules for me – I had no wish even to be *seen* on the same side of the stage as the switchboard (this of course was long before the lighting control was thrown right off the stage and up to a royal box in the dress circle where it so rightly belongs). I survived my school and university days with unswerving allegiance, especially since by this time sound had moved from disc to tape and was now far more versatile, flexible and exciting. Actually during my days at the Oxford Playhouse I did once set foot on the lighting perch – but only out of politeness I hasten to add, after a pressing invitation by one of its operatives. "After all," he said noticing my reluctance, "as a Physicist you must know and love all things electric". I don't *think* my alien foot was the sole reason for them ripping out the lighting control shortly afterwards: the lure of the Strand catalogue must have played a small part (TABS 1964 vol. 22 No. 2).

Teaching in my first school I remained loyal. I could quite easily move and install a tape recorder, amplifier and loudspeaker (mono only in those days) wherever the producer chose to perform, and watched my colleagues struggling with loads of lanterns, coils of cable and substantial switchboards. These latter were described as portable, but this was also before the Trades Description Act. *They* had to search diligently for all the power they needed on location. *I* could connect to the nearest 5 amp or even light socket. *They* kept on blowing the fuses in the village hall. *I* never did. *They* had to de-rig all FOH lanterns every night so that they didn't interfere with the village badminton practices. (We will draw a blank over the time when I was volunteered as stage manager, and found I was required to remove all trace of flats and scenery from the stage after each rehearsal. "They get in the way of the Bingo"!). On one occasion, when not only the fuses but also the mains supply seemed to be on the point of melting, I was called in as a professional physicist to find out why. I eventually traced the trouble to a swelling in the cable feeding the home-made AMC (antediluvian manual control) switchboard situated in the control room / green room / dressing room / props store/village pre-natal clinic. Dismissing the boys' speculation that a blockage in the wire was causing the swelling and stopping the electricity flowing, and that at any moment the cable would burst under the excess pressure, I seized a scalpel from the medical trolley and started operating. Cutting through the swelling revealed . . . layer after layer of melted plastic macintosh! Further enquiries revealed that the district nurse was conducting a pre-natal clinic some years previously, and had slammed the door of the control room/green room/etc, behind an expectant mother. This had caused an unfortunate termination to the life of the cable which was passing through to the stage at the time. The accident was discovered just before the First (and I think, only) Night, but too late to find a replacement cable or junction box, so had been patched up by one of the boys who happened to be wearing a plastic mac at the time. This temporary repair lasted five or six years; longer I suspect than the actual macintosh would have done.



The wire-wound resistors were acting as a giant toaster. An unusual interior view of a Rank Strand resistance switch board.

Productions in the school itself were less hair raising since the chief electrician hired dimmer boards, cables and lanterns from Strand, and home-made equipment was little used. My resolve that lighting was not for me was further strengthened each year when I saw the lighting crew struggling to move two monstrous dimmer boards (Ref 2PS.8), each almost the size and weight of a Mini car, out of a van and up narrow staircases to the control gallery. I could never understand why the lighting always seemed to undergo violent changes (dramatically quite inexplicable) a few minutes before each interval, until one day I decided to investigate. (The second time I'd set foot on alien territory). I discovered that one dimmer truck had coffee percolators on its top, and the wire-wound resistors of the other were acting as a giant toaster. If the toast or coffee appeared to be cooking too quickly or too slowly for consumption at the start of the interval, the resistance dimmers were allowed to direct heat to or from the refreshments! So simple. It was at that moment I caught my first glimpse of the appeal of stage lighting. I now understand why many electricians mourn Rank Strand's decision to cease making resistance dimmers; thyristors have so few culinary uses. (However I suspect I can claim the privilege of buying Rank Strand Electric's last two 1 kW rheostats.) But perhaps the friendly computer switchboard can be programmed to dispense drinks during the intervals? (and with some modern drama probably during the performance too!).

We will draw a veil over the next few years when I tried binaural sound, stereo sound, surround sound and synthesised sound in school productions, and move on to the time of my conversion. The genius who had designed, built and installed the lighting control system in my next school (single handed and between lessons my informants managed to suggest) decided that teaching lacked a certain something. He deserted, leaving no-one to take over stage lighting, except . . . "I'm sure you'll do it very well", said the Headmaster, "After all, as a Physicist you must know and love all things electric". My protests were lightly brushed aside, and I was promoted to Technical Director in sole charge of both lighting and sound. Perhaps my third visit to a lighting perch was to be the lucky one?

I spent the dress rehearsal squashed in one corner of the perch about ten feet above stage level whilst the boys in charge pulled levers and patched and re-patched spaghetti-like cables with reckless abandon. I was totally ignored since the boys realised that they knew infinitely more about lighting than I did. However I managed to discover that raising levers seemed to raise the intensity of the lights, and vice versa. A visit to a local amateur dramatic company showed me how to produce the effect of lightning – a naked bulb dangling from the stage ceiling was rapidly switched on and off! Armed with this knowledge, I proudly informed our producer that I could now give him daylight (all lights on), night (all lights off), and lightning flashes (one lamp switched on and off). He succinctly suggested that this would not suffice for "She Stoops to Conquer", and hinted that I should extend my repertoire of effects. Deeply hurt, I contacted the Oxford Playhouse and asked for advice. I dutifully ploughed through Fred Bentham's *The Art of Stage Lighting* (Pitman), Geoffry Ost's *Stage Lighting* (Herbert Jenkins), Rollo G. Williams *The Technique of Stage Lighting* (Pitman), and Stanley McCandless's *A Method of Lighting the Stage* (Theatre Arts Books, New York). I began, dimly, to see the light and went backstage to my local rep. (where I'd helped them over their sound system) and to the Playhouse to chat to the lighting men there and see how it was done in practice rather than in print.