Management trainee at the North Thames Gas Board

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Gap year

In 1966 I applied to Cambridge to study engineering. The process then was to sit the Oxbridge Entrance Examination in the autumn after taking A-Levels. This meant delaying going to university for a year. I was accepted at Cambridge and the Engineering Department wrote to me recommending that I use the gap year to get appropriate work experience. I applied to some exciting high tech companies offering pre-university internships (e.g. British Aerospace, if I remember correctly) but got no offers. I somehow ended up as a management

trainee at the now-defunct North Thames Gas Board. I was paid 13 pounds a week, which I thought pretty good at the time. I don't remember how I found this job. My guess is that I replied to an advert that I happened to see in a paper or magazine.

North Thames Gas Board management training

The management training programme was new. I think I was the first person to go through it and I may have been hired as a guinea pig for testing out ideas. The programme was run from the North Thames Gas Board office in Kensington Church Street in London. I found the picture of the building shown in Figure 1 below with Google, though I don't actually remember it.

I started work by reporting to a dapper middle-aged man at the office in London. The main thing I remember about him was that he said his hobby was ballroom dancing. He explained that my training programme would consist in being sent for a week or two to various groups within the company, so that I could get an impression of the range of activities that the business involved. I was then to write a report. The bottom two rows of the picture in Figure 2 below gives an idea of all the things done by the North Thames Gas Board.

Although I would periodically return to the London office for a few days, most of what I did involved travelling outside central London.

Buried pipes and gas holders

Gas is distributed to consumers via pipes, which are often buried under roads. I spent some time attached to an engineer who oversaw road digging activities. I drove around with him on visits to digging sites and he would explain what was going on. I remember learning about various kinds of valves that were used to connect pipes. We also visited gas holders and I learnt that a professional would never call these "gasometers", which was the term I knew them by. We used to go to lunch in little cafes that were usually tucked away in seedy rows of shops. These inevitably served meat and two veg plus irresistible stodgy desserts like apple crumble with custard.

Becton Gasworks

The location of most groups I was attached to was the enormous Becton Gasworks, said to be the largest such plant in the world. In its heyday Becton had its own internal railway system for moving coal around, but by the time I worked there the production of gas and other products from coal had largely stopped and the

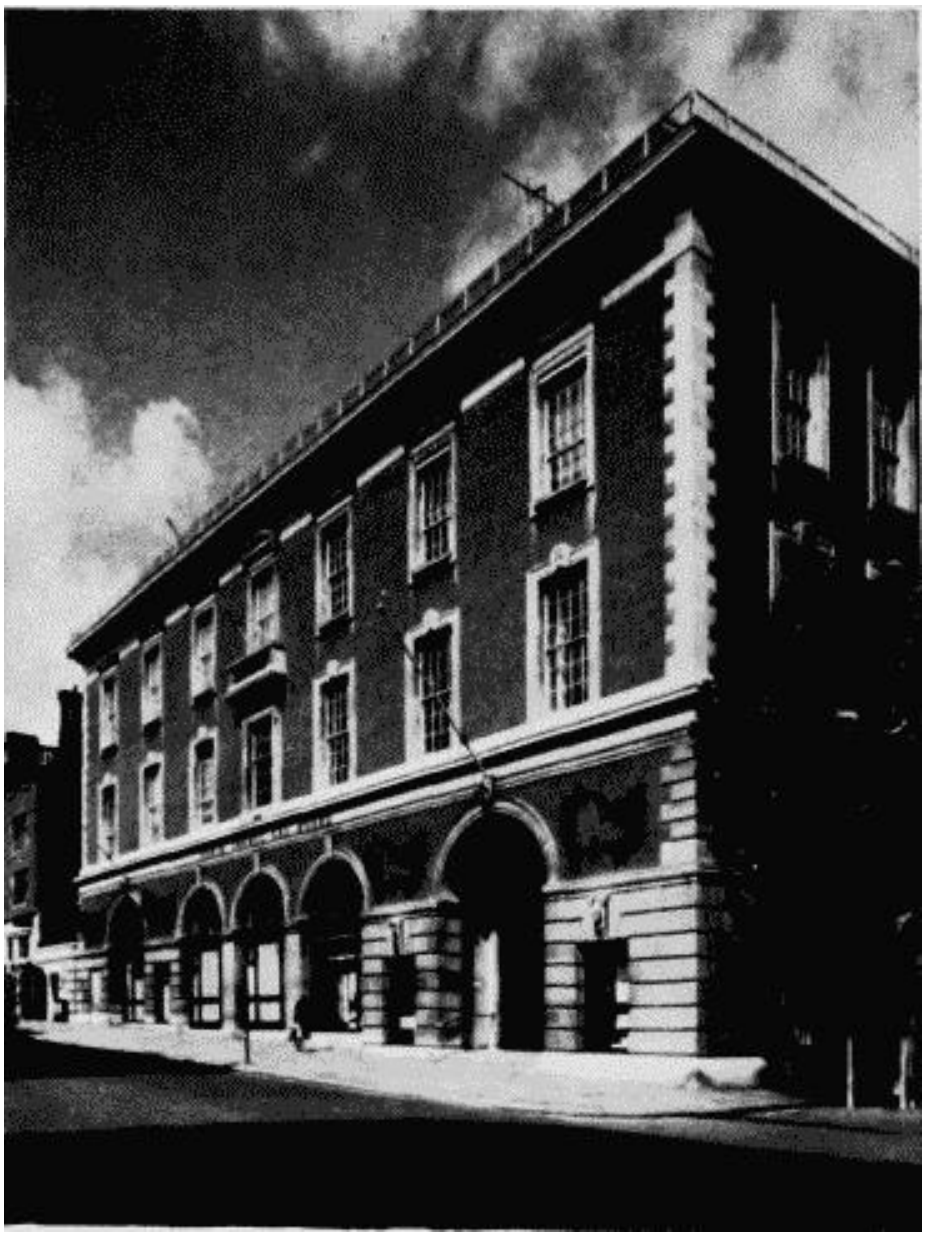

Figure 1: From: http://www.british-history.ac.uk/survey-london/vol37/plate-36#h3-0004

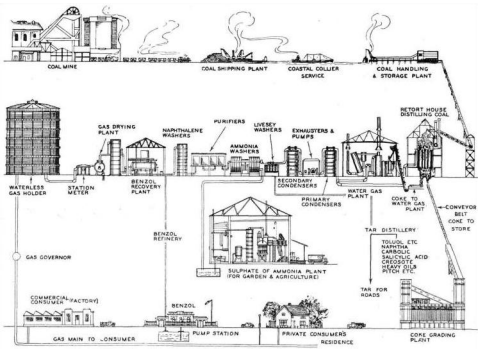

Figure 2: From: http://wondersofworldengineering.com/gasproduction.html

trains had been downgraded to a fleet of mini cars. Beckton Gasworks closed in 1969 as a result of natural gas replacing coal gas, so I was there during its last days.

Although I spent some time attached to gas production parts of the works, much of what I learnt were general engineering topics that haven't yet died out, like pipe welding, in which I received lessons. A few memories follow.

White versus brown coats

There were two classes of people who worked at Becton Gasworks: those who wore brown coats and those who wore white coats. Tradesmen like carpenters, welders, pipe fitters and mechanics were issued with brown coats. Managers and scientists got white coats. There were different facilities – canteens, toilets etc. – for each class. I was issued with a white coat, but was often attached to groups with brown coats. Sometimes I found this awkward as I felt my presence was resented. One group I was sent to – I forget which, possibly pipe cutting – simply paid no attention to me and wouldn't put in any time explaining what they were up to. They were located in a large building. Rather hanging around inside this and being pointedly ignored, I would sit outside reading or wander around the gasworks. This lasted for a week. However, many brown coat people were really welcoming and seemed to enjoy and take pride in showing me the work they did. I remember a friendly brown-coated chap who used to take me to a tiny office in a shed where he'd make me tea with condensed milk and chat. There were pinups on the wall, which were rather explicit for the time and which I think he mischiefly hoped would embarrass me.

Gas production

The diagram of gas production in Figure 2 above shows roughly what went on at Becton Gasworks when I was there. I remember a friendly white-coated chemist showing me around a retort house for distilling coal. However, there was an earlier era in which different processes were used.

Figure 3: From: https://en.wikipedia.org/wiki/History_of_manufactured_gas

Becton had some huge disused buildings that housed rows of ovens into which hundreds of men would shovel coal. The painting above in Figure 3 is from the Victorian era, but the photo following it (Figure 4) is closer to what I saw. I was given a guided tour of these atmospheric and decaying buildings. They are one of the most vivid memories of Becton that I have.

Estimating

Jobs, like putting up shelves, were done in two phases: first, the time taken would be estimated by an estimator, second, an appropriate craftsman would be assigned the job and given the estimated time. If he did the job quicker than the

Photograph 8. Women stokers during the war.

Figure 4: From page A12 of http://goo.gl/PiOo7r

estimate he'd get a bonus. I don't remember if there was a penalty for taking too long; probably.

I was attached to an estimator in a carpentry section. Estimators were generally experienced craftsmen who had the responsibility of compiling the tables used for estimating. They did this by watching people doing actual jobs and timing all the activities down to a fine level of detail. For example, the tables specified how long it would take to put a single screw into a wall for different screw sizes .

When a job was commissioned, the estimator would fill in a form that specified the components and the sequence of actions needed to do the job, including walking distances. He would then add up the times for each action using the pre-compiled tables to get the total time for the whole job. The times assembled by the estimator were then entered on the form that was given to the craftsman.

There was a tension between the person doing the work being recorded and the estimator recording it. If the time recorded was longer than necessary, then it would be easy to get bonuses. However, estimators were experienced and could spot slow working. They may have got bonuses if the craftsmen didn't get bonuses. There was clearly potential for small-scale corruption here, but I didn't spot it happening. The estimator I shadowed seemed very fair.

This process of managing jobs struck me as wasteful and also seemed to derive from a lack of trust in craftsmen. It was one of the things that put me off wanting to work in industry.

Thoughts on my management training experience

Going through the management training programme taught me a lot. I wrote up the technical material in a report. This just summarised what I'd learnt. For example, I remember I included hand drawn diagrams of the sort of valves connecting gas pipes buried in the ground and also an account of coal distillation. The purpose of the report, I assume, was to help determine whether the training I'd received had imparted the right sort of knowledge. I got no feedback on it, though I don't remember thinking that they were unhappy with my progress. Alas, I don't have a copy of my report.

The non-technical aspects of working for the North Thames Gas Board had a huge impact on me – see the next section below. My father died when I was eight and my grandmother then paid for me to attend a trendy boarding school. Until I was eighteen, except for short school holidays, I lived in a bubble described as a "bohemian idyll". Growing up in this bubble was poor preparation for interacting with people from the real world, especially those - a minority - who made it clear that I was not one of them. My manager-denoting white coat did not help.

I must have known that the kind of engineering I'd study as an undergraduate would be very different from the engineering I experienced at the gasworks, and

also that becoming an engineer didn't commit me to a career at a place like Becton. Nevertheless, this didn't prevent my experience there totally putting me off engineering.

How the gasworks changed my life

In my teens I made model aircraft both gliders and ones powered by tiny petrol engines; some of which I attempted to make radio-controlled (inevitably they crashed and were write-offs). I also built transistor radios from kits (though they never worked properly as I couldn't master the art of soldering). I used to like wandering down Tottenham Court Road and Lisle Street, which were then full of shops selling cheap Government war surplus radio and radar equipment (things are different now: Lisle Street is part of London's Chinatown). Going to university to study engineering was an obvious choice.

My time at the North Thames Gas Board, particularly Becton, destroyed my enthusiasm for engineering. Furthermore, I found the preparatory reading that I'd been sent by the engineering department very boring. I decided to try to switch to a different subject as far away from engineering as possible.

I used to like to hang out in the Gower Street Dillons bookshop and browse through books on exotic subjects. I somehow stumbled upon symbolic logic and bought books on it, some of which I read on the train when commuting between Becton Gasworks and Crouch End, where I was living with my mother. I still have these books. Some examples shown Figure 5 are below.

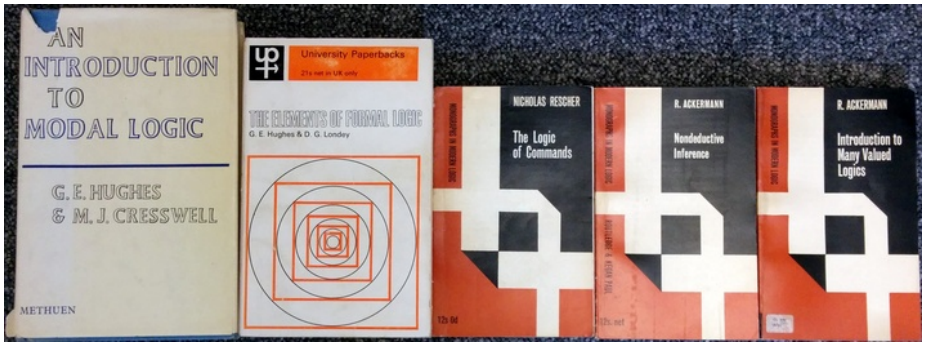

Figure 5:

I found logic intriguing and I briefly toyed with trying to switch to philosophy at university, but I was too nerdy to seriously consider the humanities. Also my school record was terrible: I failed French O-Level and only just scraped through English O-Level. I'd dropped all humanities subjects that weren't needed for university entrance. Mathematics seemed to me the furthest subject from engineering that didn't involve writing essays. Although I liked mathematics at

school and was fairly good at it, I wasn't exceptional: I remember being around third or fourth best in my class. It was a subject that I'd have had absolutely no hope of getting into Cambridge to study. The best person in my class was *much* better than me, but failed to get a place. I recently met him at a school reunion: after studying mathematics at another university he became a high-flying lawyer at ease with cases involving financial mathematics.

Despite my relative weakness in the subject, I decided to try to switch from engineering to mathematics. I was incredibly lucky in that my tutor John Casey supported my wish to switch subjects and managed to make it happen. I think he may have thought engineering to be of dubious academic value and that he should do his best to save me from it.

Although I struggled with the Mathematical Tripos, and it turned out to involve writing an essay, I ended up having a career that I don't think I would have had if I'd studied engineering. I still see John Casey in the street sometimes; he doesn't recognise me but it has crossed my mind to thank him for what be did.