

John Drinkwater, Interviewed: 15/02/05

Q: Would you tell me about your wartime experience, beginning with 1939?

JD: Yes, well, I'm an engineer. A chartered engineer by profession. And I was working at a firm in Leicester called Taylor, Taylor and Hobson, who manufactured a varied range of engineering products from optical instruments, mechanical instruments and electronic measuring instruments for the engineering trade, in general. I started there just before the war started in 1939. At that time, I'd spent my apprentice years with the local textile engineering company. I left them to join Taylor Hobson and then the war broke out. So I found myself in a reserved occupation, and although I volunteered for service in the Fleet Air Arm, as a matter of fact, they accepted me on my medical and educational grounds, but they wouldn't accept me because I was in a reserved occupation. I forget the number of the reserved occupation now. H-7, or 11. Something like that. So I found myself stuck with Taylor, Taylor and Hobson. I joined the Home Guard as soon as Antony Eden made his speech, appealing for volunteers. I went down to the police station in Leicester, Charles Street, and joined the Home Guard. After twelve months, unfortunately, I had an accident in the Home Guard, on exercise, and I lost the first two joints of my fingers. Which at the time, was a bit of a nuisance, because I was an engineering draughtsman and I had to use pens and pencils and that. I got over that and was eventually able to resume my duties as a draughtsman. I also did a bit on technical sales and service and traveled about the country, servicing equipment. It was a peculiar situation in a way, because virtually by the diversity of the products the company was making, and one would question now whether such an arrangement would be a profitable arrangement, in fact I don't think it was in those days, really. But the head of the company was a very intelligent and forgoing person, looked at the business as a challenge and if he found a problem that somebody couldn't solve, he would solve it. Whether it was economically profitable or not, this was a secondary thing. And the firm did, in fact, end up with a number of products that weren't saleable. They solved a problem, but there was no great demand for them. But apart from that, in view of the diversity of the products, one could find oneself, as I did, in Sweden one week, checking the alignment of a ship's propeller shaft, in the dockyards at [Jotenberg] and the next week I could be at Eastbourne, in England, showing a funeral furnisher how to engrave coffin plates. Because the company made optical measuring equipment which was used for measuring lines of sight, setting up aircraft fixtures. Hundreds of these optical alignment telescopes were sold to the American Aircraft company. In fact, I still have a book called *Optical Tooling* that was compiled by fourteen American Aircraft companies and associated companies on optical tooling as produced by Taylor, Taylor and Hobson. And I still have that book in my possession. And, as I say, as far as sales and service were concerned, you led a very varied career. The reason for the engraving coffin plates arose out of the optical business. The firm originally started by a man called Smithies Taylor. Who spent seven years in the optical trade before

coming to Leicester and starting up his own business. And then he was joined by his brother William Taylor, who was really the go-getter of the company. William Taylor was a brilliant engineer. He became president of the Institution of the Mechanical Engineers. He was a member of the Royal Society and he got an OBE for his work for industry. A remarkable man. Unfortunately, I never met him. He died the year before I joined the company. But his influence carried on through the firm. And coming back to the engraving thing, as I said, they started in the optical field. At that time you couldn't buy lens polishing machines, or anything like that. If you wanted to go into that field you had to make all your own equipment. So he designed and made lens polishing machines, some of which are still in use. I saw as recently as a month ago in a factory in Leicester the same machines being used today for polishing lenses. In addition to polishing the lenses, they had to be put in a mount and since there were no special lathes available for turning the type of mount for optical lenses, because they needed a very fine screw thread to screw the parts of the mount together, to contain the lens. There wasn't even a screw thread system in existence that was suitable for that work. So he designed a screw thread system, a fine screw thread system, that became British standard. And also, finally, to identify the lens, you had to engrave around the lens mount the details of the lens. The F number and the aperture and all that business. And it was done by hand. And he said: 'No, we're going to do this mechanically.' So he designed and manufactured an engraving machine to do this. And all these things were in existence when I joined the company at the beginning of the war. Which it did mean, as I say, if you were on the technical sales service side, you had a very wide range of products.

Q: Did the war have the effect of diversifying production in the factory?

JD: Well, what happened was during the war, on the optical side, that was channelled towards binoculars. Millions of binoculars were made during the war. And gun sights. And low-level bomb sights. I actually worked on low-level bomb sights which were used by Mosquitoes for bombing Germany at low-level altitudes. And they were optical products and they were made in the optical department. The electrical measuring instruments, they developed into instruments for measuring strip as it came off rolling mills. The thickness of the strip. We used to call it a Flying Micrometer, because the measuring surfaces were two discs that were brought into contact, one below the sheet and one above it. And as the rolled steel came off the mill, one of the wheels was fixed and one was moved, and the movable one measured the thickness of the strip. And that was one of the developments during the war. And of course, there were many other developments on the engraving side that were used for engraving all sorts of equipment like the ... device for setting the gun for the correct angle for firing. Clinometer, that's the word I'm looking for. Clinometer. We used to make these clinometers for use by the artillery, on the guns, for setting the angle of the gun, firing in the distance.

Q: What other effect did the war have on you, in the factory?

JD: Well, it's a bit ... I often think about this because a lot of my friends sadly lost their lives in the war but we seemed to live in another world, really. Until the actual bombing of Leicester, for two days during November, at one time, we hadn't really realised what it was all about. We led a very secluded kind of life. We worked long hours in the factory. We ate our meals at the factory.

Q: Was there a canteen?

JD: Oh, yes. This was one of the things that the war did. Factories had canteens, which they hadn't had before. And this was to enable the workers to go and have a meal and then go back to work.

Q: When you say long hours, how long?

JD: Well, we'd start about between seven and eight in the morning. And go through to seven or eight at night. And very often those of us who were still working would go on Home Guard duty guarding the factory and spend all night guarding the factory. There was very little time for leisure or anything like that.

Q: Was it mainly men or were there some women?

JD: No, we employed quite a lot of girls, especially on the lens polishing side. Nearly all girls were on the lens polishing side. And engraving as well. A lot of the girls did engraving work.

Q: What was your weekly wage?

JD: I can tell you when I started it was four pounds a week. I remember it now. I would say this. I spent forty years in engineering, I became a Chartered Engineer, member of the Institution of the Mechanical Engineers, member of the Institution of Quality Assurance, and I was the Secretary, the local Secretary, for the Institution of Mechanical Engineers. I was also Secretary of the Leicester Association of Engineers, which met at the local College of Technology, to listen to lectures by other engineers. So I led a very full life, really.

Q: Did people continue to go to college for those kind of qualifications during the war?

JD: Not necessarily. I had to go to, well, this is another thing I forgot. During the war I had to go to evening school to do my technical in Leicester. The College of Technology in Leicester. And I used to go three nights a week and in order to qualify for membership of the Mechanical Engineers, I'd got to have certain subjects at Ordinary National Certificate Level, certain subjects at Higher National Certificate Level. And then other subjects in a third syllabus. There

were three categories in the Mechanical's Application. There was Section A, Section B and Section C. Sections A and B could be satisfied by your technical qualifications in the National Certificate but Section C depended on your responsibility in some engineering project. I had a bit of difficulty in this respect because the subject I wanted to submit was the work I did on a guided missile weaponry system for the Admiralty, which was done under sub-contract to Metropolitan Vickers at the Old Trafford. And I had to sign a Secrets Act because it was secret, so when it became important to me to reveal to the Institution of Mechanical Engineers, this created a bit of a problem. But thanks to the boss of the company, Mark Taylor, who was a nephew of William Taylor, and who was also a member of the Institution of Mechanical Engineers, he did a little bit of lobbying on my behalf and explained the situation, so I did get my membership. And I've been a member over fifty years now.

Q: How else do you think the war affected you in that profession? You were doing evening classes, long hours of work, was there a trade union, for example, there?

JD: Yes. I became in fact, I was a trade union member at the company for what use to be the AEU, the Amalgamated Engineering Union, which has now changed its name. And I was responsible for gaining some recognition for the engineers there, although when the war started a lot of the firms were subjected to more government control. And a lot of the government regulations fulfilled some of the things that trade unionists were trying to do.

Q: For example?

JD: Well, the conditions of work.

Q: And canteens.

JD: And canteens and things like that. The number of hours you could work at any one period. And of course, the question of wages. My wages went up to the princely sum of four pounds a week! No, I started at four pounds a week, that's right. I'd been getting two pounds, seventeen and six. Which was the top rate, trade union rate, two pounds, seventeen and six, for a qualified engineer, when I worked at the textile company. And I joined Taylor Hobson earning that rate and they immediately offered me four pounds a week. I went on from that. I would say to this, although I spent forty years in engineering, I enjoyed every minute of it. But don't go into engineering if you want to make money. I think it's slightly better now, but I will put a very significant rider on that. I've been talking in the other room about this. The question of sub-Post Offices cropped up. I, parted from engineering after forty years because I was made redundant three times in six years. And I was fortunate in that each time I was made redundant, I had no difficulty in getting another job. And this should be a lesson to young people. It was solely because of my qualifications. I know young people deride education,

sometimes, but I warn them, if you've got good qualifications, it will help you in life. And it helped me. And as I say, the first time I was made redundant, I got another job at more money. The second time I was made redundant, I got a job at more money. And the last time I was made redundant, I got the highest wage of all. I was working for the Ministry of Technology when Wedgie Benn was the Minister.

Q: Could I take you back to the wartime factory?

JD: Yes.

Q: On the trade union side. You made a very interesting comment that the government was persuading employers to do things that they wanted. Did you attend union meetings?

JD: Oh, yes.

Q: What was discussed during wartime? What would come up on the agenda?

JD: I can't really remember now.

Q: Were they issues of day to day problems?

JD: More or less. They were mainly personal matters. Some people did have personal problems. I think one of the things was that firms were not strictly honest about paying trade union rates. They'd pay some of the workers, who they thought were good and worth it, but not others.

Q: Would that be the women?

JD: No! It was the men as well. Some of the men didn't get the union rate. Because they were doing what the firm thought was a rather insignificant engineering job compared to the skilled tool room fitters, or somebody like that.

Q: Did someone come around and collect union subs?

JD: Yes, yes. We had a shop steward.

Q: Can you remember how much you paid a week?

JD: It wasn't much. Sixpence, or something like that.

Q: Was there such a thing as a Production Committee?

JD: Yes, well, there was one of the things that came into being as a result of the war, was the institute of Production Engineering, because engineering, more

than ever, had to go deeply into the question of mass production. And this raised quite a lot of new problems, technically, as compared to old systems of manufacture that used to be used. And it bred another kind of engineer, called a Production Engineer, who wasn't only concerned with the technical side of engineering itself, he was concerned with the means of producing engineering in large quantities. As it started in the motorcar industry, of course. This was probably the first industry that really went into much production. But during the war, this had been a main problem with firms, particularly like the firm I was with. Because of the many products it made, the quantities required were not big. So the question of mass production didn't occur. But during the war, when you're faced with making thousands of binoculars, you have to develop a different manufacturing technique. And as I say, it came into being, Production Engineers, and actually, there was an Institution of Production Engineers, and I worked for a time at the PERA, the Production Engineers Research Association, at Melton Mowbray. After the war.

Q: But it was in the war that this innovation first --

JD: --Of Production Engineering boomed. Because of the mass production of producing armaments and all the things associated with war that people hadn't had to bother with before. And one thing that does puzzle me, the Institute of Production Engineering which was quite strong after the war, in fact many of my colleagues were members of both the Institute of Mechanical Engineering and Institute of Production Engineering, the Institute of Production Engineering died about five or six years ago. Lack of support. Lack of interest. Just disappeared.

Q: Do you feel that one of the changes in the war was in personnel management?

JD: Oh, yes. Yes. There was a change because as far as I know, the company had never had a personnel manager before the war, but during the war, one of the engineers from one of the engineering departments was appointed the personnel manager. Now, this I think is one of the vast differences that has occurred since the war. Whereas before the war, with the small companies, and there were lots of them in Leicester, and a lot of them were parochial firms like Jones and Shipman, Wadkins, and Taylor, Taylor and Hobson for that matter. The practice was to promote people from their own ranks. You could get a good, qualified engineer being promoted to a non-engineering position in the firm. Some kind of management position. Never been trained for management, but he'd kept his nose clean, done a good job of work, right for promotion. I'm afraid I came in that category. I'm sure I got positions like Sales Manager and Production Manager and I hadn't got a clue, really, if I was honest about it. But nowadays, you could have a ... in fact, it happened. One of the big disasters that overtook the company, I think, was after the war we were taken over by the Rank Organisation. And the Rank Organisation was particularly interested in us because of our lens production. Rank got himself in a position, where if you got

a desert island, it could produce everything necessary to produce and show a film. People who made cinema seats, people who made projection equipment, people who made camera equipment ... My company made the lenses for it. In fact, we supplied ninety percent of the lenses used in Hollywood. Not on British cameras, but on Bell Howell, American cameras. And Rank wanted this, after the war. So he bought the company. Not really interested in the other engineering aspects of the company, but the lens side. Not only that, we found ourselves, being put on by Rank management. They put their managers in, who it's true, were probably skilled in the areas of management, but none of them were engineers. They knew nothing about the engineering side at all.

Q: Was the bringing in of the personnel managers because management were aware that people had to be treated in a certain way so that production could be enhanced?

JD: Yes, I think so. It was a response to monitor people more carefully, to make sure that they got into the right job. It was part of the production techniques that were coming in.

Q: How far were you aware of the bigger picture in the war? For example, the Soviet Union joining the war on the Allied side.

JD: Well, we were pretty well informed of what was happening in the war. In fact, we came into close contact with it in a way in the sense that there were lots of American Forces around Leicestershire. Travel was very restricted of course, and you couldn't get close to the aerodromes where they were. But they would come into the city and I can remember, I was a sort of social secretary at Taylor Hobson during the war and we used to arrange dances at the local Palais de Dance, as a bit of relaxation. I can remember one year that we sold a fair number of tickets in the factory. And I'd got eighty-seven tickets left. I went down to the dance hall with my wife and ... I'd sent these tickets to the dance hall by a colleague of mine, who was going earlier. I said: 'Would you give them to the doorman, you see, when you go in and tell him we've got these tickets available for sale.' Well, when I got down, I was conscious of crowds of people down there. And I said to the doorman: 'Did you get rid of the tickets?' 'My goodness,' he said, 'They've all gone. Look inside.' And the place was packed with American soldiers! They far outnumbered the people from the factory who'd arranged the dance hall! It was absolutely amazing. And of course, there was a little bit of feeling about it because the Americans were pinching all the girls and taking them home in taxis. And if you wanted to go home with me, you'd have had to sit on my crossbar!

Q: What did you do in your leisure time?

JD: I'm a cricket fanatic and I played football as well. But of course, things largely ceased during the war. We had, in the canteen, we had snooker and

table tennis, things like that.

Q: These were provided by the company?

JD: These were provided. And we ran competitions between ourselves.

Q: So there was a lot of social life?

JD: A lot of social life, yes, yes. In the factory, yes. In fact, we interchanged with ... I mentioned the other parochial factories, we interchanged and we used to play each other at snooker or table tennis. We went to their works canteen and play them there and they'd come to our canteen.

Q: Did the canteen offer food or did you take your own?

JD: Oh, yes, food! In fact it was quite good in a way. Although there was food rationing, ordinary people who didn't have access to works canteens were really had a very tough time of it. But if you worked and you had a canteen at the works, you could eat there. Plain meals, but good. And they satisfied you. And you didn't have to give ration coupons for them.

Q: Did you read a newspaper or magazine?

JD: I used to have a thing called *The Weekly Illustrated* that I used to read. I still got one or two at home now. But I've always been a keen reader. I'm reading *Bridget Jones's Diary* at the moment! But, yes, I didn't have a lot of time for reading, I must confess. And during those years, a lot of my reading was technical anyway because I had to do it for study purposes.

Q: Were there any union disputes during the war?

JD: Not really. I think I must have been a bit of a Red somehow. Communist. When I went to the company they never had any trade union representation at all. And I think they were rather surprised when they found there was this rather mild-mannered young man trying to whip up enthusiasm for the union in the works! None of them had been associated with a union before.

Q: So really, it was when you arrived during the war that you were able to introduce a union presence.

JD: Yes, as I said, it didn't reach really aggressive situations.

Q: Would it be right to say that before the war the company didn't feel a union was necessary, but during the war they felt they had to give the union a place?

JD: Yes, quite.

Q: In a sense, the government was also saying --

JD: Yes, and the growth, you see, when I joined the company, I think it was about three hundred employees. At the end of the war there was fifteen hundred. And spread over five factories in Leicester.

Q: So by the end of the war those factories were all unionised?

JD: Yes, more or less. Yes.

Q: John, would you like to make that final comment?

JD: Yes, I was talking about tools for production purposes and that. And one day I had to go into the stores to look for something and I found all these old tools in cupboards that hadn't been used for years and years. I said to the storekeeper: 'What are all these?' And he said: 'Some of them, I think, were used in the First World War!' So I got them out, and I spoke to my chief, the chief of the tool design office, and he said: 'Oh, yes. We're going to use those again. These were used for making the Clinometer in the First World War. And now you've found them you can get them out. Check them over, and make any amendments that might be necessary.' And we did, actually, use in production tools in the Second World War tools that were made for the same product in the First World War.