

Fulmer

**Research
Institute**

**A HISTORY
OF THE
YARSLEY LABORATORIES**



GOLDEN JUBILEE

1931 — 1981

FOREWORD

DR. V. E. YARSLEY

Looking through the records of the past fifty years, it is interesting to see how the fortunes of plastics have changed with outside influences, and how the Yarsley organisation has grown progressively with the industry. At first, plastics were regarded as substitutes and were mistrusted by industry generally. Then came the 1939-45 war when plastics (new and old) gave yeoman service in many fields, and convinced sceptical users that there was future potential in these new materials. This was to such an extent that many old and established industries outside the chemical and related groups gave them a trial, and thereafter wider and continuous use.

It was fortunate for me, and then the organisation which grew up around me, that we came along at the psychologically right time, or possibly just a little too early. Interest grew in plastics, particularly overseas, and an independent organisation such as I had was able to advise and, if necessary, to initiate the manufacture of plastics and products therefrom. I was fortunate in another way in that I found progressively enthusiastic staff who shared my interests, and were prepared to collaborate whole-heartedly in the work as it extended and diversified. In the main in those early days it was the work rather than the salary scales which dominated, and the staff were as keen as I to give maximum service to clients, and to attract new ones. We did not advertise; good and successful work was the best advertisement. What became known as the "Yarsley Organisation" was thus a corporate effort, of which I was titular head, and I express my gratitude to all those who assisted me in good times and bad, and particularly to those who are still members of the Group staff.

I also owe a deep debt of gratitude to many of my good friends who were leaders in various branches of the chemical and allied industries, and who came to me for advice and guidance, and thereafter retained me to guide or direct their own research efforts in the production of new materials and processes.

To follow our diversifications over those fifty years in the preparation of this historical survey, and to record these in reasonable sequence, has been no easy matter, and in this I am most grateful for the assistance given to me by senior members of the staff who worked with me for many years.

Victor Yarsley

HISTORY OF THE YARSLEY LABORATORIES

In the preparation of this record, a certain amount of personal information is essential, in order to emphasise why and how certain developments took place. The steps taken by any organisation in its forward march are sometimes deliberate, sometimes forced by circumstances, and sometimes the result of a combination of opportunism and forward planning. In the present instance all these combined, and they are reviewed against the background of the chemical industry as it existed half a century ago.

Dr. Yarsley

As was customary at the beginning of the century, Dr. Yarsley received his early education at the village school (Chasetown in Staffordshire) up to the age of 13, when with the aid of a County Scholarship, he transferred to the nearby Queen Mary's Grammar School, Walsall. His years there coincided with World War I, so that they were difficult in many ways. Although the war ended in November 1918 when he should have been due for call-up for military service, the normal progress of his school life was disrupted, with the result that Dr. Yarsley was only able to Matriculate (Joint Board 1st Class) a year later in 1919.

With the help of a County Major Scholarship, Dr. Yarsley then went to Birmingham University in the rather tough "ex-service" year in 1920, taking chemistry, physics and mathematics with a view to qualifying for the teaching profession. He was thus working with and competing against men matured by several years of active service, which was not easy (albeit good training) for a boy direct from secondary school. In spite of this – or probably because of it – Dr. Yarsley graduated (B.Sc. Honours, School of Chemistry, 1st Class) in 1923 and then gained an M.Sc in 1924, with chemistry as the main subject. In this year he was awarded a Fellowship by the Salters' Institute of Industrial Chemistry, and spent a further year at Birmingham with a Ph.D in view. Here again, external circumstances influenced his programme, and instead of proceeding with training for a Teaching Diploma, he opted to devote his efforts to industrial chemistry, and on the advice of his Professor went to the Eidgenössische Technische Hochschule in Zurich under Professor Fierz-David.

It was here that Dr. Yarsley made his first contact with the almost unknown branch of chemistry designated "plastics". He worked in the laboratory next to the department of Professor Hermann Staudinger where the foundations of plastics were being laid. It is of interest to record that Staudinger antagonised the professional chemical world by stating that there was a family relationship between all long-chain organic compounds, and that these plastics, as he called them, constituted a separate branch of organic chemistry. Dr. Yarsley's thesis on "The Physical Properties of Cellulose Acetate" gained him the degree of D.Sc(Tech), (Doktor Technischen Wissenschaft) in 1927, after which he spent a further year in Zurich as "Assistent" to Professor Fierz.

Dr. Yarsley was fortunately able to apply his work on cellulose acetate when he returned to England (and married) in 1928, and was appointed as the Chief Chemist in the Non-Inflammable Film Co., a new organisation designed to make cellulose acetate and photographic film (so-called non-inflammable) by a completely untried process. This was found to be unworkable and after three vain and hard years, during which he travelled widely in Europe to find a satisfactory alternative, the company closed in 1931 leaving debts, a £500,000 plant, and a disillusioned staff. Dr. Yarsley was retained by the Liquidator: the rest of the staff dispersed into a market then at the height of the 1930/31 depression.

In the prevailing circumstances it was hopeless to look for anything but a low-grade appointment, and although he had very little to offer beyond an extensive chemical technological education and a few years of considerable frustration in the cellulose acetate and film industry, Dr. Yarsley decided to strike out on his own as a consultant in these, his specialised fields of experience. The designation "consultant" was the only way in which industry could be approached, but Dr. Yarsley had actually very little to offer in the way of experience in the conventional manner of established consultancies. He therefore decided to supplement his experience with practical work, in other words, to "sell" research. So in 1931 the foundations of the Yarsley contract research organisation were laid, which coincided with the formation of the Institute of the Plastics Industry.

THE EARLY YEARS

Initially Dr. Yarsley set out to work on the basis of exclusive "retainers" covering either cellulosic products and/or films. Practical work was quite literally carried out in a wooden shed in the garden of Dr. Yarsley's house in Beddington, Surrey. The apparatus was simple, consisting mainly of assorted glass-ware and a small Werner-Pfleiderer mixer. In 1933, however, Dr. Yarsley moved to Ewell and with a laboratory built as an extension to the garage, was able to invest in more sophisticated equipment, including an analytical balance, torsion balance, heating oven and a microscope. Discreet publicity played no small part in the development of the business in this period and in 1935 Dr. Yarsley started his monthly review column *Plastics* in the prestigious *Times Industry and Engineering* which continued for 25 years.

The year 1941 saw two major events in the Yarsley story, the publication of the Pelican book "Plastics" – still regarded as the first bible of the industry – and a further move into even larger premises in Ewell. This completed Dr. Yarsley's solo career, as the increasing demand for his services necessitated the employment of extra staff. The demand for process development work continued to grow, and the first projects involving injection moulding were undertaken. Much of the work also consisted of researching new applications for the recently developed materials such as the polyacrylates. Other work developed the use of plastics as bonding agents and adhesives, particularly for reconstituting those materials such as leather which were in short supply towards the end of the war. This in turn led to applications development work involving GRP, and in one project a prototype pressure vessel was constructed, which was unfortunately years ahead of its time.

A second laboratory was also established in the early 1940's at Walsall, Staffs., which at that time was the centre of the lacquer industry. It also had the advantage of being more remote from the enemy bombing which was a continual source of anxiety to the Home Counties during the war years.



Grove House, Ewell



The laboratories at "Oaklands", Chessington

MAY 1ST, 1958.

The names of
Dr. U.E. Yarsley (Research Laboratories Ltd. and Dr. U.E. Yarsley Plastics Testing Laboratories) Ltd.
were changed to

Yarsley Research Laboratories Limited

and

Yarsley Testing Laboratories Limited.

This was made the occasion for opening the Yarsley Laboratories to inspection by invited guests on
April 31st, 1958, when these photographs were taken.

Yarsley Laboratories staff present :

- | | | |
|-----------------------|---------------------|-------------------|
| 1) Dr. U.E. Yarsley | 3) Mr. L.W. Turner | 6) Mr. W. MacCall |
| 2) Mr. A.G. Goodchild | 4) Mr. E.G. Langdon | 7) Mr. G.C. Jones |
| | 5) Dr. W.G. Bart | |

Guests present :

- | | | | |
|--|--|--|---|
| 1) Mr. Philip Morgan,
British Plastics | 2) Mr. Eric A. Davis,
Chemical Trade Journal | 3) Mr. J.D. Willard,
Rubber Journal and
International Plastics | 4) Mr. J.P. Smith,
Rubber and Plastics Age |
| 5) Mr. Courtenay G. Kemp,
Far East Trade | 6) Mr. Petryell,
Packaging Review | 7) Mrs. H.L.C. Biewee,
Board of Trade, Export
Selling and Sales Branch | 8) Mr. F.W. Harridge,
Hochmeyer |
| 9) Mr. J.H. Rotcliffe,
Plastics Institute | 10) Mr. W. Andrews,
The Times Review
of Industry | 11) Dr. J. Hey, Robertson,
The Industrial Chemist | 12) Mr. B.C. Aldis,
Plastics Federation |

Guests at Yarsley Open Day, 1st May, 1958 commemorating the formation of
Yarsley Research Laboratories Ltd. and Yarsley Testing Laboratories Ltd.



Group at the Yarsley Open Day, 1st May, 1958. Dr. Yarsley is in the centre.

FORMATION OF THE CHESSINGTON LABORATORIES

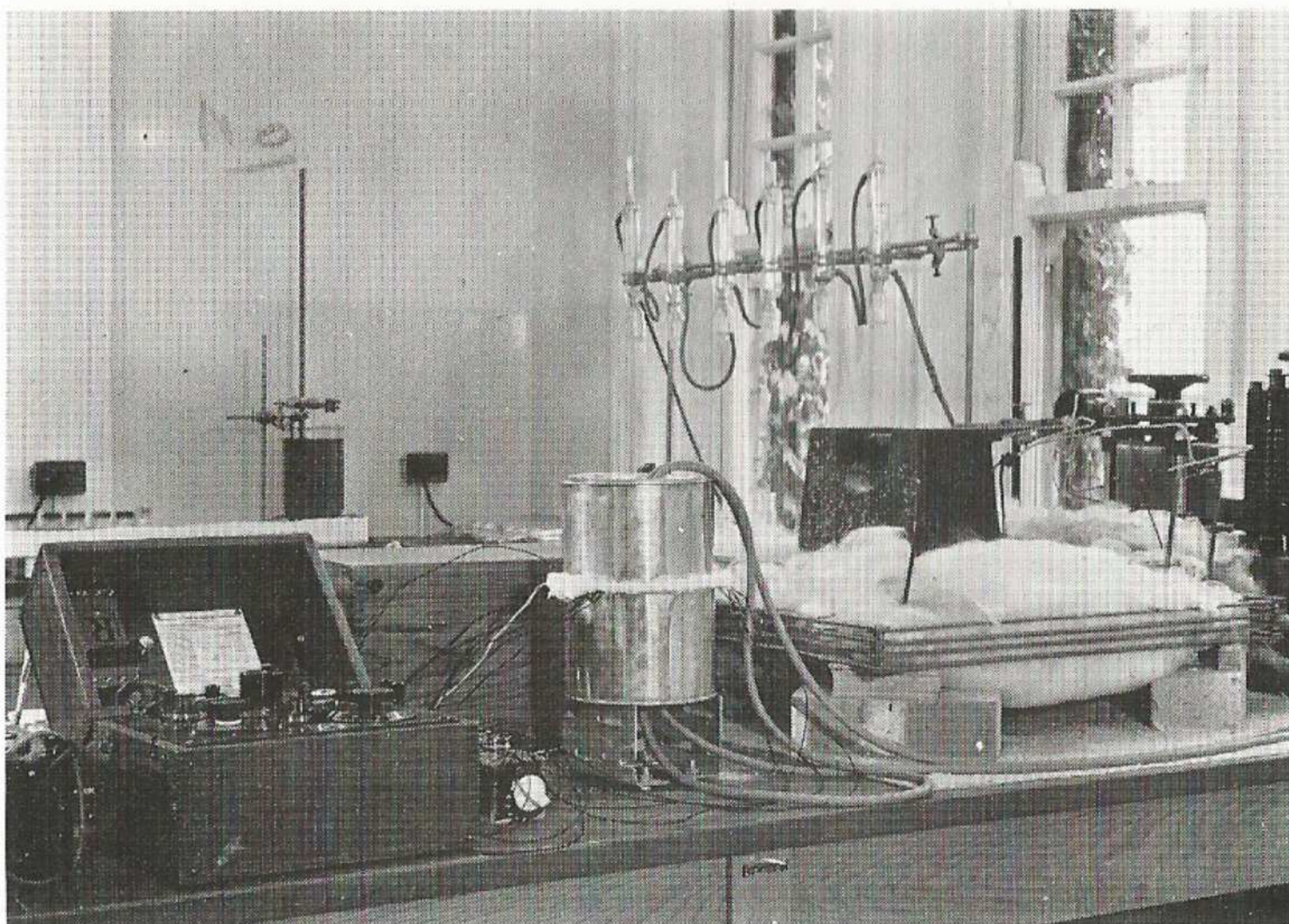
Further development of the laboratories took place until, in 1950, it was time for another move to larger premises so that the Beddington and Walsall operations could be amalgamated. Dr. Yarsley purchased a solid 3-storey Victorian house, "Oaklands", at Chessington, set in two acres of ground and so providing for possible expansion. This included a tennis court, which however did not last long as it was soon covered by three prefabricated concrete buildings. These were equipped to provide the first in-house engineering facilities available to the Yarsley organisation, which by now had increased to over 50 staff. The new laboratory was also set up for the first time as a limited company, Dr. V. E. Yarsley (Research Laboratories) Ltd. The nature of the work also changed in this period, with many projects starting as feasibility studies but subsequently involving the building of prototype plant which was often transferred to the client's works. Another significant change was the increased demand for testing work, not only on plastics, but also other materials such as oils and building products. In 1955 these activities were separated from the plastics research and development work in a new company, Dr. V. E. Yarsley (Plastics Testing) Laboratories Ltd.

The growth of the two companies continued, but the increasing sophistication of the equipment and other facilities required for research and testing necessitated more capital than could be generated by the companies alone. Therefore, in November 1960 with the help of the Industrial and Finance Corporation Ltd, the share capital of the Yarsley organisation was increased. In his subsequent first Annual Report, Dr. Yarsley wrote:

"The shareholders are aware of the reorganisation of the Company which took place last November, when the Industrial and Commercial Finance Corporation Ltd. financed the purchase by the Company of the property, plant and fittings and in addition took up 40% of the increased shareholding. At the same time Yarsley Testing Laboratories Ltd. became the wholly-owned subsidiary of this Company, and additional Directors were appointed to the Boards of both Companies. As this reorganisation took place during the financial year under review any comparison of the results of this period with the previous year would be misleading. Nevertheless, the past year has been an encouraging one, and I am sure you will agree that a Group profit before tax of £25,487 is satisfactory".

In the same year a partnership was formed between Yarsley Testing Laboratories and Caleb Brett and Son to set up Brett Yarsley Services to develop a growing area of work, the testing and analysis of oil products. From the point of view of the Yarsley organisation this partnership was not to prove very successful, and the 50% shareholding was eventually sold to Caleb Brett.

THE LABORATORIES IN THE LATE 50's



Early Thermal Conductivity Apparatus

NEW LABORATORIES ESTABLISHED AT ASHTEAD

A development of major significance took place in 1966 when a 21-year lease was taken on premises in Ashtead, Surrey. This provided 17,000 sq ft of space ideal for the testing activities of Yarsley Testing Laboratories. In order to ease the cost of the move, the transfer of the testing equipment from Chessington to Ashtead was phased over an 18-month period, and only minimum disruption to the work occurred. The experience gained from this was to prove invaluable some ten years later when YTL moved yet again to a site in Redhill, with most of the senior staff being involved in both moves.

MERGER WITH FULMER

Towards the end of the 1960's the pattern of work within the Yarsley organisation once again began to change. The day of the long explorative research contracts in plastics technology were gone and many companies were doing their own research in-house. A vast volume of data and general information on plastics was available in the literature, and so the Yarsley information service was started to assess and disseminate this for the benefit of clients. Also a policy of collaboration with other independent research organisations was started and links were forged with the Fulmer Research Institute Ltd. At this time both organisations were considering the effects on their business of the Rothschild report, which led to the Government introducing the "customer-contractor" principle into its financing of R. & D. After a series of very friendly discussions, it was eventually agreed that Fulmer and Yarsley should merge. This took place formally on 1st May 1973, the 42nd birthday of the Yarsley organisation, and Dr. Yarsley joined the Fulmer Board.

One result of the merger was that Yarsley's Chessington premises, into which nearly 25 years hard work had been put, were closed. Most of the staff and facilities of Yarsley Research Laboratories were transferred to Fulmer's Stoke Poges laboratories. The Chessington property was subsequently purchased by the Esher local authority, and it was with great sorrow that the fine old Victorian house was seen to be demolished, although the outbuildings were retained.



Staff group, Chessington, 1964



Recipients of 20-year service awards

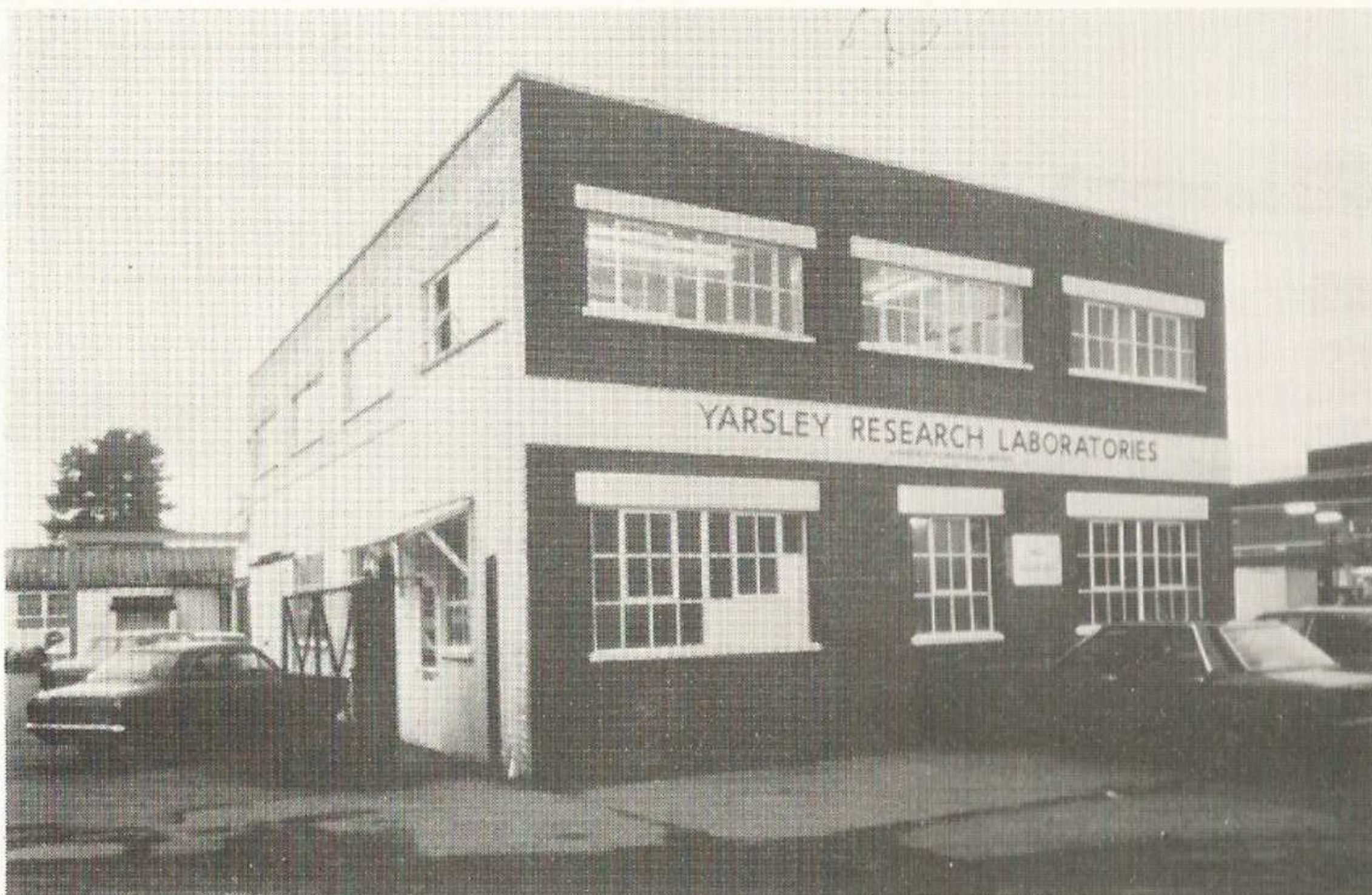
Yarsley Testing Laboratories remained relatively unaffected by the events taking place at Chessington and Fulmer, except that two sections of Yarsley Research Laboratories were moved to the Ashtead premises. However, a major setback occurred to the work at Ashtead with a disastrous fire on 6th May 1974. Equipment and records were destroyed, including a unique facility for casting thin polymer films, the loss of which is still being felt.

Meanwhile, in December 1975, Fulmer acquired a small independent plastics engineering laboratory which was situated at Newhaven, Sussex. This company was renamed Yarsley Polymer Engineering Centre (YPEC) and Dr. Yarsley was appointed Chairman. It soon became clear that the expansion of both YPEC and YTL was being restrained by lack of space and so the Fulmer Board took a policy decision to integrate these companies in new premises which had been identified in Redhill, Surrey.

The transfer of the facilities and staff from Newhaven and Ashtead to Redhill commenced in June 1977 and was substantially complete by the end of that year. This allowed the Yarsley Research Laboratories staff and facilities to be transferred into the Ashtead premises. The new company at Redhill was formally registered on 1st January 1978 as Yarsley Technical Centre Ltd. (YTEC).

Both YRL and YTEC have continued to develop on their sites at Ashtead and Redhill, and now their combined income is over £1.2m and some 90 staff are employed. The Yarsley name is known throughout the world and has a high reputation for research, development and testing into all aspects of polymer science and engineering. The reputation of these two companies, and the valuable service which they perform, is ample testimony to the vision of Dr. Yarsley when he first ventured into independent practice, and the hard work which he and his loyal staff have contributed to ensure the success of the Yarsley organisation.

YARSLEY LABORATORIES 1981



Yarsley Research Laboratories Ltd., Ashted, Surrey



Yarsley Technical Centre Ltd., Redhill, Surrey