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A.W.H. PHILLIPS, M.B.E.: 1914-1975*

Bill Phillips was born on 18 November 1914 at Te Rehunga, near Dannevirke in southern Hawke's Bay in the North Island of New Zealand, where his father was a dairy farmer and a breeder of Jersey cattle. Bill went to the local primary school and to Dannevirke High School until December 1929 when, having just turned 15, he left school and became an apprentice electrician with the Government Public Works Department. He worked at the Tuai hydro-electric station, one of the first government stations, completed in 1927, at Lake Waikaremoana behind Wairoa in northern Hawke's Bay. The apprenticeship ended in 1935, and Bill showed his first taste for the wanderlust by travelling around the South Island on a motorbike.

In late 1935 he went to Sydney to look for a job. There he was told that there was a job but not on full pay because he confessed to not being 21. 'To hell with that', and he headed north to Brisbane, swagging on the roads and riding trains 'for free'. At Grafton he decided he was near enough to 21 and took a job in a cinema but after a few weeks of this he moved on to the Queensland border where he worked on a banana plantation. Then north to Brisbane where he slept in the cricket grounds before taking a job on a new building site. Early 1936 saw Bill on a four day train to Mount Isa. After six months as a maintenance shift electrician he met a Northern Territory buffalo and crocodile hunter and the two of them headed for Normanton near the Gulf of Carpenteria, 'one street and five pubs'. After buying a boat and going down river to Karumba (an Imperial Airways flying boat base), they 'shot a few crocs but not enough to make big money'. (There was an episode when he joined up with a character called Johnny Walker who caught kingfish for Burns Philp in return for whisky.) The next move was east for Georgetown where there was a job fixing the electric motor at one of the two gold mines. Christmas 1936 saw him chartering an air taxi (a De Havilland Dragon) to Cairns, from whence a boat took him to Brisbane again and a job with the City Council Electricity Department.

In early 1937 Bill decided to go to Britain by way of China and Russia: 'just wanted to see what those places looked like'. He booked

* An early version of this obituary was prepared as a biographical note for the Festschrift given to Phillips on his sixtieth birthday. It was based on Phillips' reminiscences and read and corrected by him. The unattributed quotations are his own words.

The festschrift was organized by Professor A. J. Catt and B. Silverstone of the University of Waikato on behalf of the New Zealand Association of Economists and Phillips' colleagues overseas. The essays were presented to him on behalf of the Association on 18 November 1974.

on a Japanese ship to Shanghai and left at the beginning of July. One day out the Japanese declared war on China, and consequently he had to go to Yokohama. In Tokyo he got his Russian visa, was told he could not enter through Vladivostok, but received permission to go through Mongolia. On the way to Shimonoseki (to get the ferry to Fusan in Korea) at Hiroshima he took a photo of some troops and was arrested. The matter was sorted out but throughout Korea on his way to Harbin in Manchuria at each stop he was met and escorted to a hotel. (There were many stops because the Chinese were blowing up bridges.) He stayed a few days in Harbin in late 1937—it was full of White Russians—before crossing into Siberia at Otpur and via the Trans-Siberian Railway eventually arrived in Moscow. After trying to get a job in mining but finding all the jobs taken by political prisoners, he travelled by way of Warsaw, Berlin and Belgium to London where he arrived in November 1937.

While travelling to Britain, Bill had been taking a correspondence course with the British Institute of Technology ('I learnt my first differential equations lying under a transformer out of the sun at the gold mine'), and shortly after his arrival in London he took the examinations of the Institute of Elecrical Engineers, becoming a Grad. I.E.E. in early 1938. But before this he had to earn a living—he arrived in London with ten shillings in his pocket—and found a job with the Aeronautical Inspection Directorate of the Air Ministry at Kidbrooke testing new electrical components. After a few months of this he became an assistant mains engineer with the County of London Electric Supply Company at South Woodford.

He had been sampling non-technical education at the Regent Street Polytech and after deciding to study economics he signed on at the L.S.E. in July 1939 to start as a part-time student in October. War came and Bill, in a reserved occupation, duly attended what remained of the London branch of L.S.E. He took courses in local government administration, geography and banking, in the last of which Frank Paish was lecturing.

At the end of 1939 he was accepted back into the Air Ministry and after OTC at Loughborough was posted to an Air Armament Training Station near Louth. In January 1941 he was sent as an Armament Officer to Singapore ('a nice cabin in the *Empress of Australia*') and arrived in July. His first job was to get Brewster Buffaloes—the only fighters in Singapore—working with 0·5 Brownings. He was in Burma—where he met the American Chennault—doing the same work when the news of Pearl Harbour came through. Back in Singapore in February 1942, after the invasion he left on the *Empire Star* (which also carried a wounded Alex Hunter, a colleague later in Canberra) for Java.

On the ship on 12 February when it was attacked by enemy aircraft, 'he obtained an unmounted machine gun, quickly improvised a successful mounting and operated the gun from the boat deck with outstanding courage for the whole period of the attack, which lasted for 3½ hours. Even when the section of deck, from which he was operating was hit by

a bomb, Flying Officer Phillips continued to set a most valuable example of coolness, steadiness and fearlessness to all in his vicinity.' The quotation is from the citation accompanying the award of the M.B.E. (Military Division) in 1946 in recognition of his 'services during the operations in the Far East in 1941/42'.

In Java, the first aerodrome near Batavia was evacuated and Bill and his staff went to Bandung. After it was declared open they moved east until ordered to surrender by the Dutch command. Bill was in a party which went to the south coast to see if they could find a boat to escape in, but after a few weeks they were taken by the Japanese. The next three years were spent in prison camps—Bandung, Batavia, and then back to Bandung. They first heard of Hiroshima from the Japanese 'who immediately became very friendly'. The first outside sign was a Royal New Zealand Air Force plane which took the New Zealand prisoners to Singapore and then on to New Zealand. It was almost a decade since Bill had left 'to see what places looked like'.

In New Zealand, Bill had the choice of joining the RNZAF or being demobbed in Britain. He chose the latter and in early 1946 was back with the County of London Electric Supply Co. After being offered the opportunity of joining a team to work on rural electricity in Essex, he decided to accept an ex-servicemen's grant and go on with his B.Sc. (Econ.). While waiting for the L.S.E. to start in October he started at the School of Oriental Studies to study Chinese which he had begun to learn in prison camp in Java. He also 'pushed on with his Russian' which he had been helped with by White Russians from the Dutch Army he had found in Java. (He actually lived in London during this time with the family of a Russian whose brother had been a fellow prisoner.)

In October he started again at L.S.E. taking Sociology as his major ('a combination of ethics, social statistics and pseudo-science') with Economics as subsidiary. According to him he scraped through in 1949 'and even for a scrape a few kind friends on the examining board had to give a push'. Lionel (Lord) Robbins, D. H. (Sir Dennis) Robertson and Nicholas Kaldor lectured to him and he naturally became interested in Keynes. He thought the interest theory was muddled with confusion between stocks and flows. Setting it out in mathematical form he realised he had the model of a hydraulic system, and he proceeded to build a real model.

In the garage of a friend in Surrey he built a model in perspex. Walter Newlyn, a contemporary at L.S.E., became interested and arranged for Leeds University to buy the model. James Meade, 'fascinated by mechanical toys', became interested, and persuaded him to make another for the L.S.E. A modest business was emerging and Bill arranged for a plastics firm in Finchley to make the machine. Oxford, Cambridge, Birmingham, Manchester and Melbourne all bought them. At L.S.E. two were joined together for Meade to demonstrate trade problems. In America, Abba Lerner became Bill's agent and took a few orders, including Rooseveldt College, Chicago, the Central Bank of Guatemala and the Ford Company.

By this time, however, Bill had entered academic life. James Meade had offered him an Assistant Lectureship at L.S.E. which he accepted in October 1950, becoming a Lecturer a year later. His real interest was in mathematical models and in estimating their functions. This led on to an interest in controlling the system to stabilize the economy, and it was on the control problems that he wrote his Ph.D, 'to cover up a very bad degree in Sociology. Frank Paish said it was possible to live it down'.

Bill lectured for some years on Keynesian and control theory, attempting to develop methods of estimation. He was promoted Reader in 1954 and appointed Tooke Professor in 1958. His best-known work centred around what quickly became known on both sides of the Atlantic as the 'Phillips curve'. Sir Dennis Robertson in commenting on his mathematical Keynesian model had said he would have to introduce prices, and Bill himself was not very happy with the stable wage assumption found in popular Keynesian models. As early as 1954 he was using a relationship between the rate of change of prices and the proportionate utilisation of capacity, but the estimation of a function faced severe data problems. About this time, however, Henry Phelps Brown and Sheila Hopkins produced an index of wages extending back into the nineteenth century and with this index and Beveridge's unemployment data Bill reformulated his relationship as the rate of change of money wages against the excess demand for labour. The famous article was published in *Economica* in 1958. 'It was a rush job. I had to go off on sabbatical leave to Melbourne; but in that case it was better for understanding to do it simply and not wait too long. A. J. Brown had almost got these results earlier, but failed to allow for the time lags.'

The reaction in the profession was immediate. Bill's colleague, Richard Lipsey, 'was appalled at the scientific approach, and tried to refute it, Popperwise'. Lipsey succeeded in confirming the original findings. Routh of the National Institute and a pupil of Henry Phelps Brown, also tried to refute it. A Phillips curve 'industry' quickly developed, with Samuelson and Solow across the Atlantic in 1960 establishing the first of many American curves.

By the mid-1960s England was losing its attraction. The reasons partly concerned his family. Bill had married Valda Bennett in 1954 and they wished to bring up their two daughters nearer to relatives. The student revolt at L.S.E. was another good reason to get out. Bill accepted a chair in Economics in the Research School of Social Sciences at the Australian National University and the family migrated in 1967.

Bill had maintained his interest in China over the years, and had kept up reading Chinese—mainly novels. He arranged with the A.N.U. that he could devote as much time as he wanted to Chinese studies. In this respect his years in Canberra were very fruitful. When he left there was an active Centre for Contemporary Chinese Studies with Audrey Donnithorne in residence.

A crippling stroke in 1969 led to his premature retirement in 1970 with the rank of Emeritus Professor. The family moved to Auckland

where Bill, under constant medical care and with Valda's devoted attention and nursing, was able to resume his reading in Russian, Chinese and Economics. In 1973 he assisted the Economics Department of the University of Auckland by taking a course in growth theory. Last year he had begun a course in Chinese economic history. On March 4, 1975, the day after he had given his first Chinese history lecture of the new year, he suffered a final stroke.

Bill Phillips was a great and modest man. Not only did he give a tremendous stimulus to applied economic research on wage determination and inflation, but his pupils and colleagues in London, Canberra and Auckland respected him for his integrity and competence, and loved him for his humanity and enthusiasm.

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