

# Confessions of a Chiffrephile \*

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## Family influences

My interest in economics started early. Until I was six, I lived in Newcastle-on-Tyne, where the main industries were shipbuilding and coal-mining. A large proportion of the work force were unemployed throughout the 1920s, and unemployment was massive in 1929-33. My father had a steady job as a railway fitter but I had two unemployed uncles, and there were many unemployed neighbours. The unemployed were not only poor but depressed. Many loitered aimlessly at streetcorners, looked haggard, wore mufflers and cloth caps and smoked fag-ends. Their children were often sickly or tubercular.

My father took me to Gateshead every Sunday to see my grandmother. The double-decker bridge across the Tyne had open-work iron girders with a long drop to a dirty river that flowed between laid-up ships and a long line of derelict factories. The bleak image of the dead economy was sharpened by the noise and vibration above. Trams rattled down the middle of the roadway, and trains rumbled ominously overhead. At the Gateshead end, the buildings were blacker, and the clusters of unemployed thicker than in Newcastle. I saw nowhere so depressing until visiting Calcutta thirty years later.

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In 1933, the railway workshops were relocated in Darlington. We only moved 30 miles but it was a different world with much less unemployment. I was also aware of other improvements, as I knew that food prices had fallen and that mortgages were affordable.

My parents both left school when they were 12 and were interested in improving their education and mine. My mother used to read to me at an early age, she taught me to play golf, we had competitions in spelling or guessing the title of operatic music we heard on the radio. She took me to movies with dancing or singing (Shirley Temple, Fred Astaire, Nelson Eddy and Jeannette McDonald) and later we graduated to the Sadlers Wells ballet and opera when they appeared locally. My father had been in France from 1914 to 1918 as a paramedic, giving first aid and comfort to the wounded and dying. He continued this interest as a first aid instructor in evening classes for railwaymen. When I was young I often went along as the accident "victim" and was bandaged and splinted by the class. At the time I was an adolescent both my parents were active in the education activities of the Cooperative Movement which ran "week-end schools" once a month where my father was often the chairman. When I was about 12, I started to go with them to these sessions. The speakers gave lectures on British political or economic issues or on international affairs. Those I remember best were Hamilton Fyfe, Principal of Aberdeen University, J.M. (later Lord) Peddie, a Coop economist, Sir Walter Citrine, the trade union leader, and Bruno Halpern, an Austrian economist. About 30 regulars attended these sessions, and the discussions were usually animated. The people who came were nearly all industrial workers or their wives, who were active in trade unions or local labour politics.

One of these meetings, in 1940, was concerned with the political and economic consequences of the war. There were a couple of speakers, Cyril Joad, a philosopher, who dealt with the political issues, and Jack Hemingway, my history teacher, who explained how the war could be financed, basing himself on Keynes' new book, *How to Pay for the War*, which my father bought. This was the first book I read on economics and was more or less intelligible to a 14 year old. It advocated a compulsory levy to prevent inflation, and rationing to provide fair shares. The appendix on national income put the macroeconomic options in a simple quantitative framework. It was then that I began to realise that economics was a useful discipline for solving serious problems and wondered why peacetime economic

problems could not have been solved by the same approach Keynes applied to those of wartime. I followed up Keynes' reference to Colin Clark. I read his *Conditions of Economic Progress* in the public library and was fascinated at the way it quantified what was going on in so many countries. This first exposure to economics had a lasting effect on my subsequent research agenda and the contact with adult education gave me the idea that you get educated by forming your own networks and setting your own programme. I was never subsequently very respectful of formal curricula.

My mother was one of 10 children, a boisterous Scottish family, who bubbled with self-confidence. My most colourful relative was my uncle David who had some kind of chest trouble he had developed in the army. He had a small military pension and could not work at his trade as a french-polisher. He became a street corner politician, giving occasional talks on Fabian socialism on a soapbox on the Newcastle town moor. He always welcomed an audience and was quite willing to use a small boy as a foil for his skeptical ideas on politics and religion. My mother regarded him as a sage, so he became my guru. I imbibed a good deal of what he said without fully understanding it, and he got me to read Shaw and Voltaire.

## School

When I was 11, I passed the examination to go to the grammar school. At that time, it was not free. The fees were equivalent to about 6 weeks of my father's take home pay, so it involved significant parental sacrifice. If I had not been the only child, they probably would not have been able to afford it.

At the grammar school, I was a successful pupil, and specialised in history, English and foreign languages when I entered the sixth form. I was also the editor of the school magazine and secretary of the debating society. There was no economics teaching, but a significant amount of economic history. During the war we had many women teachers, only a few years older than their pupils. My history teacher was Jack Hemingway. He was a friend of my father and took me under his wing. He had been a liberal parliamentary candidate and was active in adult education. He stressed that history was not a

set of facts about kings and queens, but that there were different schools of historians, and different layers of past experience which could be examined. He got me to read Adam Smith, Tawney, Cole, Postgate, the Hammonds and the Webbs. Joan Clapton was also a strong influence. She taught English literature and special history subjects to sixth formers. She was a radical intellectual of 1930s vintage, who roused my interest in Marxist literature, not so much the economics, but the materialist interpretation of history, the notion of exploitation and of class conflict.

My German teacher, Stephanie Hawthorn, fresh from Oxford, helped turn us into Europeans. The sixth form classes were small – for German there were usually three of us. My two classmates were dedicated entirely to language studies and were deep into comparative linguistics. With the four languages we had studied, English, French, German and Latin, we found we had a quick key to learning related European languages. They dabbled in more exotic tongues and I took an evening class in Russian. I improved my speaking knowledge of German by listening to the BBC German service and to the German radio. I also frequented a German-speaking Club for Austrian, German, and Czech refugees who were released from internment to join the Pioneer Corps of the British army.

One of the learning problems in a provincial town is access to books, but I did not do too badly. There were the school and public libraries, and I had a friend, Scottie (R.J. Scott) with a second hand book business. He had a very large stock of books on history and economics, and he let me borrow books, or gave me big discounts when I could afford to buy them.

### University studies

At the end of 1944, I won a scholarship in history to go to Cambridge University (Selwyn College). I went in January 1945, rather than wait for the next academic year, by which time I expected to be in the army.

Student numbers were greatly reduced because the war was still on, but the London School of Economics was evacuated to Cambridge and added a large mix of female and foreign students. The

array of scholars offering lectures was impressive, and one was free to go or stay away from all of them. The University Library was near my college and there was open access to millions of books.

The most exciting of the economic history lectures were those of Michael Postan. He covered British history from medieval times to the nineteenth century. He used the same analytical tools for the whole period – a framework in which the size of the capital stock, changes in technology and demography figured large. He presented empirical evidence of a quantitative kind, made bold hypotheses where information was lacking, and managed to convey the impression that these were contentious topics of major interest. All this delivered with exotic Bessarabian showmanship.

I also attended R.H. Tawney's lectures on economic history at LSE. These were delivered without panache but their analytic content was as sharp as Postan's. Tawney covered very broad themes – how the institutions of the American and Russian economies differed from those of the UK, why peasants had not disappeared from European agriculture as Marx had predicted.

The most crowded lectures were those of Harold Laski, who was Professor of Political Science at LSE, and chairman of the Labour Party. Laski was a great raconteur, with a droll humour. He dealt with the evolution of British political institutions like parliament, the crown, local government etc. stressing that the way they worked depended on the locus of political and economic power.

At the beginning of June 1945 I went home and worked actively in the General Election of 5th July for the Darlington Labour candidate who won with a majority of more than 8000. In the neighbouring constituency of Stockton, my friend George Chetwynd (the husband of one of my schoolteachers), defeated Harold Macmillan by nearly 9000. The sweeping victory of the Labour party, the successful outcome of the war and the creation of the UN gave me a strong sense that the big issues that had preoccupied my parents were on their way to solution.

When I went back to Cambridge in 1945 the atmosphere was very different. The LSE had gone back to London, but the university was much more crowded. It was full of people demobilised from the armed forces, and generally speaking those with the highest academic merit had been released first. It was a stimulating peer group. To add to the variety, there were about 150 American and a few Canadian

soldiers including Harry Johnson.<sup>1</sup> There was a reflux of dons from the war. Bertrand Russell came back from America, and replaced Laski as the star lecture room attraction.

I was more prosperous, as my grant had risen and I had two part-time jobs – teaching an evening class in one of the Cambridge village institutes and lecturing to German prisoners of war for the Foreign Office. In the summer I had passed the American examination for translation work at the War Crimes Tribunal at Nuremberg, but the British Foreign Office persuaded the Americans not to recruit British nationals. As compensation they gave me a job lecturing in PoW camps. Both of these lecture series were on problems of reconstruction in European countries.

I spent most of the summer of 1946 on European political issues. The Cambridge Labour Club held a conference for about 30 European social democrats organised by Robin Marris, Wat Tyler and myself in conjunction with Denis Healey, who was then international secretary of the Labour Party. At that time there was still a social democratic movement in East Europe, so the geographic scope was very wide. Then I went abroad for the first time, for six weeks. First to Tirol, where the Austrian students and the four occupying powers organised a two week seminar, then to Prague, Switzerland and Italy. In Paris I attended a meeting of the International Union of Socialist Youth, organised by Healey and Per Haekerrup, who was later Danish foreign minister. We stayed in the Ecole des Arts et Métiers in Montrouge, and were roused by a militant French activist in a blue shirt who shouted “c’est l’heure” so dramatically that we thought there was at least a fire if not a revolution.

In 1946, I switched from history to economics. This was a much tougher discipline than history and was made more challenging by the competition between different schools of thought. Dennis Robertson, the professor, gave an elegant and whimsical introductory course on pre-Keynesian lines, and Joan Robinson made most of the running for the Keynesians. She also ran a huge discussion group, which was a bit intimidating as she loved a fight and tended to demolish opponents. The hottest topics were theoretical, and almost entirely concentrated on what Cambridge economists had said. As Dharma Kumar paraphrased Joan Robinson, “time is a device to prevent everything

<sup>1</sup> H.G. Johnson, “Cambridge in the 1950s, memoirs of an economist”, *Encounter*, January 1974, pp. 28-39.

happening at once, space is a device to prevent it all happening in Cambridge”. There was not much attention to what people thought in Oxford, or LSE, in Scandinavia or the USA, and almost nothing on problems of economic growth, business cycles, the European economy, or economic development which later became my major interests.

Austin Robinson was an honourable exception to the neglect of the real world and gave a highly quantitative course on current problems of planning and resource allocation. He was one of the few lecturers who permitted the audience to ask questions.

My supervisor was Maurice Dobb, a scholarly Marxist who was the only prominent Cambridge economist interested in long run capitalist development. I used to read my weekly essays to him, and I often took the initiative in suggesting topics. He had the demeanour of a discreetly agnostic bishop who certainly did not push his own views. He was not very interested in the mainstream Cambridge controversies, but had a very wide range of interests in history and economics and a broad international perspective. He was a close friend of Piero Sraffa. They had been to Russia together, and at that time were editing Ricardo’s correspondence. Sraffa would occasionally enliven the supervision by bursting in with a dazzling smile and a new discovery.

Economics students were generally much more dedicated to their subject than historians. Interaction with this peer group was as important in the learning process as the lectures and supervision. The two people who contributed most to my education in this respect were Wilfred Beckerman and Robin Marris.

There was some scope for discussion of non-Cambridge type topics in the Marshall Society, where I remember impressive presentations by Arthur Lewis on the nature of the innovative process and by Nicky Kaldor on how he had revamped Hungarian economic policy. I was also impressed by the style and content of Lionel Robbins’ Marshall Lectures in 1947 which were about policy problems of war economics, postwar planning and the transition to market economies.

I was a member of the Political Economy Club set up by Keynes, and continued by Robertson, who selected the membership of about 20. It was the only seminar where students gave papers which were subject to discussion. I gave a paper on Anglo-American differences in industrial productivity, basing myself largely on Laszlo Rostas’ new

book which came out in 1948.<sup>2</sup> This was the topic on which I wanted to do my graduate work, so I was grateful for Robertson's hospitality.

In July 1948 I went into the Royal Air Force to do my military service. This was more interesting than I had expected. I became an education officer at a Group headquarters in York, giving talks on current affairs to airmen, and lecturing on strategy to officers taking promotion examinations. I made them read Julius Caesar, von Clausewitz, Eisenhower, and the strategic bombing survey where a bunch of economists<sup>3</sup> identified mistakes in British wartime strategy which my pupils found hard to swallow.

In October 1949 I sailed to Montreal in a crowded Cunarder, and started graduate study at McGill University. The graduate school had useful courses on new topics like game theory and linear programming, but students got little guidance or supervision. However there was expertise on output and productivity measurement at the Dominion Bureau of Statistics in Ottawa where official statisticians were both accessible and helpful, so I managed to do the basic statistical part of my research which was intended to enlarge the Rostas comparison of UK and US industrial performance to include Canada. It was fashionable to attribute a good deal of the large US productivity advantage over the UK to economies of scale, and I hoped to test this by looking at Canada, where productivity was higher than in the UK, but where the scale of production was smaller.

In December 1949 I went to the meetings of the American Economic Association in New York, which was a huge affair, with many simultaneous sessions, about 1000 economists, and the great stars of the time including Schumpeter who was the chairman. I had bought his *Capitalism Socialism and Democracy* in 1945, and was fascinated by its breadth of vision and originality. It was interesting to experience his wit and sparkle. He introduced Seymour Harris, the great anthologist of the epoch, by saying to the audience "many of you have read his works, most of you have written them".

In 1950 I moved to Johns Hopkins University in Baltimore. There were about 20 graduate students in economics, with close supervision of research and compulsory graduate courses. The faculty

<sup>2</sup> L. Rostas, *Comparative Productivity in British and American Industry*, Cambridge University Press, Cambridge, 1948.

<sup>3</sup> U.S. Strategic Bombing Survey, *The Effects of Strategic Bombing on the German War Economy*, October 1945 (the authors included Kenneth Galbraith, Paul Baran, Edward Denison, Tibor Scitovsky, and Nicholas Kaldor).

included Fritz Machlup, Evsey Domar, Clarence Long and Al Harberger, and there was a steady stream of visitors including Bergson, Kuznets and Viner. There was also a large US government research programme on Soviet economic performance.

My research supervisor was Clarence Long, who had lengthy experience with the National Bureau of Economic Research, and followed their policy of intensive manuscript criticism. I wrote a 20 page paper on Canadian industrial productivity and a few days later, to my astonishment, he gave me 15 typewritten pages of commentary, with fully documented criticism of my sloppy reasoning, weak evidence, poor table layout, vague headings, inadequate sources and woolly conclusions. I had never previously been subjected to such close scrutiny, but it was, of course, exactly what graduate students need and usually do not get. Another person who was extremely helpful was Irving Siegel, who worked on the Russian project and had done a good deal of work on productivity in government agencies before the war.

Machlup gave the compulsory graduate course twice a week. He not only lectured but crossexamined his class, and gave us written tests to find out if we had absorbed his message. He was an eclectic and original economist with enormous charm and dedication. His main concern was to inculcate the virtues of clarity and precision.

Although I found the discipline at Hopkins very useful, I did not think I would profit much from another year of it, nor did I want to settle in the USA, so I got an academic job in the UK, at the University of St. Andrews in Scotland, where I had very light duties teaching a course in American economic history. I was able to write up the research I had done as a graduate student and published three articles.

In September 1952, I got a temporary three month assignment with the Food and Agriculture Organisation of the United Nations in Rome. I worked for Gerda Blau in the economics department on problems of the world wheat market, and she also sent me to GATT for three weeks to analyse non tariff barriers to agricultural trade. I could probably have stayed in FAO where I earned more than five times what I was paid as a lecturer in Scotland, but as the horizons were limited to agricultural problems I moved to Paris in January 1953, where the salary was lower, but the work promised to have wider scope.

### OEEC: work on advanced capitalist countries

OEEC was created in 1948 to foster economic recovery in Western Europe. It was a major instrument in assessing requirements for American aid under the Marshall Plan and coordinating its distribution. When I came, the character of the Organisation had changed. There was clearly scope for further activity in liberalising trade and in provision of liquidity through the European Payments Union, but part of the original *raison d'être* had disappeared with the termination of Marshall Aid.

Up to 1952, the emphasis had been on the establishment and monitoring of detailed quantitative goals – rebuilding iron and steel capacity, creating transport networks, improving energy supplies etc. The OEEC had a large network of “vertical” committees with a sizeable secretariat for consideration of these problems in individual industrial sectors, in energy and agriculture. This was the area where the loss of momentum was most perceptible, but this was also true to some extent of the Economic Committee<sup>4</sup> serviced by the Economic and Statistics Directorate which I had joined.

In 1953 the Economic Committee had three regular jobs: *a*) annual reviews of economic policy in individual Member countries, *b*) an annual report on the European economy, and *c*) vetting the annual reports of the committees covering industrial, agricultural and energy problems. The country reviews involved experts from capitals on lines which are still followed. This was not true of the two areas where my own work was concentrated.

My boss was François Walter, the Director of Economics. He was a French civil servant on secondment (from the Cours des Comptes), without formal training in economics. He had spent the war in England and his anglophilia extended to writing in English. He had feverish energy and needed a factotum with the stamina to check his economic arguments and polish his English. Wilfred Beckerman had done this before I came, and was glad to move on to the National Accounts Division. In theory we worked five and a half days a week, but Walter did not believe in squandering Saturday afternoons on leisure pursuits. In these conditions I learned to work

<sup>4</sup> See Eric Roll, *Crowded Hours*, Faber and Faber, London, 1985, chapter 6 on the work of the Programmes Committee of which he was chairman. The Programmes Committee was the predecessor of the Economic Committee.

hard and draft quickly, and constant contact with Walter improved my French a good deal.

The worst chore was the annual report where every paragraph was subject to detailed scrutiny and approval by the Economic Committee. Walter did not draft the whole report before presenting it, but gave the committee a chapter at a time. The result was a great deal of rewriting and a patchy structure. However, it was a good training exercise for me, because one had to try to capture the essence of what was happening in the European economy as a whole and at the same time accommodate the often discordant points made by members of the national delegations.

My second task was as secretary of the subcommittee which vetted the annual reports of the industry committees. We had to eliminate the expression of protectionist views, try to inculcate some of the virtues of liberalism into the chairmen of the committees and the respective parts of the secretariat and check the validity of their economic reasoning.

Although this was a laborious and sometimes painful process, it was reasonably effective. The chairman, Dr. Horst Robert, read all the reports carefully, and was meticulously briefed. There were occasional crises, *e.g.* when the textiles committee wanted to publish a strongly protectionist report, but we won these battles, as we had strong support from Robert Marjolin, the Secretary General.

There was clearly a need for a more sophisticated forum than the Economic Committee to monitor the macro-economic conjuncture, to assess growth performance, to exchange ideas on policy options and to improve the diagnostic quality of our statistics. All of these tasks were undertaken successfully in the course of the next few years, but there was no grand design – the improvement happened gradually. It is clear from Marjolin's memoirs,<sup>5</sup> that he did not see progress in this direction as a priority. His mind was concentrated on progress towards a European customs union.

An opportunity for improving our policy analysis occurred when the Group of Economic Experts was created. The first meeting was intended mainly as an encounter between the economic side of the new US administration and the Europeans. The first session was not enlightening from an analytical point of view, but it was clear that the Eisenhower team was interested in regular exchange of views on

<sup>5</sup> Robert Marjolin, *Architect of European Unity, Memoirs 1911-1986*, Weidenfeld and Nicolson, London, 1989.

economic policy options and the interaction of the American and European economies at a reasonably high level. The US delegate was Gabriel Hauge, who had been on Eisenhower's political campaign staff and was his personal economic assistant. The French delegate was Paul Delouvrier, then the chief French official for economic cooperation and later Governor General of Algeria. The other members were high level economic professionals, notably Robert Hall from the UK and Otmar Emminger from the Bundesbank (or Bank deutscher Länder as it then was). It was agreed to follow up on a regular basis, under Hall's Chairmanship. He was economic advisor to the UK government, a slow speaking Australian of great wisdom and professional competence. He was a master of the meaningful grunt and an excellent chairman of the Group until 1961.

The core of the group was Robert Hall, Otmar Emminger, Etienne Hirsch, head of the French Plan from 1952 to 1959 (later Pierre Uri or Jacques Donnedieu de Vabres), Jan Tinbergen (later Jan Pen and/or Pieter de Wolff) from the Netherlands, Arthur Burns (later Raymond Saulnier) from the US Council of Economic Advisors, and varying representation from the Bank of Italy. In the long run the type of dialogue they developed revolutionised the character of our work and strengthened the Organisation substantially.

There was a very wide range of views in the Group. Tinbergen was a social engineer and model builder. Hirsch was a planner but a very flexible one. Hall was a pragmatic Keynesian. Emminger was the most articulate. He was primarily concerned with financial stability and payments equilibrium. He was not interested in microeconomic questions which were to be solved by market mechanisms set in train by macro-policy. The German position was not one of *laissez faire* and was concerned with employment as well as price stability. This was certainly the case for Alfred Mueller-Armack, Erhard's state secretary in the Ministry of Economics. The Germans were usually very well briefed on business conditions as they had five conjuncture institutes. Burns was least concerned with employment and growth. He pushed the US government away from Keynesian activism in favour of price stability and budget balance. Nevertheless, Burns with his NBER background was interested in close monitoring of performance of the leading economies and their mutual interaction. Hall avoided methodological confrontations. It was agreed that the best way to develop the dialogue was to set up future sessions with an analytical paper from the Secretariat on the nature of current conjunctural

problems, to analyse the policy options for stability and growth, and discuss issues where the interaction of the economies was likely to cause problems. The emphasis was almost entirely macroeconomic. It marked a complete change from the detailed allocation problems which had preoccupied OEEC in earlier years.<sup>6</sup>

In 1955 there was a major change at the top of the Organisation when Marjolin and his two deputies resigned. Marjolin was a man of luminous intelligence. He believed in using the force of ideas to change the world by pragmatic action. Starting from very humble origins, leaving school at fourteen, he restarted his formal education when he was 20 and attained high academic honours. He was a successful economic journalist in prewar France, had an important wartime role as Jean Monnet's Deputy in Washington, was a major actor in implementing the Marshall Plan and later in creating the European Community. His successor René Sergent (an Inspecteur de Finance, and previously Deputy Secretary General of NATO) did not have Marjolin's intellectual power, vision and drive. However, Sergent was an agreeable and intelligent man with a disarming humility and willingness to take advice. He responded very positively to our initiatives to strengthen the analytic work of the Organisation, particularly as his period of office was wracked by unsuccessful attempts to use the OEEC as a vehicle for a Europe-wide free trade area.

François Walter left at the same time as Marjolin. He was replaced by Eivind Erichsen, a Keynesian economist with wide experience in the Norwegian Ministry of Finance. Milton Gilbert, the director of Statistics and National Accounts, became the overlord of Economics as well as Statistics.

The change brought a big improvement in the quality of our work and the efficiency of our Directorate. Milton was an economist and statistician of the highest calibre. He had played a major part from 1940 in organising and defining the scope of the official US

<sup>6</sup> See the (May 5th 1955) comment of Hall in A. Cairncross, ed., *The Robert Hall Diaries 1954-61*, Unwin Hyman, London, 1991, p. 35 on the significance of the expert group: "These meetings are really something quite exceptional for economists and I should think are quite new in the history of the world, in the sense that economic experts, if they existed at all as Government advisers, were not generally very important people until Keynes's ideas had been commonly accepted in the West. So that there were not the people to meet as we do: now we have 7 or 8 or 9 people who are by and large the chief professional advisers of the main Western Governments except Canada - all have more or less the same professional training in that they understand how to maintain the level of activity and what forces operate on it".

national accounts.<sup>7</sup> Marjolin took him on around 1950 to introduce national accounting techniques to OEEC countries and he was the only American in the OEEC Secretariat. He worked closely with Richard Stone in Cambridge in training a new breed of official statistician and establishing a standardised system of accounts. He had built up a highly competent National Accounts division under Geer Stuvell to check the procedures followed in the different countries in implementing the new system and to produce standardised accounts for all Member countries. He had also inaugurated a series of path-breaking comparisons of purchasing power of currencies and comparability of real product levels.<sup>8</sup> This national accounts work was the bedrock on which our future analysis of comparative growth performance was based. It provided a yardstick for assessing the success of policy which had never existed before. Gilbert was also active in the creation of the International Association for Research in Income and Wealth, where Simon Kuznets stimulated academic researchers in many countries to create a historical counterpart to the postwar national accounts. Apart from his work on national accounts, Milton had once been editor of the *Survey of Current Business* in the US Department of Commerce, so he was well qualified for the work on policy issues and the monitoring of the short term economic situation in the OEEC area, to which he now switched his attention.

Gilbert had a relaxed easy-going manner and did not write much himself; but when we had to prepare discussion papers for the experts, we would spend hours trying to clarify the major issues. I gave him a draft on the lines we had agreed, he went over it slowly, carefully and orally, making the text as succinct as possible, trying to find words with the exact nuance of meaning in order to get a document that was lucid and creatively pungent with regard to policy options. He had an eagle eye for tables, making sure that they were

<sup>7</sup> See S. Kuznets, "Discussion of the new department of commerce income series. National income: a new version", and "Objectives of national income measurement. A reply to professor Kuznets", by M. Gilbert, G. Jaszi, E.F. Denison and C.F. Schwartz in *Review of Economics and Statistics*, August 1948. For Gilbert's role in developing the accounts, see C.S. Carson, "The history of the United States national income and product accounts", *Review of Income and Wealth*, June 1975.

<sup>8</sup> M. Gilbert and I.B. Kravis, *An International Comparison of National Products and the Purchasing Power of Currencies*, OEEC, Paris, 1954; M. Gilbert and Associates, *Comparative National Products and Price Levels*, OEEC, Paris, 1958; D. Paige and G. Bombach, *A Comparison of National Output and Productivity*, OEEC, Paris, 1959.

the most appropriate we could produce, and elegantly presented.<sup>9</sup> Over the next five years I learned a good deal from these long sessions. Under the new dispensation we could also prepare much better annual reports, with some thematic unity,<sup>10</sup> and we got a better chairman, Roger Ockrent, for the Economic Committee.

In the summer of 1958 I spent a month on leave of absence (as a NATO Fellow) in Washington and New York, where I was able to brief myself rather fully on US techniques of policy analysis and pick up ideas for improving our analytical work. I had long talks with Paul McCracken and David Lusher in the Council of Economic Advisors, with Julie Shiskin who prepared their business indicators, with George Terborgh and Raymond Goldsmith on measurement of capital stock, with Ed Denison on techniques of analysing economic performance and Senator Paul Douglas on the work of the Joint Economic Committee of Congress of which he was then the chairman. In New York I saw Sol Fabricant and Geoffrey Moore in the NBER, Sanford Parker of *Fortune* magazine and Bill Butler of the Chase Manhattan Bank on techniques of monitoring US economic performance. I also started a fruitful relationship with the team of economists at United Nations headquarters who wrote the part of the UN's *World Economic Report* on advanced capitalist countries.

We sharpened our analysis of long term growth potential and productivity performance by using the national income statistics and our new publication on manpower statistics to create a more systematic framework of growth accounts. We first made use of these macro accounting techniques in a major study on growth problems and prospects which was published in the 8th annual report. The quality of our business cycle analysis was substantially upgraded. Our current economic indicators were improved through introduction of US seasonal adjustment techniques. In 1960 the Department started a new publication, *Main Economic Indicators*, incorporating about 100 seasonally adjusted series, which was a much more sophisticated vehicle for short term conjunctural analysis than we had previously had.

These analytic improvements were fed into our work for the Economic Experts which was gradually transformed into the Econ-

<sup>9</sup> See comments on Gilbert's style in Murray Rossant's foreword to M. Gilbert, *Quest for World Monetary Order*, J. Wiley and Sons, New York, 1980, p. VIII.

<sup>10</sup> *Europe Today and in 1960*, OEEC, Paris, 1957; *A Decade of Cooperation: Achievements and Perspectives*, OEEC, Paris, 1958; *Policies for Sound Economic Growth*, OEEC, Paris, 1959; *Europe and the World Economy*, OEEC, Paris, 1960.



omic Policy Committee in 1959. This had a higher status than the Economic Committee, it met every 4 months and consisted of fiscal and monetary policy officials from all Member countries. In April 1961 it was further augmented by the creation of a working party on policies to stimulate economic growth, and another one (more influential but with a restricted membership) on payments issues and the fiscal monetary mix (with Emile van Lennep<sup>11</sup> as chairman). A little later another working party was created to deal with problems of inflation and production costs. The impetus for the new working parties came from the new Kennedy administration. Walter Heller and Jim Tobin from the Council of Economic Advisors created a new atmosphere of intellectual cooperation, Bob Solow was a very effective contributor to the new work on growth, and Bob Roosa to the discussions on payments issues.

This committee structure is still the hard core of OECD's economic policy work. The analysis was strengthened later when the Economic Department developed forecasting models, quarterly national accounts, and created the twice yearly *Economic Outlook*, but the work we did in 1955-60 was of fundamental importance in strengthening cooperation between the advanced capitalist economies, and in creating an articulate dialogue which helped them avoid the mistakes of diagnosis and policy they made in the interwar years of conflict and beggar your neighbour policy. It was important that the USA was fully involved in this process. It strengthened OEEC in a period when it was under great strain on the trade front.

In the course of 1960-61 there were major changes in preparation for the creation of a new organisation. The US and Canada were to join as full members, and procedures for Japanese entry were begun. There was pressure from the USA to instigate work on development, with a view to persuading European countries to increase or initiate aid to developing countries. The time was propitious as the process of decolonisation was reaching completion and there was increasing competition from the USSR to win the allegiance of the third world, with notable success in the case of Egypt and Cuba.

I became the secretary of the Development Assistance Group which was a forerunner of the development aid activities to be carried out by the new organisation. The first task was to set up a comprehensive statistical monitoring system to measure the flow of different

<sup>11</sup> See E. van Lennep, *Herinneringen van een internationale Nederlander*, Stenfert Kroese, Leiden, 1991.

categories of financial resources to developing countries (official loans and grants, private credits and direct lending, export credit guarantees, etc.) from each of the 14 countries which were deemed to be developed. Most of the countries had no comprehensive view of such flows. We could get a rough aggregate cross-check from balance of payments statistics but we had to go to central banks, finance ministries, export credit agencies, the World Bank and IMF to break down the different categories. The results were sometimes unexpected, e.g. the flow from France was very much bigger proportionately than in the USA, but as expected the flows were small from Germany, Japan and Scandinavia. This first report (*The Flow of Financial Resources to Countries in Course of Economic Development*) was carried out at breakneck speed and published in April 1961. It set the main guidelines which the Development Assistance Committee still uses for collecting data from its Member countries.

At that time it seemed to me that the basis for analysing growth and stability in advanced capitalist countries had been reasonably firmly established, and that the problem of development was an exciting new field. I therefore decided to switch jobs, but I first took six months leave of absence in the second half of 1962 to write my first book, *Economic Growth in the West*,<sup>12</sup> where I tried to explain the postwar acceleration of growth in Western Europe, and the greater stability of the growth path. I pushed the historical perspective back to 1870, using the same type of quantitative national accounting evidence we had been using in OEEC for the postwar period. When I was writing it, I realised how far my horizons had widened over the research agenda I had as a graduate student. I was still trying to explain why some countries achieved faster growth or higher income levels than others, but I had a broader view of causality (particularly the role of domestic and international policy), a firmer and bigger array of macroeconomic evidence for a wider group of countries, and a longer time horizon. I also had a strong belief in the usefulness of the international cooperation in which I had been engaged, and in the efficacy of postwar macroeconomic policy in improving capitalist economic performance.

<sup>12</sup> A. Maddison, *Economic Growth in the West*, Allen and Unwin, London, 1964.

## Work on economic development

I worked almost exclusively on development problems from the early 1960s to 1971. In 1963 I was director of the OECD's technical assistance programme which mainly involved economic advisory assistance to Greece, Portugal, Spain, Turkey and Yugoslavia. In 1964-66 I was a Fellow of OECD's new Development Centre. In 1967, I left OECD for 5 years, first on a research project for the Twentieth Century Fund, and then in 1969-71 to work for Harvard University's Development Advisory Service in Pakistan and Ghana.

The Development Centre was created to involve OECD more directly with developing countries in order to understand their policies better and to operate as some sort of intellectual intermediary between them and the OECD.

The first President was Robert Buron, a French politician with wide connections in the third world, who regarded politics as "le plus beau des métiers". After a prewar career in the Chamber of Commerce for chocolate makers and wartime public relations for the French movie industry, he became an MRP politician and held a number of ministerial posts in the Fourth and Fifth Republic – notably Minister of Colonies (d'Outre Mer) for Mendès France and Minister of Transport for de Gaulle. Buron was not interested in research but in seminars for ministers and senior officials in countries where there was scope for a dialogue on development problems and policies. Raymond Goldsmith was made Vice-President to oversee research. He had made pioneering theoretical contributions to the study of capital, wealth, savings and financial flows and had produced massive comparative empirical studies in these fields. He picked a very good librarian for the Centre and helped start work on national accounts for developing countries in order to monitor their economic growth,<sup>13</sup> but in most respects he was a loner. He did not create a research team but got on with his own work. He let the Fellows choose their own topics, insisting only that they be related in some way to foreign aid.

My first instinct was to attempt a general survey explaining comparative development experience in quantitative and historical

<sup>13</sup> The Development Centre started to collect national accounts information from developing countries in 1964, held a few seminars on their comparability, and produced its first regular estimates in 1968, *National Accounts of Less Developed Countries 1950-1966*.

perspective in the way I had done for the OEEC countries. I decided to postpone this for several reasons. In the first place, the statistical basis for such a venture did not then exist. A second reason was that the developing world was much more heterogeneous in institutions, ideologies, policy objectives and weaponry, cultural and political heritage, social structure and level of real income. Given the huge range of these countries and my relative ignorance of them, it seemed sensible to familiarise myself with problems of countries where I had sufficient *entrée* to get a feel for the policy making process and which would represent different types of political-institutional heritage. The Centre offered plenty of scope for this and it was quite compatible with my official commitment to research on foreign aid.<sup>14</sup>

## Brazil

Brazil was the country where I developed the widest range of contacts and saw most of the policy-making process. I went to Rio in October 1964 at the invitation of Roberto Campos, Minister of Planning in the military regime which had just overthrown the populist government of Goulart. Campos was an economist-diplomat with very wide experience. He was born in a monastery in the backwoods of Mato Grosso and was a seminarist before he joined the foreign ministry in 1939 as a junior consul. On his way up, he got a Ph.D. in economics from Columbia University, was one of the Brazilian delegates to Bretton Woods, helped make the development plan of President Kubitschek, was head of the Brazilian Development Bank and Ambassador to the United States. Campos was by far the most powerful minister, strongly supported by Octavio Bulhoes as Minister of Finance. Campos had a team of outstanding young economists in his ministry, including Mario Simenson and João Paulo dos Reis Velloso who later became ministers. The mentor of both Campos and Bulhoes was Eugenio Gudín (1886-1986), a *laissez faire* liberal of penetrating intellect and irreverent humour, who had founded the academic study of economics in Brazil after a career as an engineer.

<sup>14</sup> My contribution to the Centre's work on aid consisted of two books: A. Maddison, *Foreign Skills and Technical Assistance in Economic Development*, OECD Development Centre, Paris, 1965, and A. Maddison, A. Stavrianopoulos and B. Higgins, *Foreign Skills and Technical Assistance in Greek Development*, OECD Development Centre, Paris, 1966.

The main preoccupation of the economic team was a stabilisation exercise to put a halt to hyperinflation, reduce the budget deficit, reform the tax system, get rid of a distorted set of price controls and subsidies, liberalise foreign trade, create a new exchange rate mechanism and reform financial institutions. The stabilisation exercise was an outstanding success in laying the foundations for a subsequent decade of very fast economic growth and it was carried out in gradualist fashion in 1964-67, without pushing Brazil into recession. I was able to observe this operation at close quarters in the research department of the Planning Ministry where I was a consultant. I also had contact with the research group in the Vargas Foundation, which performed some of the functions of a statistical office, producing both the national accounts and the price indices as well as providing short term business cycle analysis in its journal *Conjuntura*. I went to Brazil six times in 1964-67, visited a good many parts of the country, acquired some modest competence in Portuguese, as well as learning the samba and bossa nova.

I was very impressed by the vigour and originality of Brazil. The population has cosmopolitan roots, with significant immigration of Italians, Germans, Japanese, Lebanese as well as the original mix of Portuguese settlers and African slaves. As there are several very large cities, its intellectual life is multipolar. It has been blessed with much gentler political transitions than most of Latin America, so the tone of discussion on economic policy issues was less bitter than in some other places. It is a frontier country with a high degree of self confidence without a chip-on-the-shoulder feeling of exploitation by powerful neighbours. Added to this was the fascination of the economic problems they were tackling. I had had no previous experience of such an inflationary economy, such boldness in institutional innovation, or such an elaborate set of institutions for co-existence with inflation. The Campos approach to these problems was basically liberal and (except for his gradualism) not too different from that of the World Bank and IMF in the 1980s, but at that time it went counter to the prevailing policy views in other Latin American countries.

The most disconcerting thing about Brazil was the very high degree of inequality. Regional variance in per capita income in the twenty states ranged from nine to one, and the horizontal variation of income was also very sharp and noticeable, particularly in Rio with its

impoverished ramshackle *favelas* poised on slippery hillsides behind luxurious beachfront apartments. It was also very noticeable that the black population was completely absent from the seats of power or any well paid activity except sport and entertainment.<sup>15</sup>

### Guinea

In January 1965, four of the Development Centre fellows, Edmond Janssens, Nino Novacco, Göran Ohlin and I, went to Conakry for a month with Buron and Goldsmith. In the first week, we talked to Sékou Touré, the President, Ismael Touré his brother, who was Economic Development Minister, Siafoulaye Diallo, the Minister of Finance and Planning, who appeared to be second man in the regime, and Keita Fodeba, a professional dancer and founder of the national ballet, who had become a highly original Minister of Defence. Buron made a speech to the national assembly and then we had all the senior economic officials in a seminar for three weeks.

In the colonial period, Sékou Touré, who started life as a postal worker, had been a Communist (CGT) trade union leader and a member of the French parliament. He was the great grandson of a warrior chief, Samory, who fought the French between 1879 and 1898. In the 1950s, he went to Czechoslovakia to a school for party *cadres*. In Guinea he had organised political life on a single party basis. Virtually all adults were expected to join. The party had nearly 8000 committees and when we visited outlying regions we found roomfuls of villagers who had come to palaver – often with very searching questions such as why a colonial power like Portugal was in OECD. One of the functions of the party was to reduce the significance of ethnic divisions which were physically very marked. Sékou was a very dark skinned stocky Malinke, whereas Siafoulaye was a tall lanky Peul with light brown skin and semitic features.

The Guinean situation was unique in Africa as the French had abandoned the country when it opted for independence in 1958.<sup>16</sup> There was no neocolonial apprenticeship as there was elsewhere in

<sup>15</sup> See A. Maddison and Associates, *The Political Economy of Poverty, Equity and Growth: Brazil and Mexico*, Oxford University Press, New York, 1992.

<sup>16</sup> See Elliott J. Berg, "Socialism and economic development in Tropical Africa", *Quarterly Journal of Economics*, 1964, for an excellent analysis of the roots of African socialism.

French Africa which became independent in 1960. In a population of 3 million, there were less than 50 Guineans with higher education. There had been 600 Frenchmen in government service, several thousand French soldiers, and about 2500 expatriates in productive and service enterprises who all left abruptly. As a result, the administration, health services and modern economy had collapsed. The country was excluded from the franc area to which its neighbours belonged. Ministers (virtually all without higher education) had had to improvise an administration from scratch, getting technical assistance from wherever they could. The radio (*La Voix de la Révolution*) was run by a beautiful Hungarian lady. The only newspaper, *Horoya*, had a circulation of 8000 every 2 or 3 days but the East Germans had built the Patrice Lumumba printing plant with a capacity of several hundred thousand newspapers a day. Military advice and incompatible equipment came from China, Czechoslovakia, and the German Federal Republic. The military effectiveness of the army seemed doubtful, but they did useful work on development projects. They made shoes, clothing and suitcases, mended roads and trained rural animateurs. The Defence Minister was also responsible for security and police. It had a crack unit of glamorous women who served as traffic police in Conakry and doubled as a night club orchestra. Before we came, the army had had a visit from Franz Joseph Strauss, the German Defence Minister, and when we were there they had another from Che Guevara, the Cuban specialist on guerilla warfare.

The Guinean ministers and civil servants were friendly, without guile, ready to answer all questions, and several of them dressed in traditional Muslim robes. We visited the big bauxite and aluminium operation in Fria, a banana and pineapple plantation, a match factory and a model state farm run by a group of ministers. The farm was littered with Soviet tractors and other machinery, but had no visible output. When I asked the Minister of Planning about this, he replied "Tu sais, j'ai pas la tête pour les chiffres" (I have no head for figures). The state trading organisation had taken over French shops, which were almost completely empty, and plantation agriculture was faltering. In spite of the chaos, it was a lively and interesting place. It survived by virtue of a robust subsistence economy, widespread smuggling by ethnic groups with relatives in neighbouring countries, and rich deposits of bauxite and iron ore which attracted foreign

investment. The mixed bag of foreign aid was quite sizeable, and, on balance, was probably helpful but some of the projects seemed very dubious, e.g. the Chinese match factory imported huge Chinese trees to provide its raw material.

In July 1965 there was a seminar on supposedly similar lines in Teheran, but it was totally different from Guinea. We met elegant officials and junior ministers with sleeked hair and expensive suits, who listened politely and said little. Hoveida (later executed by Khomeini) was the only interesting one, but we did not learn much about the country. When I tried to discuss the oppressive atmosphere of the place with Buron, he shut me up, as he suspected that his chauffeur might be listening and reporting on us.

### *Mongolia*

In January and early February 1967 I undertook a bizarre and picaresque mission for my friend Herbert Philips of UNESCO. I visited Outer Mongolia and Cambodia to investigate the role of science in economic development. I was mainly interested in the Mongol part of the trip, as I had taken a course on Mongol history at Johns Hopkins, where Owen Lattimore had a project including the exiled head of the Mongolian buddhists, the Gegen Dilowa Hutuktu, and two Mongol princes. My companion on the trip was Ratchik Avakov, a Soviet Armenian who had worked in IMEMO in Moscow and who was then working in UNESCO. At first he was a bit suspicious of me but after a month together and 25000 miles of travel in climates ranging from 30 degrees below zero to about 80 above, we ended up like brothers.

I began to realise Ratchik's value in Moscow when he got the Mongol ambassador out of bed early in the morning and demanded that he give me a visa. That way we got an Aeroflot plane the same day that landed at Omsk and Tomsk and finally deposited us in Irkutsk, where we waited a long time for the two engined Antonov of Mongol Air. By mistake I picked up what I thought was the only British passport in Irkutsk and met its owner, the wife of the British ambassador to Mongolia, who was on the same plane.

There was only one hotel in Ulan Bator, a city where a large proportion of the population still lived in yurts (felt tents). The adult inhabitants had deeply lined faces from constant exposure to the

extreme climate. A large proportion were bow-legged -- having spent a good deal of their lives in the saddle in a country with two and a half million horses and only one million people. They drank fermented mare's milk (kumiss) which they boiled with tea, and they ate a good deal of horsemeat, often steaks sliced off the haunch of a living animal. The food in the hotel was abysmal. The Yugoslav cook had gone insane trying to improve the local diet. There had been a big expansion in cereal output, so he had put bread on the menu, but it came in damp, heavy, unsliceable chunks. Fortunately, Heath Mason, the British Ambassador, invited me to dinner a couple of times. The Embassy was in the hotel, and he got a regular monthly supply of Yorkshire steak and kidney puddings, delivered in the diplomatic pouch by two Queen's messengers who helped eat them.

The country had broken away from Chinese rule in the early 20th century and had been in the Soviet sphere of influence since the 1920s as a buffer state. The princely class, and the large population of Lamaistic Buddhist monks had been obliterated. The old cursive script, written in vertical columns was replaced by cyrillic, written horizontally. The political system was organised on the Soviet model, with large amounts of Soviet aid and technical assistance, and there was a large Soviet military presence. In the Summer of 1939, these Soviet forces had repulsed a Japanese invasion in the battle of Khalkhin-Gol.

Chirendev, the head of the Academy of Sciences, was an atomic physicist and told us about its major research projects. The biggest was on agriculture, a second on mathematical and natural sciences, with a much smaller commitment to social sciences. There was also research activity in the University of Ulan Bator and in the geological institute. In all, there were 9000 people with higher education and a thousand of these were in research institutes. We also talked to the ministers of labour and education, the rector of the university, the planning ministry and the statistical office. It was difficult to assess the impact of science and technical change on growth, but there had clearly been large changes over the previous forty years. Communication was sometimes a bit difficult. I asked Mrs. Lchamsoryn, the president of the State Commission on Labour and Wages, how many people were unemployed. The interpreter told me it was a silly question. I persisted, and was told that "under socialism there can be no unemployment".

We made a field trip about 30 kilometres out of Ulan Bator to a collective farm where there were a lot of yurts huddled together surrounded by wooden fences to mitigate the cold wind. Here as elsewhere, there were hundreds of horses. We went to an outlying brigade, a kilometre or so from the farm headquarters, to have some boiled tea and interview an old peasant. I asked him what difference socialism had brought, and he said, echoing Lenin, that socialism meant electricity. It was only then that I noticed an electric wire from the main camp to his yurt. As Mongols move their herds and yurts around to different pasture in the course of the year, I wondered if the electricity moved with them.

We managed to get enough statistical material for our report and left after a week. Getting out was difficult as the electrical system in the aircraft failed just after take off. We managed to glide back and the elderly pilot spent several hours unsuccessfully working on it with a spanner. Eventually he borrowed the presidential plane, which looked the same outside, but inside had a salon and a bedroom configuration rather than serried rows of seats. We got to Irkutsk about 10 hours late. After the usual halts in Omsk and Tomsk, we spent a freezing day in Moscow visiting IMEMO, then flew to Delhi and Bangkok for stop-offs before going on to Phnom Penh for our next mission, where we swapped our fur covering for straw coolie hats.

### *USSR and Japan*

In mid-1965 Goldsmith was replaced as Vice President of the Centre by Ian Little. Ian brought in a new team of Fellows (Tibor Scitovsky and Maurice Scott) to work together on a common project on industrialisation and trade. As I was not part of this project, I was able to spend a good deal of time on a study of Japanese and Soviet growth. Both of these countries had attempted to accelerate their growth performance and catch up with the advanced countries, so it seemed useful to assess what they had achieved and how they did it.

In 1964 I had visited Moscow and Leningrad to collect material for work on Soviet growth. I contacted IMEMO (the Institute for World Politics and Economics) in Moscow (which was the main institute of the Academy of Sciences for studying western economies), and found myself unexpectedly welcome as their Deputy Director,

Manoukian, had just translated my book, *Economic Growth in the West*. The most outspoken and interesting of their economists was Stanislav Menshikov, who became a good friend.

It was more difficult to meet economists working on the Soviet economy, but with some difficulty I got the telephone number of Gosplan and contacted Valentin Kudrov who had translated the OEEC real income studies into Russian. Kudrov came, with a minder, to meet me at the Metropole Hotel. In his halting English and my very limited Russian, we managed to have a dialogue in which I sounded his opinion of several US Kremlinologists whose work was my main quantitative source, and we had an exchange of views on problems of measuring real product and growth which we still continue.

Apart from this I managed to take in something of the flavour of Soviet society, being accosted by people wanting Beatles records, looking at museums, watching the May Day parade in Red Square, with Kruschev, Ben Bella and Oginga Odinga on Lenin's tomb.

In 1965, I visited Japan for a few weeks to collect material on Japanese growth. Here it was possible to have a much deeper dialogue than in Moscow, and statistical information was readily available. I already had friends in Hitotsubashi University, particularly Kazushi Ohkawa, who was starting to publish 13 volumes on Japanese quantitative economic history. Saburo Okita opened the doors of government agencies such as the Bank of Japan, the Economic Planning Agency, the Ministry of Agriculture, and the Ministry of Education where one could often find ten economists in a room all fresh and eager to talk after their morning callisthenics. Apart from the sophistication of these people I was struck by the strong discipline and an organisation that operated like clockwork. I had had the same impression about Japanese industry on my first trip in 1961 when I had visited the Sony radio factory, and found the foremen had Ph.D's and all the operatives had high school education.

During 1966, when I was writing up the Japan-Russia study, I was fortunate in having fairly frequent contact with Arthur Lewis. I visited him a couple of times in Princeton, he spent 6 weeks in the Centre in the Summer of 1966 and we met from time to time afterwards as members of an OECD expert group on technical assistance. Arthur was probably the brightest economist to work on development and as a West Indian, had a lifetime familiarity with the problems. I profited greatly from contact with him, both in our daily

luncheon sessions in Paris, and from his written comments on my drafts which were always forthright, penetrating and enlightening.

### Economic progress and policy in developing countries

At the beginning of 1967 I left OECD, and wrote the general survey of postwar development experience I had considered doing three years earlier. This was financed by the Twentieth Century Fund of New York. For the next two and a half years I worked at home in Paris, with a couple of brief spells as a visiting academic, in Berkeley in 1968, and in Montreal in 1969.

At that time, I became strongly influenced by Edward Denison's comparative growth accounting approach which incorporated the theoretical insights of Bob Solow and Ted Schultz. I made some departures from Denison in giving a bigger weight to capital and introducing domestic policy and foreign aid as part of the explanatory framework. The book covered 29 countries and involved a great deal of statistical groundwork, to estimate comparative levels of real GDP, stocks of physical and human capital as well as comparable estimates of growth of GDP and for major sectors.

The rest of the book dealt largely with policy issues concerning reasons for instability of the growth path, problems in agricultural, industrial and trade policy and attitudes to population growth. Although country performance varied widely, the tone of the book was optimistic about the significant acceleration in postwar growth. A major shortcoming was that it neglected the social impact of growth, something I felt should be next on my research agenda.

### Social policy in Pakistan and Ghana

#### *Pakistan*

I went to Pakistan for the Harvard Advisory Group<sup>17</sup> at the end of June 1969, to work on social problems in the Planning Commission in Islamabad.

<sup>17</sup> See George Rosen, *Western Economists and Eastern Societies: Agents of Change in South Asia 1950-1970*, Johns Hopkins, Baltimore, 1985 for a description of the Harvard Group's experience in Pakistan.

I already had some knowledge of the country. I had met the Chief Economist, Mahbub ul Haq, in Bangkok in 1962 when we were members of a UN expert group which produced a report on *Methods of Long Term Projections*.

He arranged a visit I made to Pakistan in May 1965 when I met several other very bright and well trained Pakistani economists, notably Nurul Islam, Sartaj Aziz and Khalid Ikram. I attended a conference in Harvard in 1965 on Pakistani economic development where I met American economists who had worked on Pakistan including Edward Mason, Hollis Chenery, Gus Papanek and Kenneth Galbraith.

As Pakistan got a good deal of foreign aid, its administration was more open to foreign advisors than most. Indeed part of the advisory work was to brief the continuous stream of World Bank missions. There was a political change shortly before I went which seemed to promise some scope for advance in social policy. From 1958 the military government of Ayub Khan had had a doctrine of functional inequality: "The underdeveloped countries must consciously accept a philosophy of growth and shelve for the distant future all ideas of equitable distribution and welfare state. It should be recognised that these are luxuries which only developed countries can afford".<sup>18</sup>

Ayub was toppled in March 1969 by workers and students in a climate of social unrest. Political opposition was gathering strength in East Pakistan because of the uneven allocation of foreign aid and the fruits of development. The new military dictator, Yahya Khan, took a number of measures to appease discontent, suspending 15 per cent of high level civil servants for corruption, raising the minimum wage, chastising business tax evaders, promising more resources to education and to East Pakistan.

The Planning Commission was the central agency coordinating economic policy and foreign aid in the new capital, Islamabad (designed by Doxiadis). It was part of the Presidential Secretariat, the President being the Minister to whom we reported, with M.M. Ahmad as Deputy Chairman. Ahmad was a moderate, doleful, and reserved chap who was hereditary leader of a small religious sect, the Ahmadiyahs. I had the impression that he carried less weight than his

<sup>18</sup> Mahbub ul Haq, *The Strategy of Economic Planning: A Case Study of Pakistan*, Oxford University Press, Karachi, 1966, p. 30.

predecessor Said Hasan who had worked for Ayub. Mahbub had a very powerful role with direct access to the President when necessary. The defender of the corporate interests of the old bureaucracy was Qamar-ul-Islam, a top member of the Civil Service of Pakistan (CSP), an *élite* group descended directly from the Indian Civil Service (ICS) of colonial days.

In the Commission my main job was to scrutinise policy proposals for education, health, housing, urban water supply, and family planning that came from the relevant ministries and the regional planning agencies in Dacca and Karachi. I had to get a perspective of what was feasible from whatever documentary evidence I could collect, cross-examining my colleagues, and occasional visits to hospitals or public works projects. Apart from Nafees Sadek, who produced a brilliant report on family planning, the Commission was not rich in expertise on these matters, but Charles Benson of the Ford Foundation was a knowledgeable colleague on education.

My work did not involve particularly sophisticated comparisons of costs and benefits but it provided fascinating insight into the social situation and the systematic biases in resource allocation which derived from the character of the power *élite*. I never had any problem with Mahbub in being forthright on such issues, and parts of my drafts emerged in several chapters of the plan. Whether I had much impact on what happened is another issue, but I may have contributed something to checking programmes I thought were misguided.

Pakistan's social structure was still strongly influenced by the heritage of the British raj. The nationalist forces which had created Pakistan had no element of socialism or social reform as in India, nor were they particularly religious. Their religious content was primarily anti-Hindu and certainly not Islamic in any fundamentalist sense. The Pakistan Jinnah created was Viceregal and the primary locus of power was the bureaucratic-military *élite*. The organisational framework of this group was still the one created by the British and their working language was English. Their houses, clubs, cantonments, life style and idioms were British colonial. The group was much bigger than in colonial days. The armed forces numbered 300000 with 7000 officers compared with 100 Muslim officers in the smaller Indian army of the British period. There were 500 members in the *élite* CSP and about 1150 Class I officers under them. This was more than ten times the number of top Muslim officials under the British. These people

got the major benefits of government housing expenditure. Urban improvements were concentrated in their cantonment areas. They benefitted substantially from expenditure on secondary and higher education. The benefits also went to the new class of businessmen who also got subsidised loans, licenses to import scarce goods and other perquisites. The traditional landlord *élite* was virtually untouched by land reform except in East Pakistan where most landlords had been Hindus. Landlords in West Pakistan were major beneficiaries of government expenditure on irrigation, particularly the new waters that became available after the construction of the Tarbela dam on the Indus river – a World Bank project intended to replace potential water losses to the Indian Punjab.

The bulk of the population were extremely poor. The average weight of an adult Pakistani was 120 lbs., *i.e.* about 30 lbs. less than the average European. Their average haemoglobin count was two thirds of that in Europe, and in this anaemic state they were readily prone to tuberculosis, pneumonia and influenza. At any one time, a third of the population suffered from intestinal disorders, the rural population was infected by hookworm, and prone to typhoid. Eighty-five per cent of the population were illiterate and most women had a very low status, hidden behind veils with very few opportunities to get a job.

Many of the proposals we got would have bypassed these people, *i.e.* major expansions in secondary and higher education, medical training for doctors who emigrated on graduation, housing and urban facilities for the bureaucracy and military. There had been some progress in areas where welfare gains were cheap. Malaria, dysentery, and smallpox eradication programmes, together with access to simple drugs had prolonged average life expectation from 30 to 50 years in the two decades since independence, and there was plenty of scope for further cheap gains by expanding and improving primary education, better water and sewerage, birth control programmes, better trained teachers and nurses, better rural health centres.

At the beginning of 1970, political criticism of the government increased, particularly in East Pakistan. The Jama'at-i-Islami party (a fundamentalist group advocating violent forms of action) alleged that the Harvard Advisory Group were foreign spies. After this we adopted a lower profile, our workload dropped considerably, and in mid 1970 the Group's work in Pakistan was discontinued.

In this period of increased leisure, I started a history of India and Pakistan, *Class Structure and Economic Growth*.<sup>19</sup> This explained the emergence of the postcolonial *élite* from the heritage of Hindu, Moghul and British rule, and showed how the new distribution of power had affected the character of postwar policy and the nature of economic growth. I visited East Pakistan and India for a few weeks to gather more material. Then I went to Harvard for six months, to write up the book and collect further material in the Widener Library. There I attended Alexander Gerschenkron's economic history seminar regularly and went occasionally to lectures by John Fairbank on Chinese history, and by Simon Kuznets on economic growth.

I was more satisfied with the book on India and Pakistan than with most of the other things I had written on development because I had worked for much longer in the country, had had the daily experience of running a household (Harvard gave me a large house and 5 servants) and had close access to the policy making process. Even the workaday environment of the Commission was enlightening with its 4 segregated lifts for different categories of civil servant, stairs which only the sweepers used, the bearers who lost documents because they could not read the names of the addressees, and the all-male group of one-finger typists.

Most members of the Harvard Group were congenial colleagues. There were very interesting places to visit, Lahore (a Moghul capital), Harappa (the seat of the Mohenjo Daro civilisation), Taxila (a town built by Alexander the Great), old British hill stations like Murree and Abbottabad, and the road up the Khyber to Kabul, with stop-offs in Peshawar, Landi Kotal, and Jallalabad.

### Ghana

At the end of 1970 I went to Ghana to work in the Ministry of Finance and Planning on social policy. I had been interested in broadening my knowledge of Africa, which, apart from a brief visit to Nigeria, was confined largely to ex-French colonies.

Ghana was the first British African colony to become independent, in 1957, about a year before Guinea broke away from

<sup>19</sup> A. Maddison, *Class Structure and Economic Growth*, Allen and Unwin, London, 1971.



France. Ghana had the same aspirations to break with colonial tradition and create a variety of African socialism. The transition to independence was much easier in Ghana, which inherited large sterling balances from the colonial administration, had a very much larger stock of educated people, and some political experience before independence (with Kwame Nkrumah as prime minister). It was not cut off from the rest of the Commonwealth or aid from the metropole as Guinea had been. The Gold Coast had been run as a coherent entity, whereas Guinea was carved out of a much larger French administrative area on the eve of independence.

Ghana was unusual in Africa in having built up a very large export sector of relatively prosperous peasant cocoa farmers. White settler agriculture was virtually non-existent, because the climate is extremely unattractive. It was a rather egalitarian country as access to land was easy, and there were no barriers of religion or caste to impede social mobility. Women were much freer in Ghana than was the case in Pakistan or in Islamic Guinea. Conjugal ties are informal, and it was quite common to find successful businesswomen with several children who had never had a husband. Because of the relative abundance of land and the steady nature of the climate, hunger was not a significant problem.

Nkrumah had expanded the government sector of the economy considerably. There had been a big push for industrialisation. In agriculture he created state farms, there was large investment in infrastructure projects, *e.g.* the large new port in Tema, the highway between Accra and Tema, and lavish facilities for Pan African conferences. He provided aid to some other African countries, Guinea in particular. He greatly extended the education network and the size of the administration. He spent the sterling balances, accumulated foreign debt, and squeezed the income of cocoa farmers. Many of the investment projects were ill conceived, and some were disastrously wasteful. The result was economic stagnation, substantial inflation, balance of payments crisis, and allocation of resources by licensing which led to inefficiency and corruption.

In 1966, Nkrumah was overthrown by the armed forces and went into exile in Guinea. The military have ruled the country off and on ever since, but I went there during a brief interval when Kofi Busia was prime minister, after elections in August 1969.

The objectives of economic policy were not very clear when I was there. It was felt that Nkrumah had made major errors and that

his thrust in policy should be stopped. However, there was no policy to remedy the balance of payments problems, there had been little reduction in the state's economic commitments, and there was still a large network of administrative controls. Official interest in the social sectors was desultory and the Finance Minister, Mensah, took decisions without much reference to his staff. Busia, the Prime Minister exercised little control over his ministers. He was a mild mannered ex-professor, in rather poor health. He was keen on European advisors, particularly if they came from Oxford, and he did not trust his own people much.

I found the government's housing policy had the same bias as in Pakistan. The top civil servants and army officers aspired to colonial style bungalows on quarter acre plots with two car garages. Most of governmental expenditure on housing went into buildings which approached these standards. There were about 60000 government houses. They represented only about 6 per cent of the total housing stock but 60 per cent of the houses which did not have mud walls. They were allocated by the state housing corporation, the armed forces and police, the Tema Development Corporation, Ministries of Education, Health, etc. All these authorities were making big losses because they charged only 7 per cent of the occupants' salaries in rent. Gross rents from these houses were about 5 million cedis whereas I estimated a private developer would need 40 million cedis to make a reasonable return.

I recommended a large cutback in building of such houses, an increase in rents and diversion of the money to better provision of water and sewerage, and research on improved ways of building and roofing the mudwalled tin-roofed housing in which 90 per cent of the population lived.

As I could find no way to get the Minister of Finance to read my report, I gave it to the Prime Minister, who, to the consternation of the civil service and army, decided to implement my recommendation to double the rents of government owned housing. I had suggested that the increase be phased in gradually, but he did it at one swoop. This was probably the greatest influence I ever had as an advisor, but its implementation helped to topple Busia.

At about the same time my Harvard colleagues persuaded the Prime Minister not to implement the 30 per cent increase in government salaries which he was well known to be contemplating, on the grounds that such a policy would raise prices rather than real incomes.

The juxtaposition of two unpopular decisions in one prime ministerial speech sparked off riots and Busia's fall seemed increasingly probable. On the 10th July, he gave a banquet for top level officials of the central and provincial government, the police and the military. He told them they should work harder, be less corrupt, and pointed with pride to a tiny enclave of foreign advisors who were serving him so well. At this time, I resigned, partly for health reasons, and partly because of the obvious dangers of foreign advisors giving advice which was subject to virtually no filtering processes before being implemented. The organisational and policy basis for putting the country back on its feet seemed extremely feeble. Busia was deposed by the military about six months later, the economy went downhill over the next decade, and in spite of some recent gains, per capita income is still below the 1950 level.

#### Social policy in OECD countries: education

In August 1971 I returned to OECD and to the end of 1978 worked on social policy issues, mainly education, income distribution and employment problems.

The notion of education as human capital analogous to physical capital had been put forward by Schultz in 1961 and received a warm welcome from economists. The idea was also taken up enthusiastically by educationists who found its central argument a useful support in bolstering educational budgets. However by the 1970s, serious doubts had started to arise about the private and the social returns obtained from the very rapid expansion of education in the 1960s.

The sceptics included those who argued that education was to an important degree a screening device, that there was overemphasis on formal credentials, that it was difficult to distinguish the role of intelligence, family background and education in determining earnings, and there were people with new and radical policy messages (such as Jencks and Illich) who cast strong doubts on the contribution of formal education.

In this complex field there is a paucity of sharp evidence, and unlike the OECD economic committees where there is some degree

of professional discourse, meetings on education involved civil servants and policy makers with very diverse background and training. As a result, it seemed to me that new policy initiatives sometimes involved reckless experimentation.

I felt my most useful contribution to rational policy making would be to improve the quality and comparability of the quantitative evidence on earnings and education, on educational costs and benefits, on levels of formal educational achievement and enrolment. In pursuit of this aim we created a committee on educational statistics which produced the first OECD *Yearbook of Education Statistics* in 1974. This was designed to show the flow of pupils through different levels of formal education in the framework of demographic accounts, so that one could easily compare the enrolment situation in the different countries by sex and age. It also showed stocks of educated people in the population broken down by age, and public expenditure on education. The analysis was backed by a standardised classification of education in OECD countries which appeared in 10 volumes from 1972 to 1975 and provided a detailed basis for comparing equivalent levels of educational provision. We made pilot studies of total public and private expenditure by level of education (including earnings foregone of students in postcompulsory education) and made a beginning in assessing participation in and expenditure on training and adult education.<sup>20</sup>

The major gap in the indicators was a measure of the cognitive performance of pupils over time and at different levels. The IEA (Institute of Educational Achievement) had gathered a great deal of useful comparative evidence by organising a massive series of tests in 22 countries for secondary education, but was reluctant to consolidate its findings to provide an aggregate picture of educational performance. There was in fact a good deal of resistance in educational circles to studies which might make it possible to judge the quality of teachers and curricula.<sup>21</sup>

<sup>20</sup> L. Lévy Garboua, S. Newman, T. Noda, A. Peacock, T. Watanabe and M. Woodhall, *Educational Expenditure in France, Japan, and the United Kingdom*, OECD, Paris, 1977. The work on educational statistics has now been institutionalised in the publication *Education at a Glance*, OECD, Paris, 1993. However, the work on statistics of the stock of educated persons, which is particularly useful for growth accounts, has been dropped.

<sup>21</sup> The situation now seems to have changed, as OECD has recently begun to publish comparative statistics on the cognitive achievement of students.

At that time, governments were concerned with the distributional impact of education, but it was clear that people had very different conceptions of its equalising potential. Some had meritocratic goals in mind and wanted to achieve a gradual downward expansion of opportunity, giving bright children from poorer families a chance to rise in the social hierarchy. Others saw expansion of education as a process for changing the social structure, and reducing income dispersion by a massive increase in the proportion of people with higher education. Some were primarily interested in changing attitudes. They wanted to use the education system as a vehicle of fraternity – reducing status differentials and other kinds of social distance. I tried to assemble evidence on these issues and organised a major conference which involved a confrontation between eminent economists, sociologists and educationalists.<sup>22</sup> On the whole I found education a disappointing field for effective international cooperation because of the difficulties of measuring performance and the power of interest groups to resist the production of relevant evidence.<sup>23</sup>

### The welfare state

In 1974-75, there was a sharp recession which affected the USA and Japan as well as virtually all the European countries. This was accompanied by a burst of inflation whose intensity was unparalleled in peacetime. In the event, it turned out that the Western economies had entered a new phase of development, where growth was much slower and less stable than in the postwar golden age.

These unprecedented developments led to a disturbing reorientation in the macroeconomic policy objectives and armoury of OECD countries, but they also led to a reexamination of the size and structure of government social spending and social transfers.

By the early 1970s, government spending in European countries had risen to an average of about 40 per cent of GDP. The bulk of this

<sup>22</sup> See OECD, *Education, Inequality and Life Chances*, Paris, 1977.

<sup>23</sup> See A. Maddison, "What is education for?", *Lloyds Bank Review*, April 1974, for a general survey of educational objectives.

went on social programmes. Further expansion in these was triggered automatically in recession as payments for income support rose and indexed benefits kept pace with inflation. There were also large expenditures on industrial subsidies.

These programmes had expanded in the earlier period of rapid economic growth in response to mixed policy objectives, some of which were redistributive, some of an insurance character, some simply a response to the pressure of interested lobbies. In order to finance these programmes, governments had increased their revenue mainly by a large increase in social security levies with a regressive incidence. There was a substantial degree of income churning in which governments collected taxes and paid out transfers to the same people without much net effect on income distribution.

Nevertheless, the welfare state had strengthened the forces making for economic growth and stability. It had also made capitalist property relations and the operation of market forces more legitimate by removing most of the grievances which motivated proponents of a socialist alternative. As a result the "socialist" parties in these countries had generally abandoned the aim of nationalising industry or significantly interfering with the operation of market forces.

Between 1974 and 1978 I spent a good deal of time on problems of the equity and efficiency of tax-transfer systems. We created a committee on social aspects of income transfer policy with Ian Byatt, of the UK Treasury, as chairman. The committee explored a wide range of distributive issues: incomes policies, poverty traps, incentives, unemployment compensation, minimum wages, distribution of income and wealth, tax and social security reform. We also did a pilot survey of the tax transfer systems of France, Italy, the Netherlands and the UK.

The time was propitious for such research. The OECD fiscal committee put out a number of very useful comparative studies on the structure of taxation, tax incidence by income level and its effect on incentives. The economics directorate published a series of studies on various kinds of public expenditure, and income distribution.<sup>24</sup> In the UK, the Royal Commission on the Distribution of Income and Wealth issued 8 major reports from 1976 to 1979, and the Swedish Low

<sup>24</sup> M. Sawyer, "Income distribution in OECD countries", *OECD Economic Outlook, Occasional Studies*, July 1976.

Incomes Commission had put out a 12 volume report in the early 1970s. In the USA, the Brookings Institution (animated by Joe Pechman and Henry Aaron) carried out a vast array of studies on tax incidence and social security. Together with Alice Rivlin as Director of the new Congressional Budget Office they worked as an effective pressure group for reform in these areas. In France, the Giscard government gave prominence to distributive issues in its early stages, particularly in the preparations for the seventh plan.

In the 1980s, political attitudes on these issues changed a good deal. The Thatcher governments in the UK and the Reagan-Bush administrations in the USA rejected the egalitarian bias in the distributive policy of earlier governments, made big reductions in the incidence of direct taxes and succeeded in bringing substantial increases in inequality. The policy switch in other countries was less extreme, but the political interest in monitoring these problems was sharply diminished, and the results of several of our studies were not published.<sup>25</sup> In fact the size of the welfare state has risen since the 1970s. Popular support for it is very firmly embedded in European countries, so there were "automatic" increases in benefits when unemployment rose and there was an influx of poor immigrants from outside the area. Furthermore governments tended to cushion the social impact of anti-inflationary macro-policy by expanding programmes to disguise unemployment (such as the large expenditure on early retirement in France or the huge expansion in the number of people drawing "handicapped" benefits in the Netherlands). Hence the problems of balancing equity and efficiency in social spending are just as sharp as they were in the 1970s, and the usefulness of internationally comparable monitoring exercises are rather clear.

### Unemployment and labour market analysis

The recession and slowdown in economic growth in the OECD economies in the 1970s had major implications for the labour market.

<sup>25</sup> I set out my own views in "Origins and impact of the welfare state", in this *Review*, March 1984.

Unemployment had been at frictional and seasonal minima in the 1960s, and cyclical unemployment had virtually disappeared. But by 1978, European unemployment was two and a half times as large as in 1973 and would have been significantly higher if governments had not taken measures to check immigration, to entice people to leave the labour force or to work part-time. The OECD Committee on Manpower and Social Affairs therefore found its agenda full of new and pressing problems and the importance of the issues caused it to be raised to ministerial level in 1976.

There was clearly a need to improve comparative monitoring of the situation in the labour market. OECD already had a regular publication (*Labour Force Statistics*) which I had always used for analysing labour input in comparative macroeconomic accounts, but the definitions of unemployment differed considerably from one country to another. They were derived from different sources (mostly administrative as labour force sample surveys were then far from general) and governments sometimes changed the definitions for political purposes.

As a first step in improving the situation, I asked the US Bureau of Labor Statistics (BLS) in 1975 to lend us one of their experts (Connie Sorrentino) to examine the intercountry variance in definitions of unemployment and make recommendations for standardisation. We then set up a committee of labour statisticians to consider more closely the possibilities for improved labour market monitoring. BLS provided the chairmanship of the committee. We followed up the Sorrentino report by a more detailed study, *Measuring Employment and Unemployment* (1979) which analysed in full detail the scope of the different national unemployment and employment statistics. This provided a basis for improved monitoring for the ministerial committee, but there was a need to push the analysis further by looking at dimensions of labour "slack" other than unemployment, e.g. measures to encourage a reverse flow of immigrant workers, reductions in activity rates through increased provisions for early retirement, classification of less efficient workers as handicapped, incentives to promote short time working and cut working hours, or incentives to firms to hoard workers. Germany was a rather extreme case where unemployment in 1978 was 3.8 per cent of the labour force, but "labour slack" was 8.6 per cent. I therefore proposed the adoption of a systematic set of labour market accounts which would

put labour market participation into a demographic framework,<sup>26</sup> and measure labour input in terms of total hours worked. The advantage of this for labour market analysis was obvious, and the measure also had more general application for growth and productivity accounts. Such accounts necessarily involve merger of data from different sources, and in their full version also involve assessment of deviations of actual labour input from "normal" (for migration, activity rates, working hours, and unemployment). Labour statisticians are much less used to data merger and imputations of this kind than are national accountants, so progress in this area has been slow. Nevertheless, several countries now have accounts of this kind, e.g. Finland, France, Germany and Sweden.

My basic feeling about the social policy issues on which I worked in OECD was that the analytical basis for policy decisions was rather poor. Consequently decision-making relied too much on hunches or reactions to interested pressure groups. There was a need for monitoring frameworks analogous to the growth accounts and cyclical indicators available for macroeconomic policy, and I tried to develop something appropriate in each of the three fields. What I did was slow to make an impact, but not without long term influence. There were frustrations when one was rowing against the stream, but there were also opportunities for doing something new if one took the right initiatives, used the appropriate networks and picked the right chairperson for intergovernmental committees. The possibilities for freewheeling initiatives and conjuring up research funds were in fact greater than in OECD macropolicy work where governmental interests and perceptions were more clearly focussed.

<sup>26</sup> See "Monitoring the labour market: a proposal for a comprehensive approach in official statistics (illustrated by recent developments in France, Germany and the UK)", *Review of Income and Wealth*, June 1980. My proposals for a functional classification of manpower and employment budgets can be found in my Shell Lecture "Why Do Unemployment Rates Differ?", University of Buckingham Employment Research Centre, October 1983. In 1988, the OECD in *Employment Outlook* (pp. 84-114) for the first time published comparative labour market budgets for 22 OECD Member countries, with a functional breakdown not unlike that which I had suggested.

## Academic life in Groningen

My main reason for leaving the OECD and entering academic life was to have more freedom to pursue my own research agenda. The University of Groningen was the ideal spot for me. It was founded in 1614, and has over 20000 students in a picturesque old town of 150000, with canals, a 16th century cathedral and a night life which can compete with the boulevard St. Michel and the rue St. Denis in Paris. There are about 200 economists teaching in the faculties of economics, econometrics and business science. Most of the teaching I did has been at graduate level on economic growth and development in different parts of the world economy. There is plenty of scope for interdisciplinary cooperation with economic historians and sociologists who are also part of the economics faculty. The graduate students are exceptionally well qualified for comparative quantitative work, as they are computer literate, fluent in two or three languages and willing to learn more. There is a research school for Ph.D. students. I have supervised 12 of them, and most of their theses have been published.<sup>27</sup>

Since I went there in 1978, I have written 2 books which covered the development of 16 advanced capitalist countries in a comparative framework of historical growth accounts. I tried to analyse both the supply side possibilities and to see the influence of policy and the international economic order in determining economic performance. The analytical framework of these books and associated articles<sup>28</sup> was strongly influenced on the supply side by John Kendrick, Edward Denison, and Moses Abramovitz with whom I have had frequent contact in various ways.

<sup>27</sup> The most recent are C. de Neubourg, *Unemployment, Labour Slack and Labour Market Accounting*, 1987; T. Elfring, *Service Employment in Advanced Economies*, 1988; E. Bax, *Modernisation and Cleavage in Dutch Society*, 1988; J. Reijnders, *The Enigma of Long Waves*, 1988; S. Manarungsan, *The Economic Development of Thailand 1850-1950*, 1989; B. van Ark, *International Comparisons of Output and Productivity*, 1993; D. Pilat, *The Economics of Catch-Up. The Experience of Japan and Korea*, 1993; and P. van der Eng, *Agricultural Growth in Indonesia since 1880*, 1993.

<sup>28</sup> See *Phases of Capitalist Development*, Oxford University Press, 1982, *Dynamic Forces in Capitalist Development*, Oxford University Press, 1991, "Growth and slowdown in advanced capitalist economies: techniques of quantitative assessment", *Journal of Economic Literature*, June 1987, "Ultimate and proximate growth causality: a critique of Mancur Olson on the rise and decline of nations", *Scandinavian Economic History Review*, No. 2, 1988.

I continued to work on lower income countries in a comparative economic context, both to quantify their economic performance and to assess the influence of indigenous institutions and colonialism in explaining their relative economic backwardness. I extended my analysis to cover world economic performance in two books published by the OECD Development Centre.<sup>29</sup>

In the past 10 years or so, the Groningen research programme in my field has had two main branches: growth analysis and level analysis.

In the first field I created a network of researchers on historical growth accounts in the Club des Chiffrephiles.<sup>30</sup> We organised four international workshops on quantitative economic history in Groningen in 1984, 1985, 1989 and 1994 and I also persuaded the International Association for Research in Income and Wealth to renew its interest in historical national accounts in seminars in 1987 and 1992. More recently we started to reexamine the long-run estimates of growth performance of the East European economies and China. In this way it has been possible to widen the scope of historical national accounts to cover the bulk of the world economy well back into the nineteenth century, and some of our associates have pushed back the quantification much earlier.

In comparative economic history, it is necessary to measure levels of performance as well as growth. The second major focus of our Groningen research effort has therefore been on international comparisons of real product by industry of origin. This is a complement to the expenditure side estimates initiated by Kravis, Heston and Summers, and it is more useful for growth and productivity analysis. The analytical statistics we get from such work help to sharpen analysis of the causes of economic growth, catch-up and convergence, lead-country/follower-country phenomena, and the locus of technical progress. Since 1983, this ICOP (International Comparisons of Output and Productivity) programme has produced

more than 60 publications. The history and methodology of the approach are set out in Maddison and van Ark 1988 and 1994.<sup>31</sup> The basic data on value added, productivity and purchasing power are derived from censuses of production. Our interests have been worldwide, but we did not aspire to comprehensive coverage. We were satisfied to concentrate our efforts on relatively large countries which provide a representative picture of world population and output covering a very wide range of income levels. The estimates have so far covered 13 countries for agriculture and mining and 21 countries for manufacturing. For the core countries Argentina, Brazil, China, France, Germany, Indonesia, Japan, Korea, Mexico, the Netherlands, the UK and USA we have developed a network of associated researchers, and more recently have extended the work to East European countries. As the methodology has been clearly articulated and our worksheets are as transparent as possible, the basic approach is now rather easy to replicate and such comparisons have attracted visiting researchers from Australia, Bulgaria, China, Finland, Portugal and Russia.

<sup>29</sup> See A. Maddison, *The World Economy in the Twentieth Century*, OECD Development Centre, Paris, 1989; A. Maddison and G. Prince, *Economic Growth in Indonesia 1820-1940*, Foris, Dordrecht and New York, 1989; A. Maddison and Associates, *The Political Economy of Poverty, Equity and Growth: Brazil and Mexico*, Oxford University Press, New York, 1992; A. Maddison, *Monitoring the World Economy 1820-1992*, OECD Development Centre, Paris, 1994.

<sup>30</sup> "Chiffrephile" is a word I invented to characterise economists and economic historians, who, like myself, have a strong predilection for quantification.

<sup>31</sup> My interest in this kind of comparative work goes back a long way, see "Productivity in Canada, the United Kingdom and the United States", *Oxford Economic Papers*, October 1952, *Economic Progress and Policy in Developing Countries*, Norton, New York, 1970. The ICOP work began with "A comparison of levels of GDP per capita in developed and developing countries 1700-1980", *Journal of Economic History*, March 1983. The ICOP methodology is set out in A. Maddison and B. van Ark, *Comparisons of Real Output in Manufacturing*, World Bank, Washington, D.C., 1988, and A. Maddison and B. van Ark, "The international comparison of real product and productivity", Research Memorandum, Groningen Growth and Development Centre, Groningen, 1994. See also A. Szirmai, B. van Ark, and D. Pilat, eds., *Explaining Economic Growth: Essays in Honour of Angus Maddison*, Elsevier, North Holland, 1993 for the nature of Groningen research activity.