

## 経済発展論の主題： Key Academics から何を学ぶべきだろうか

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### 序 文

この『別冊立命館経済学』特別号の目的は、各講義担当者の講義の一材料となるよう編集されている。

私の経済発展論の講義で出てくる偉大な経済学者達がどのような教育を受け、経済発展論や経済学上どのような貢献をしたかについて英語文献で紹介し、授業の参考資料に供したい。

あわせて、この序文において、私の授業と研究に通底する経済学及び哲学上の根本問題を述べると同時に私の講義における基本姿勢と注意事項を受講学生に伝えておきたい。

(1) ここに紹介する21名の経済学者達は、主に経済発展論における私の講義の中でしばしば言及する人達である。しかし、ここで取り上げないセクシーな大経済学者は多いことも喚起しておきたい。

(2) 最近の欧州における経済発展論の研究は、現在の先進諸国がかって発展途上国であった時の関税、産業の保護育成政策、税制、民主主義制度、官僚制、司法制度、corporate governance（企業統治）の歴史を詳しく議論する中で、現

代の発展途上国の現実問題を考えるという潮流が出てきている。Cambridge大学の経済学者 Ha-Joon Chang “Kicking Away Ladder, Development Strategy in Historical Perspective (London, Anthem, Press, 2002) はその一例である。このような研究の流れが出てきたのは、英国を代表する制度派経済学者 Geoffrey M. Hodgson の ” How Economics Forgot History, The problem of historical in social sciences” (London and New York, Routledge, 2001) などの欧州における制度派経済学の研究が進化し、それが、経済発展論に適用されてきたからである。

私は、ここ18年前から明治期日本の産業化の歴史を調べる中で、途上国の経済発展の理論的問題を考察するという方法論により、“The Economics of Quasi-Market” 「準市場の経済学」という独自の research programme を立て、明治期の日本を含む北東アジアの経済発展の理論を研究してきた。

その一部は、次のような国際会議で研究発表してきた。

1 . ‘The Economics of Quasi-Markets’ (The 3<sup>rd</sup> Annual International Workshop on Institutional Economics, University of Hertfordshire, UK, 4-7, September, 2001 )

2 . “A Quasi-Market Economy and the Global Competition: Industrial Policy in Northeast Asian Countries” (The 6<sup>th</sup> Annual EUNIP [European Network on Industrial Policy] Conference, Åbo Akademi University, Åbo (Turk), Finland, 5-7 December2002 )

3 . “Can a Communal Association Model of the Japanese Business Enterprise transform into its Company Law Model?: Is It a Stumbling Block to Industrial Development ?” (7<sup>th</sup> Annual EUNIP Conference, University of Porto, Porto, Portugal, 18-20 September2003. ‘ The paper you submitted to the Eunip 2003 Conference has been accepted, However, the referee suggested some changes. We do hope they will be useful and that you will incorporate them in your paper’ という e-mail を Eunip 2003 Organising Committee から、2003年7月17日もらった)。

以上のような欧州における最近の研究動向は、期せずして、私が十八年来日本で全く孤立して試行錯誤で研究して来た research programme と一致しており、私が無意識であったが設定してきた research programme は欧米の経済学者よりはるかに先行していたと自負している。もし、私の「準市場の経済学」の定立に成功すれば、Hodgson の「異なった資本主義制度には異なった経済理論が存在する」という命題を証明し、主流派経済学に代わる新しい経済学を生みだし、制度派経済学は飛躍的に進化するであろう。

(3) 私の“The Economics of Quasi-Markets”は、明治・大正期と第二次大戦後の日本そして韓国・台湾の経済発展の経験から、帰納的推論 (inductive reasoning) により、導出した仮説である。この仮説を、最近では、改革開放後の中国の経済発展に適用している。しかし、帰納法の基礎の正当化は長い歴史の上で、「スキャンダル」問題であった（伊藤邦武 [1999] 『ケインズの哲学』岩波書店）。これは、根本の難問で、認識論上未解決の問題である。

20世紀の哲学の世界に最も大きな impact を与えた科学哲学者の一人、Karl Popper [1935] 『探求の論理』(Logik der Forschung, 英訳 The Logic of Scientific Discovery, 1959. 大内・森訳『科学的発見の論理 上・下』1972年)は、ケインズの [1930] 『確率論』(A Treaty on Probability) の帰納的な「確率論的推論」をもものすごく意識して書いたと思われるが、帰納的推論 (単称言明 singular statement から仮説または理論のような普遍言明 universal statement へと進む推論をいう) を強力に否定し、演繹主義を主張した。Popper の真理観は「三角形の内角の和は二直角である」というように、改訂と例外のない真理である。彼の真理観を基準とすれば、Keynes のいう Moral Science は成り立たなくなるし、Natural Science はその仮説的性格を喪失する。

Keynes は、Cambridge 大学の学生時代から、帰納法に関心を持ちつづけた (Jochen. Runde & Sohei Mizuhara, eds. [2003] The Philosophy of Keynes's Economics, Routledge)。彼は、『確率論』(1930) から『雇用、利子及び貨幣の一般理論』(1936) において、帰納的推論の正当性の根拠づけを試みている。

科学哲学者ライヘンバッハ（H. Reichenbach）は、より頻度の高い実証例を仮説の発見には帰納的推論が不可欠であるとして、帰納的推論の意義を正当化した。

Popperの「帰納法非存在」の命題を経済学に適用するとどうなるか。

既成のミクロやマクロの理論（理論とは数学モデルと思っている主流派経済学者が圧倒的である）が現実や歴史の観察より重要ということになってしまう。北東アジアの経済発展史の経験を観察することから一定の Heuristic Models を引き出すことは否定され、主流派理論が正しく、現実が誤りであるとなってしまふ。経済学は数学の練習問題になってしまい、精神・社会科学で無くなってしまふ。

私はさしあつて科学哲学自体の専門的議論に興味はない。私の「準市場の経済学」を展開する上で、私の立論を認知・認識論上の確固たる基盤の上に載せたいから関心があるに過ぎない。

（4）経済発展における日本のモデルの勉強には、明治維新から現在に至る日本の経済発展史の経験をかなり知る必要がある。

私は、最高の経済評論家、高橋亀吉（1891—1977）の『日本近代経済形成史』（全三巻）、『日本近代経済発達史』（全三巻）等から主に明治以後の日本経済発展史の経験を多く学ぶことが出来た。

2003年7月に出版された書誌学・日本文学専門の谷沢栄一（関西大学名誉教授）『高橋亀吉エコノミストの気概』東洋経済新報社によって高橋についての知見を得ることが出来る。細分化され過ぎたアカデミズムの専門家の圧倒的多数は、マルクス派であろうと非マルクス派であろうと、高橋亀吉の業績を評価しないであろう。

日本は専門家を重視しない国である。何故だろうか。非専門家が真理に対し傲慢不遜で専門家のこわさに無知で、謙虚さを喪失しているからか。良き専門家が不在だからであろうか。マスメディアの質が悪いからか。分業構造が日本

と欧米とで違うからか。日本の民度が低いからか。

少なくとも、何故第二次世界大戦後日本が経済的に成功し、何故バブルを生み、その崩壊後、何故長期不況に陥ったのかの分析に対して日本の大学のけるエコノミストの関心の欠如と無力ぶりを見れば高橋亀吉が評価されない理由がよく分かる。学生は、大学院時代から、大学の世界で速く出世するように教育されても、社会に役立ち、良い社会を作るようなエートスで教育をされていないし、帰納法によって新しい理論を発見するというような教育と訓練も受けていない。多くの中堅・大家も専門は異なっても現実経済に殆ど関心がないし、また基本的な事実を調べそこから理論を引き出す事に殆ど興味が無い。

現実に関心のあるアメリカのノーベル経済学受賞者 P. A. サミュエルソンは、日本の景気回復は、「古い日本型モデルの転換」によってのみ可能であると言っている（2002年6月24日、Daily Yomiuri）。彼の議論は半分真理で、半分誤りだ。

アカデミズムの歴史家の多くは（特に日本の）、歴史上の出来事を記述するのにマクロとミクロの経済理論を使いたがらないし、また、知らない。歴史は純然たる事実の連続として記録されるべきである、と思っており、一次資料の発見のみに没頭し、歴史の研究によって、現代の諸問題を考え、新しい理論的実践的教訓を引き出すということにはなっていない。だから、面白くない。歴史家がどのような理論を、既存の体系的な理論か、新しい理論が出来るまでの間に合わせの理論を選択するかは、歴史家の持つ ideology（信念体系）や vision に依存している。

開発経済学の視点からは、マルクス主義内部の「講座派」と「労農派」の日本資本主義分析をめぐる論争は不毛で誤りであった。マルクス派の日本資本主義論では、日本資本主義のダイナミズムも発展政策も出てこない。

ノーベル経済学賞（経済学スウェーデン銀行賞）受賞の経済史家 D. C. North によると、マルクス主義の枠組みは新古典派の枠組みから除外された制度、財産権、国家、イデオロギーのすべてを含んでいる（中島訳 [1989] 『文明史の経済学』春秋社）。新古典派経済学は、これらの要素に伝統的に殆ど注意を向けてこ

なかった。

社会のインフォーマルなルール（道徳律や倫理的規範）の方が，社会のフォーマルなルールより力が大きい。社会のフォーマルなルールが変わってもインフォーマルなルールが継承される。

イデオロギー（ideology）は，①行動にかんする情報が不完全な状態で行動の根拠が不明な時，取るべき行動を教えてくれる heuristics である。②社会の秩序の安定的な関係を維持することである。然し，日本人はイデオロギー嫌いである。問題は如何なるイデオロギーを持つかということである。

Ideology から，Vision が生じ，その Vision から科学的モデルが生み出される（J. A. Schumpeter，東畑精一訳『経済分析の歴史』全7冊中の第1分冊岩波書店）。

(5) 私のビジョンは，21世紀中に，日本，中国，韓国，台湾，北朝鮮（日・韓・中が北朝鮮の体制変換を本当にその気になって対処すれば北朝鮮の平和的体制移行は容易だ。特に中国がその気になり，日韓が中国をバックアップすれば北朝鮮の体制移行は簡単なことだ）から構成される北東アジア開発経済共同体・北東アジア市場共同体・アジア連合・アジア合衆国という発展段階を展望する中で，「準市場の経済学」という concept で，共通した儒教的伝統を持った北東アジアに適合した経済学を構築することである。“Foreign Affairs”（Vol. 82 No. 3，2003）における EU のトルコ加盟問題の議論は何故儒教圏かについて示唆的である。

(6) イギリスの学問の伝統では，自然科学ほど精密でない科学を精神科学 moral science と呼んだ。精神科学は社会科学と非社会科学に分けられる。ミクロやマクロの経済学の教科書では，実証的経済学 positive economics と規範経済学 normative or welfare economics とに分けられている。前者では，価値判断は退けられ，be 動詞の世界であるが，後者は，ought to be や should の価値判断を不可避とする経済政策の世界であるとされ，両者は厳格に区別されている。しかし，両者の区別は受容して良いのだが，実際において両者は密接に絡み合っている。主流派経済学は新古典派理論に適合するように現実を変え

る政策しか提案しない。主流派経済学では、政策（価値判断）→事実の観察→新理論→新政策という回路が切断されている。

それ故、イギリス新古典派の大経済学者で大著『厚生経済学』を書いた A. C. Pigou は、「マーシャルは、経済科学（economic science）は、知的訓練でも、それ自体として真理を獲得する手段のどちらでもなくて、主に、倫理の侍女及び実践の召使いとして価値があるという確固たる見地から出発した。そして彼は、断固として、その理想に一致する路線にしたがって仕事をするように自分自身を仕向けた」（Pigou, A. C. ed. [1956] Memorials of Alfred Marshall）と述べている（小野進[1992,1995]『近代経済学』東洋経済新報社，p. 14）。

私は、この Pigou の言明は今でも正しいと思っている。我々は、個人の自由を認めながら、価値相対主義の陥穽に陥ることなく論争を通じて経済政策の基礎にある価値判断とその基準を絶えず鍛え磨かなければならない。

(7) John Maynard Keynes は、20世紀における The most influential Western economist である。

以下のケインズの言説は、私が経済学の研究と教育の指針にしている言葉でもある。

Keynes 曰く。「経済学の研究には、なんらか人並みはずれた高次の専門的資質が必要とされるようには見えない。それは知的見地からいって、哲学や純粹科学などのもっと高級な部門に比較すると、はなはだ平易な学科であるまいか。それなのにすぐれた経済学者、いな有能な経済学者すらも、類まれな存在である。平易で、しかもこれにぬきんでたひとのきわめて乏しい学科！ こういうパラドックスの説明はおそらく、経済学の大家は諸々の資質の稀なる組み合わせを所持していなければならない、ということのうちにみだされるであろう。そういう人はいくつかの違った方面で高い水準に達しており、さらにはいっしょに見られないような才能を兼ね備えていなければならない。彼（or 彼女）はある程度まで、数学者で、歴史家で、政治家で、哲学者でなければならない。彼（or 彼女）は、記号もわかるし、言葉も話さなければならない。彼

(or 彼女)は普遍的見地から、特殊を考察し、抽象と具体とを同じ思考の動きの中で取り扱わなければならない。彼(or 彼女)は未来の目的のために、過去に照らして現在を研究しなければならない。人間の性質や制度のどんな部分も、全然彼の関心の外にあってはならない。彼(or 彼女)はその気分において目的意識に富むと同時に公平無私出なければならない、芸術家のように超然として精廉、しかも、ときには政治家のように世俗に接近していなければならない。こういう理想的な多面性の多くを、そのすべてではないが、マーシャルは備えている。」(『人物評伝』岩波書店, pp. 136-37)。

(8) この編集は、(a) M. H. McCarty [2001] *The Nobel Laureate*, The McGraw-Hill (田中訳 [2002年] 『ノーベル経済学賞に学ぶ現代経済思想』日経BP社), (b) B. S. Katz, ed. [1989] *Nobel Laureates in Economic Science*, A Biographical Dictionary, Garland Publishing, Inc., (c) J. Eatwell, M. Milgate and P. Newmain, eds., [1987, 1969] *The New Palgrave Economic Development*, Macmillan, (d) M. Blaug [1985] *Great Economists before Keynes*, and (1986) *Great Economists after Keynes*, Harvester Press (両方邦訳有り)に依拠した。

類書として、Michael Szenberg, ed. [1992] *Eminent Economists: Their Life Philosophies*, Cambridge University Press (都留重人監訳 [1994] 『現代経済学の巨星: 自ら語る人生哲学(上・下)』岩波書店)そして日本経済新聞社編 [1994] 『現代経済学の巨人たち』日本経済新聞社がある。

Hey, J. D. [1992] *The Future of Economics*, Blackwell (鳥居泰彦監訳 [1992] 『フューチャー・オブ・エコノミックス』同文書院インターナショナル)において、世界の著名な経済学者達は、数理経済学の限界を自覚し、21世紀の経済学の帰納法的傾向を確認している。

なお、主流派経済学に不満を持つ京都大学大学院出身の若い世代が書いた依



田，広瀬，中村，神野，寺尾，江頭，荒川（2001）『21世紀のエコノミスト』朝日新聞社や D. N. McClosky, *The Vices of Economists The Virtues of the Bourgeoisie*, Amsterdam University Press（赤羽隆夫訳 [2002]『ノーベル賞経済学者の大罪』筑摩書房）も参考になろう。

21名の Key Academics の紹介にあたっては，小野が，文脈上の必要から若干の加筆，大幅な修正を加えた。Hodgson の項目のみは小野が執筆した。

(9) イギリスの大経済学者ケインズとギリシャの大哲学者プラトンが個人主義 (individualism) についてある時対話した。ケインズ曰く：「個人主義の欠陥と濫用は直さなければならない」，プラトン曰く：「個人主義は多様性を認めていいいが，人格形成 (personal evolution) の概念が欠落している。」[ Jochen Runde (University of Cambridge) & Sohei Mizuhara (龍谷大学) eds. [2003] *The Philosophy of Keynes's Economics*, London, Routledge, p. 65 ]

孔子が途中からこの仮想対話に加わった。孔子曰く：「私はプラトン先生に大いに同意します。東洋と西洋もこの点の考えは同じです。私の唱えた儒教は，共同体の理論ですが，学問を通じて，人格を形成するというのが教育の方針でした。気になるのは，現代の日本人で，こまったことに，私がいった学問を通じた人格と倫理の形成という大切なことを古くさいいうことで省りみなくなり，私の名前をアナゴと読む若い人がおり，勿論私の『論語』を読まなくなり，人格形成そっちのけで，めいめい狭い範囲の限られた知識だけを性急に追求するようになりましたな。規範無き国はやがて崩壊するでしょう。プラトン曰く：「人格形成という概念は古今東西に重要なもので，どこが悪いのですかね。日本人は一体どのような規範と倫理，エートスを拠り所に暮らしているのですか。損得だけですか。孔子先生。孔子曰く：「20年ほど前から，日本人は『無規範』になりました。戦後教育は人々の moral back bone になるまで個人主義と「伝統思想」を教えてこなかった。特に，1940年以後生まれの世代とその子供達は特にそうです。ところで，ケインズ先生はイギリス式の自由主義と個人主義社会のいい点と悪い点を熟知されておりますが，どのような日本人の拠り

所になる信念体系を持ったら良いのでしょうか。ケインズ曰く：「私の観察では、日本では、イギリスのような規律と自由をうまく両立させる個人主義はまだうまくいっていません。アメリカの自分」を the best judge とみなすベンサム流の個人主義や功利主義を日本は真似すべきではありません。日本の伝統思想より中国の伝統思想、儒教の方がより個人主義的要素を強く持っており参考になるのではないのでしょうか。世界的なベストセラーになり、当時のアメリカ大統領セオドア・ルーズベルトも感動したといわれる新渡戸稲造『武士道』（1899年）は今でもアメリカで出版されていて歴史の試練に耐えた本です。彼は武士道は、道徳的教義に関して孔子と孟子の教えがもっとも豊富な源泉であったといっています。イギリスの social liberalism の伝統を学び、徳川・明治時代の日本人のように、孔子先生の『論語』を読み、「伝統思想」の欠陥を抑止した hybrid な思想にしたら如何でしょうか。規律と規範はしっかりしているが、ぎすぎすしない、窮屈でない日本社会を作ってください。」

(10) 授業中の私語、20分以上の遅刻、居眠り、携帯電話のメール、帽子着用を厳禁。

#### List Entries

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## Domar, Evsey. D. (1914-98)

Evsey Domar is the co-inventor with Harrod of the so-called 'Harrod-Domar model' of dynamic equilibrium. Harrod arrived there first but Domar's starting point was in many ways more natural. In Harrod, a change in current investment causes a change in current income via Keynes' 'multiplier' and then this change in current income induces a further change in current investment -this is the so-called 'accelerator'. Domar realised, however, that investment also generates extra productive capacity, which however cannot be productively employed unless income rises in the next period, which in turn requires still more investment, and so forth, the point being that the requirements for steady-state, period-by-period growth are different from those of static, one-period equilibrium. Domar has described how he came to start thinking about all this.

He was attending a class in 1941-2 at Harvard University taught by Alvin Hansen and was puzzled by a diagram in Hansen's *Fiscal Policy and Business Cycles*, which showed the effect of a constant stream of investment on national income: 'It appeared to me strange that such a stream resulted in a constant rather than a rising income, and an investigation of this puzzle resulted in a paper on the public debt 'The "Burden of the Debt" and the National Income' (1944)] which in turn led to the other essays'. The public debt paper and others written in the 1940s, in which Domar applied the rate of growth as an analytical device to a number of specific economic problems, are reprinted in his *Essays in the Theory of Economic Growth* (Oxford University Press, 1957) This volume also contains a fascinating discussion of a model of economic growth published by the Soviet economist, G. A. Feldman, as early as 1928, which bears an amazing resemblance to the Harrod-Domar growth model.

Domar was born in 1914 in Lodz, Russia (now Poland) He grew up in Manchuria, Russia, where he eventually attended the State Faculty of Law in Harbin, Manchuria (1930-1) In 1936, he entered the University of California, Los Angeles, as an undergraduate, obtaining his BA in economics in 1939. He then took an MA in mathematics at Michigan University in 1941. Turning back to the study of economics, he obtained an MA in 1943 and a PhD in 1947 from Harvard University.

He worked first as an economist with the Board of Governors of the Federal Reserve System (1943-6), then taught at the Carnegie Institute of Technology (1946-7) the University of Chicago (1947-8), Columbia University (1951-5), and Johns Hopkins University (1955-8), finally becoming a Professor of Economics at the Massachusetts Institute of Technology in 1958.

## Harrod, Roy F. (1900-78)

Harrod's own contribution to economics was to dynamise the Keynesian theory of income determination by converting it into a theory of the requirements of steady-state growth, that is, a growth path which can be sustained indefinitely until it is disturbed by an outside shock. Because Evsey Domar produced a later but similar version of the same theory, it has come to be known as the 'Harrod-Domar growth model'. First sketched in 1939 and then expanded into a book, *Towards a Dynamic Economics* (Macmillan, 1948; 2nd ed., St. Martins, 1956; Greenwood Press, 1980) Harrod aided by Domar literally turned economics around from its almost total preoccupation with static equilibrium theory, of which the Keynesian system as formulated by Keynes was itself a reflection. In addition, however, Harrod made significant contributions to imperfect competition theory in the 1930s, wrote on the workings of the international monetary system, and stepped outside economics to examine the *Foundations of Inductive Logic* (Macmillan, 1956) in which, like so many philosophers before him, he attempted to solve David Hume's old 'problem of induction'; Harrod regarded this book as his most important achievement-greater than anything he had accomplished in economics.

Harrod was born in Norfolk, England in 1900 and was educated privately at Westminster School and New College, Oxford University.

He was appointed as a lecturer at Christ Church College, Oxford shortly after his graduation in 1922 and spent the rest of his academic life there, becoming Senior Censor (the effective head of the College) and a member of the governing body of Oxford University. Before taking up his post at Oxford, however, he spent a term at King's College, Cambridge, where he fell under the spell of Keynes. He remained one of Keynes' keenest correspondents and was one of the first to see a draft of Keynes' General Theory in 1935, contributing the one and only diagram to appear in the final version of the book.

Throughout the 1950s and 1960s, Harrod's journalistic output, quite apart from his more serious publications on *The British Economy* (Macmillan, 1963; Greenwood Press, 1977) *Reforming the World's Money* (Macmillan, St Martins, 1965) *Dollar-Sterling Collaboration* (Atlantic Trade Study, 1968) and *Money* (Macmillan, St Martins, 1969) was so prodigious as to defy belief. In writing so much, he probably diluted the impact he might have had. As a matter of fact, his journalistic writings do not show him off to best advantage, conveying as they do the air of one who feels himself to be in full possession of the whole truth (as laid down by Keynes)

Harrod was Co-editor of *The Economic Journal* from 1945-61, President of the Royal Economic Society from 1962-4, and was knighted in 1959.

## Hayek, Friedrich A. von. ( 899-1992 )

Since receiving the Nobel Prize in Economics in 1974, shared jointly with Gunnar Myrdal, he has come back to mainstream economics as a leading critic of Keynesianism and an advocate of free banking as the answer to the scourge of inflation.

He was born in 1899 in Vienna, the capital of the Austro-Hungarian Empire, in an academic family. After serving in the army irt World War I, he returned to Vienna and entered the Law Faculty of the University of Vienna, taking his *Dr. Juris* in 1921.

Shortly thereafter, Lionel Robbins invited him to give some lectures at the London School of Economics. Published under the title *Prices and Production* (Routledge & Kegan Paul, 1931; 2nd ed., Kelley, 1978 ) these lectures made a considerable stir in the English-speaking world and led to a professorship at the London School of Economics, which lasted eighteen years.

According to *Prices and Production*, rising prices in a boom lead to a fall in real wages, which then induces the substitution of labour for machines and a general shortening of production periods; in consequence, interest rates rise, investment falls off and the economy turns down.

Hayek wrote an unfavourable review of Keynes' *Treatise on Money* to which Keynes replied; Piero Sraffa on behalf of Keynes wrote an equally critical review of *Prices and Production* to which Hayek replied; the controversy was joined by every prominent monetary economist of the day and was only put to rest by Keynes' *General Theory* (1936) which totally altered the terms of the debate.

Hayek continued to work on a by-product of that debate as summed up in his *Profits, Interest and Investment* (Routledge & Kegan Paul, 1939; Kelley, 1978) and *The Pure Theory of Capital* (Macmillan, 1941; University of Chicago Press, 1975) He participated in another controversy, resulting from Mises' denial that a socialist economy could price its goods and services in accordance with the principles of relative scarcity and edited a classic volume on *Collectivist Economic Planning: Critical Studies on the Possibilities of Socialism* (Routledge & Kegan Paul, 1935; Kelley, 1978)

He spent a further nine years in Austria at the University of Salzburg before retiring at long last from academic life-at the age of seventy-eight.

The Salzburg years have witnessed the publication of his final major work, the three-volume study of *Law, Legislation anti Liberty* (Routledge & Kegan Paul, University of Chicago Press, 1973, 1976, 1979)

It will take another generation fully to digest Hayek's many and multi-faceted contributions to economics and indeed social science as a whole.

## Hirschman, Albert O. (1915- )

Hirschman was born on 7 April 1915 in Berlin. After attending the Sorbonne and the London School of Economics he obtained a doctorate in economic science from the University of Trieste in 1938. His early career was dominated by the struggle against fascism in Europe. He actively supported the underground opposition to Mussolini while in Italy in the mid-1930s, fought with the Spanish Republican Army in 1936 and later with the French Army until its defeat in June 1940. He stayed on in Marseilles six months more, engaging in clandestine operations to rescue political and intellectual refugees from Nazi-occupied Europe. He avoided arrest by leaving France for the United States in January 1941.

Hirschman has been a leading figure in economic development since the publication in 1958 of his second book, *The Strategy of Economic Development*. Hirschman's analysis grew out of extensive practical experience in Colombia as an adviser both to its government and to private firms. Characteristically, Hirschman dissented from orthodox views of both right and left, arguing that neither *laissez faire* nor 'rational' economy-wide planning made sense for poor countries. Government needed to encourage 'unbalanced growth', deploying its scarce decision-making capacities strategically to set up disequilibria that would stimulate effort and mobilize hidden and underutilized resources. Targeting development efforts on key industries with strong 'linkages' to other parts of the economy could stimulate a favourable dynamic.

Since 1970, Hirschman has been bringing his possibilist approach to bear on broader problems of social theory. His slim volume, *Exit, Voice, and Loyalty* (1970) revealed the unexpected richness to be found in comparing the implications of dissatisfied clients alternatively exiting from an organization or giving voice to their complaints. This volume, like Hirschman's more recent work (1982) on the forces that propel individuals and societies into and out of periods of intense political involvement, explores issues on the borderline between economics and politics. But unlike most economists with an interest in 'public choice', Hirschman shows no inclination to reduce politics to economics. Indeed, both works stress that standard models of economic behaviour fail to make sense of familiar forms of 'public-minded' behaviour such as voicing one's convictions on public matters, participating in demonstrations or working to support candidates for office.

Hirschman's propensity to devise analytical formulations that express rather than conceal the complexities of human motivations and institutions is evident also in his studies of historical views of capitalism (1977, 1982). Hirschman shows that capitalism has been seen as a powerful civilizing influence and alternatively as a destroyer of the moral and social fabric; still other views have portrayed capitalism, for better or worse, as too feeble to overcome the restraints of preceding social forms. These competing ideological views have evolved, Hirschman notes, in total isolation from one another.

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## Hodgson, Geoffrey M. (1946- )

Geoffrey M. Hodgson is a great representative of contemporary UK institutional and evolutionary economics. He is a Research Professor in Business Studies at the University of Hertfordshire, UK and was a former reader in the University of Cambridge.

He studied mathematics and philosophy in the University of Manchester. After his graduation from Manchester, he became a high-school mathematics teacher. After that, he returned to Manchester to study economics. He took an MA degree in economics at the University of Manchester.

During the time he was teaching Economics in Newcastle-upon-Tyne Polytechnic, he published "Capitalism, Value and Exploitation A radical theory" (Oxford, Martin Robertson, 1982). Marx's labour theory of value has been rendered obsolete by Piero Sraffa (1898-1983). He develops a critique of both the labour theory of value and neoclassical theory, and explained to what extent the rest of Marx's scheme can survive without it.

In his book "How Economics forgot history: The problem of historical specificity in social science (London & New York, Routledge, 2001), Hodgson provides a thought-provoking idea, and his book will have a profound impact on the future economics. He insists that J. M. Keynes, and J. A. Schumpeter helped to divert the social sciences away from the problem of historical specificity. Although there are common features in all forms of capitalism, different economics exists according to the different types of history, institution, and socio-economic systems, In this sense, Frank Hahn's general equilibrium theory was wrong because the insights of history have not been absorbed.

American pragmatist, Charles Sanders Peirce (1839-1914) argued neither induction nor deduction is capable of discovering entirely novel facts. He attempts to transcend the limitations of each. As for the need for causal explanation, Hodgson shares Peirce's argument.

His book, "Economics & Utopia: Why the learning economy is not the end of history" (London & New York, Routledge, 1999) shares some common ground with the American pragmatic liberalism of John Dewey, and with that important tradition of British social liberalism, which stretches from John Stuart Mill through Thomas H. Green to John A. Hobson, John Maynard Keynes and William Beveridge.

Institutions have two aspects in relation to our action. On the one hand, institutions and routine are seen as rigidities and restraints on our action, on the other hand, they are working to facilitate or liberate our action. They provide information which is able to be a guide to our action. The essence of 'learning' is the process of problem formation and solution rather than the acquisition and accumulation of information. Owing to the open nature of 'learning', it is possible for us to acquire not just the existing customs, but to alter our institutions and customs. He responds to a crucial criticism over institutionalism which is normally seen as determinism under the above logic (Economics and institutions, Cambridge, Polity Press 1988).

## Gerschenkron Alexander. (1904-78)

Gerschenkron was born in Odessa in 1904 and died in Cambridge, Massachusetts, in 1978. He left Russia in 1920 and settled in Austria. In 1938, a decade after receiving the degree of *doctor rerum politicarum* from the University of Vienna, he emigrated to the United States and spend the next six years at Berkeley. After a short period at the Federal Reserve Board, he went to Harvard in 1948 to teach both economic history and Soviet Studies.

This model, first presented in 1952 in an essay entitled 'Economic Backwardness in Historical Perspective' (reprinted in 1962) underlay Gerschenkron's extensive research into the specific developmental experiences of Russia, Germany, France, Italy, Austria and Bulgaria. Out of those historical studies emerged a comparative, all-encompassing European picture. 'In this fashion, the industrial history of Europe is conceived as a unified and yet graduated pattern' (Gerschenkron, 1962, p. 1) In turn, his hypotheses became progressively more precise. They may be summarized as follows:

(1) Relative backwardness creates a tension between the promise of economic development, as achieved elsewhere, and the reality of stagnancy. Such a tension motivates institutional innovation and promotes locally appropriate substitution for the absent preconditions of growth.

(2) The greater the degree of backwardness, the more interventionist was the successful channelling of capital and entrepreneurial guidance to nascent industries. Also, the more coercive and comprehensive were the measures to reduce domestic consumption.

(3) The more backward the economy, the more likely were: an emphasis upon producers' goods rather than consumers' goods; use of capital intensive rather than labour intensive methods of production; emergence of larger rather than smaller units of both plant and enterprise; dependence upon borrowed, advanced technology rather than indigenous techniques.

(4) The more backward the country, the less likely was the agricultural sector to provide a growing market to industry through rising productivity, and the more unbalanced the resulting productive structure of the economy.

His insights thus continue to influence a new generation of scholars and guarantee him a central place in any assessment of the evolution of the discipline of economic history.

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## Keynes, John Maynard. (1883-1946)

John Maynard Keynes is unquestionably the major figure in twentieth-century economics, and perhaps the only one who can stand next to Adam Smith, Ricardo, Marshal and Walras in the economists' Hill of Fame. His reputation does not rest solely on the *General Theory of Employment, Interest and Money* (1936) which initiated the so-called Keynesian Revolution, but also on his other writings, most notably *A Treatise on Probability* (1921) and *A Treatise on Money* (1930) as well as on his influential advice to the British Treasury, his central role in the Breton Woods Conference of 1944 which created the International Monetary Fund and the International Bank for Reconstruction and Development, and his prominent place in the cultural and intellectual life of his day as a journalist and speaker.

His trenchant criticism of the peace treaty of Versailles (1919) with Germany in *The Economic Consequences of the Peace* (1919) made him famous overnight and effectively undermined public support for the treaty.

During the crises of the 1920s, he came increasingly to identify conservative economic policies as the cause of Britain's economic problems. From this beginning, he developed a new theory of income determination.

The consumption function referred to a relationship between total consumer spending and national income, such that consumer spending always rises less than proportionately with income, leaving a savings gap that only private or public investment can fill. The liquidity preference theory of interest emphasised the role of the interest rate as the reward for doing without the advantages of money as the only perfectly liquid asset. The inflexibility of money wages, the most controversial of Keynes' leading principles, was grounded on a realistic appreciation of labour markets in a modern industrial economy. Full employment, Keynes concluded, could be maintained in a capitalist economy but only if the government were willing to incur counter-cyclical budgetary deficits to offset the inbuilt tendency towards private over-saving.

What was new about Keynes was, first of all, the tendency to work almost exclusively with aggregate, macroeconomic variables and to reduce the entire economy to three markets for goods, bonds and labour; secondly, to concentrate on the short period and to confine the analysis of the long period, which had been the principal analytical focus of his predecessors, to asides; and thirdly, to throw the entire weight of adjustments to changing economic conditions on output or income rather than prices.

## Kuznets, Simon (1901-85)

Simon Kuznets (1901-85) who was awarded the Nobel Memorial Prize in Economic Sciences in 1971, was the second American so honored. Born in Kharkov, Russia, he was serving as the administrator of a statistical office in the Ukraine when, in 1921, he and his brother emigrated to the United States, where they joined their father. After teaching himself English over one summer Kuznets was admitted to Columbia University with advanced standing; he received a B. A. degree in 1923 and a Ph. D. in economics in 1926.

He held faculty positions at The Johns Hopkins University, from 1954 to 1960, and at Harvard University, from 1960 until his retirement in 1971. The Nobel Prize was conferred a few months after Kuznets's retirement.

In contrast to the prevalent view that capital shortages inhibit LDC growth, Kuznets asserts that poor countries are not constrained by an inadequate savings ratio. "With flexibility of factor proportions, facilitated by choices in the rate of utilization of both capital and labor, relatively low capital-output ratios can be attained".

What is lacking, in Kuznets's view, is the ability to adjust economic and social institutions in order to channel economic growth effectively. These adjustments are also hampered by a vulnerability to emergencies and calamities, and by adopting the inappropriate nature of the technology of MDCs, for example, stressing nuclear technology instead of water pumps. And, to some degree the growth rate among LDCs is inhibited by the "international framework" in which their relationship with the rest of the world is structured. The conclusions which Kuznets draws are cautionary: the inadequacies of economic-growth theory, particularly in the measurement of the social costs of adjustments, and the difference between LDCs and MDCs at the same stage of development, which present LDCs with greater obstacles to development.

The insights gained from a study of history and the history of technology and social institutions are assimilated as Kuznets asks and seeks answers for the larger questions in economic science. "Do estimates of national income measure the net contributions of economic activity to its primary goal-provision of goods to individuals-without errors of commission and omission?" (1946) "Why under the free conditions in the United States was relatively little original work done in the natural sciences at the theoretical level, and so much in the applied disciplines and practical invention?" (1965) "How should we compare growth in population and in the labor force with growth in capital formation?" (1961) "What are the implications of the wide contrasts among the world regions in per capita income and the possibly increased disparity since the end of the nineteenth century?" (1965)

### Lewis, W. Arthur (1915-91)

W. Arthur Lewis was born on the island of St. Lucia in the British West Indies in 1915. He studied and taught at the London School of Economics before moving to Manchester University, where he did some of his most seminal work on development economics, the 1954 article on 'Economic Development with Unlimited Supplies of Labour' and the 1955 treatise on the *The Theory of Economic Growth*. In the 1950s he was a senior official in agencies of the United Nations, and was for a time Vice Chancellor of the University of the West Indies. He went to Princeton in 1963 where he has remained ever since. He has held many part-time advisory positions with international organizations and governments in developing countries, particularly in West Africa and the Caribbean. He was awarded the Nobel Prize for Economics in 1979, together with T. W. Schultz, for their contributions to economic development.

Lewis's most famous and influential contribution to economics is undoubtedly the 1954 paper on development with 'unlimited supplies' of labour. He presents a stylized model in which the typical poor country is divided into a 'traditional' and a 'modern' sector. The former consists of peasant agriculture as well as self employment of various sorts in urban areas, where the primary objective of economic activity is to maintain consumption. The 'modern' sector comprises commercial farming, plantations and mines and manufacturing, in which there is hired labour and profit is the motive for production organized by a class of capitalists and entrepreneurs. Lewis adopts a strictly classical viewpoint on two crucial features of his model. First, the real wage of unskilled labour in the modern sector is exogenously given, with employment and profits then being determined by the demand for labour corresponding to the fixed stock of capital in the short run. The second classical feature is that the accumulation of capital is governed by saving out of profits. The process of economic development is viewed as the expansion of the modern relative to the traditional sector until such time as the 'surplus labour' pool in the traditional sector is drained and an integrated labour market emerges with a neoclassically determined equilibrium real wage. This model of a 'dual economy' has generated considerable controversy and an extensive polemical literature, to which references can be found in Findlay (1980). The most sophisticated and thorough theoretical defense of the dual economy model is Sen (1966).

Another notable theoretical contribution of this 1954 paper is a model of the terms of trade between manufactures and primary products that is developed further with empirical applications in his 1969 Wicksell Lectures. The key idea is that the relative world prices of manufactures and tropical products such as coffee, tea, sugar, rubber and jute are determined by the relative opportunity costs of labour in food production.

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## List, Friedrich (1789-1846)

Friedrich List is one of the earliest and most severe critics of the classical school of political economy. He denounced Adam Smith and his disciples as the 'cosmopolitan school' and held that universal free trade was an ideal that could be achieved only in the far distant future. For the time being, he argued, each nation should foster the development of its own manufacturers by import duties and even outright prohibitions. Only by such means could countries like Germany, Russia and the United States ever hope to achieve the industrial efficiency that would enable them to compete on equal terms with Britain.

List never used the term 'infant industry' but the infant industry argument is clearly what he had in mind because he specifically excluded agriculture. He held all his protectionist arguments and even conceded that global free trade was an ultimate desirable goal. He expressed his arguments very forcefully but not very precisely. Indeed, it is stated more precisely in one famous paragraph in John Stuart Mill's *Principles* (1848)

List was born in Württemberg in 1789, the son of a tanner, he was soon active in liberal politics as the editor of several periodicals and an advisor to leading statesmen. Elected to the legislature of Württemberg and a professorship at the University of Tübingen in 1820, he was nevertheless sentenced to 10 months' imprisonment for advocating the rationalisation of the civil service and greater publicity of judicial procedure. To avoid imprisonment he fled abroad. When he returned to Germany two years later, he was arrested and only released on the promise that he would emigrate to America.

Arriving in America in 1825, he worked first as a farmer, then as an editor of a German newspaper, next as an owner of a coal mine and a connected railroad, and finally wrote his first work, *Outlines of American Political Economy* (1827) for the Pennsylvania Society for the Promotion of Manufactures, the leading protectionist organisation in America. In 1832 he was active in the election campaign of Andrew Jackson and was rewarded by an appointment as American consul in Germany. He now embarked on a plan to organise a German railway system, which was partly successful but involved him in a financial scandal that drove him out of Germany again. After three years in Paris, he returned to Germany in 1840, published his *National System of Political Economy* (1841) and became editor of an influential review. But further financial failures and thwarted political ambitions led him to commit suicide in 1846.

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## Morishima, Michio. (1923- )

Michio Morishima is a Japanese mathematical economist who has successfully bridged the communication gap between Japanese-speaking and English-speaking economists. His major work, *Theory of Economic Growth* (Oxford University Press, 1969) combining elements of general equilibrium theory, input-output analysis and economic dynamics, summed up two decades of work by him and others on multisectoral growth. Growth Theory, as invented by Harrod and Domar dealt entirely with aggregates, conceiving the economy as if it were made up of only one or at most two sectors producing capital goods and consumer goods respectively.

In *Walras' Economics* (Cambridge University Press, 1977) Morishima attempted to do for Léon Walras, the founder of general equilibrium theory, what he had earlier done for Marx but not without some protest from historians of economic thought. Morishima's *Economic Theory of Modern Society* (Cambridge University Press, 1975) better described as 'The Modern Theory of Economic Society', is an elementary textbook, which manages to present an amazing number of 'advanced' results in a way that makes them accessible without knowledge of mathematical concepts or sophisticated tools of economic analysis. More recently, his interest have turned away from technical economic growth theory to the social causes of rapid economic growth in Japan and slow economic growth in Britain.

Morishima was born in 1923 in Osaka, Japan and educated at the University of Kyoto, where he received his BA in 1946. He started teaching at the University of Kyoto in 1950, moving to the University of Osaka in 1951.

He finally emigrated to Britain in 1968, becoming first a Professor of Economics at the University of Essex (1968-70) and then a Professor of Economics and Chairman of the International Centre for Economics and Related Disciplines at the London School of Economics.

He was President of the Econometric Society in 1965, Associate Editor of *Econometrica*, Editor of the *International Economic Review* in 1969-70, and Member of the Editorial Boards of *Economica* since 1974 and the *Journal of Economic Literature* during 1975-80.

In 1976 he was awarded the Cultural Order of Japan.

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## Myrdal, Gunnar. (1898-1987)

Gunnar Myrdal has enjoyed three careers in one lifetime: he has been in turn an economist, a sociologist and a politician. *The Political Element in the Development of Economic Theory* (Routledge & Kegan Paul, Harvard University Press, 1953) originally published in Swedish in 1930, and *Monetary Equilibrium* (Hodge, 1939) originally published in German in 1931, are classics in the economic literature and would alone account for his Nobel Prize in Economics (shared with Friedrich Hayek) in 1974. *An American Dilemma: The Negro Problem and Modern Democracy* (Harper, 1944; McGraw-Hill, 1964) is a classic of sociology. *Asian Drama: An Inquiry into the Poverty of Nations* (Twentieth Century Fund, 1968) is a gigantic three-volume study combining economics, sociology and political science. In addition, however, he has twice been a Senator in the Swedish Parliament (1934-6, 1942-6) a Minister for Trade and Commerce (1945-7) a Chairman of the Swedish Planning Commission (1945-7) and the Executive Secretary of the United Nations Economic Commission for Europe (1947-57) Honoured by degrees from thirty universities around the world and winner of many awards and prizes, Myrdal has nevertheless made as many enemies as friends, particularly in his own country; at every point in his career, he has been involved in furious political and intellectual battles.

Myrdal was born in 1898 in a farming community in Sweden, attended Stockholm University, where he studied economics under Knut Wicksell, Gustav Cassel, and Eli Heckscher, and took his PhD degree in 1927. After a few years of further study in the United States, he returned to Sweden, married Alva Myrdal (who received the Nobel Peace Prize in 1982) and threw himself into political activity. His *Political Element in the Development of Economic Theory* revealed a concern with the intrusion of value judgments into what appeared on the surface to be purely objective analysis.

*Economic Theory and Under-Developed Regions* (Duckworth, Harper, 1957) *Beyond the Welfare State* (Yale University Press, 1960) and *Challenge to Affluence* (Vintage, 1962; 2nd ed., 1965) heralded ideas more fully explored in the three volumes of *Asian Drama*, a stark critique of the social and economic policies of Asian governments, touching upon almost every facet of Asian life and society.

*The Challenge of World Poverty: A World Anti-Poverty Program in Outline* (Pantheon, 1970; Random House, 1971) which generalised the findings of *Asian Drama* into a positive programme of action.

Myrdal has been vehement in insisting that positive economics cannot be divorced from normative economics and that every economic proposition involves explicit or implicit value judgments. What then is the hope of something like a science of economics? If economists will carefully specify their underlying value premises, Myrdal has argued, economics can acquire quasi-objectivity.

## North, Douglass C. (1920- )

The Nobel economist who most successfully describes the historical evolution of society's institutions is Douglass North. North and Robert Fogel were awarded the Nobel Prize in 1993 for their applications of economic theory to economic history.

North had a privileged childhood, benefiting from an intellectually curious mother and a superior education. During World War II he joined the merchant marine, occupying the long hours at sea reading. Partly as a result of that experience, he developed a strong desire to understand what makes society work and how to improve it, the cherished goals of economists throughout history. Indeed, North aspired to emulate the great Austrian economist Joseph Schumpeter in building an analytical framework to explain how an economic system grows and develops.

North's primary professional interest is how population growth brings change, how growing populations interact to share information, how the institutions people create affect incentives, and how expectations of future outcomes affect current behavior. He found neoclassical theory inadequate for explaining these things. In fact, he found neoclassical theory inadequate for explaining anything other than fully informed, self-interested behavior.

By limiting its focus to strictly self-interested behavior, North argues, neoclassical economic theory leaves little room for cooperation, still less for altruism.

A society's most obvious institutions are its legal, financial, and political rules and regulations. Laws decide what is permissible, banks and other financial institutions encourage saving and investing, and democratically determined regulations ensure consistency in business practices. More powerful than these formal institutions, however, are a society's informal rules of behavior—the moral code or ethical base that underlies all our social interactions. Informal rules embody information learned from past experience to regularize and constrain future behavior, thus stabilizing social relationships. Even when a society's formal institutions change, its informal rules endure, thus ensuring a degree of continuity in an infinitely repeated game.

Another word for informal rules of behavior is ideology. In North's words, "ideologies are intellectual efforts to rationalize the behavior of individuals and groups." They are a form of cultural learning, arising out of cumulative experience and shared explanations for observed phenomena.

## Nurkse, Ragnar. (1907-59)

Nurkse was born on 5 October 1907 on an estate where his father was an overseer, near the village of Viru in Estonia. His father was Estonian and his mother of Swedish origin. Ragnar Nurkse was educated in Tallinn, Tartu, Edinburgh and Vienna. From 1934 to 1945 he worked as an economist with the League of Nations and from 1945 until his death he was a professor at Columbia University. He wrote on international currency questions, trade, vicious circles of poverty and on balanced growth. In 1959 he delivered the Wicksell Lectures in Stockholm.

Nurkse had a deep concern for full employment. He viewed exchange rate adjustments and trade restrictions as legitimate measures for preventing balance of payments difficulties from translating into unemployment and domestic instability. He stressed that trade restrictions ought to be used as temporary measures. With the emergence of Keynesian macroeconomics, Nurkse came to have faith in effective-demand management as a tool for maintaining employment in the face of trade adversities. This also led him to argue for some international coordination of domestic policies.

Nurkse's other important book was *Problems of Capital Formation in Underdeveloped Countries* (1953). Here he developed the important idea that though the producer of each commodity may find an expansion unprofitable because of limitations of the market, a coordinated expansion of all productive activities could be profitable for all producers. Hence, atomistic behaviour on the part of producers could trap an economy within its production possibility frontier. This idea had been discussed earlier — most notably by Rosenstein-Rodan (1943) and more distantly by Young (1928) — but Nurkse took it further. While this work has been the basis of several debates in development economics (for critiques and formalizations, see Flemming, 1955; Findlay, 1959) it has the scope for further research, especially in the light of recent advances in non-Walrasian equilibrium analysis (see Basu, 1984).

The lack of formalization in Nurkse's work led to much misunderstanding handsomely contributed to by Nurkse himself about the policy implications of the poverty-trap doctrine.

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## Prebisch, Raul. (1901-86)

Prebisch was born on 17 April 1901 in Tucumán, Argentina, and died in 1986 at the age of 84 in Santiago de Chile. He graduated in Economics at the University of Buenos Aires in 1923 having already written nine articles ( six of which had been published in different journals ); the first of them written at the age of 17 being ( not surprisingly ) on industrialization.

He was Professor of Political Economy at the School of Economics of the University of Buenos Aires from 1925 to 1948. In addition he held various other positions in Argentina; the two most important being Under-Secretary of Finance ( 1930-32 ) and the first Director-General of the Argentine Central Bank ( 1935-43 ).

In this approach, Prebisch was basically concerned with what he saw as the four stylized facts of underdevelopment: (i) the growing gap in the level of income between centre and periphery; (ii) the persistent unemployment in the periphery; (iii) the persistent balance of payments disequilibrium in the periphery which imposed an important external constraint on the process of economic growth; and (iv) the tendency to deterioration of the terms of trade of the periphery.

This theory contradicts not only Ricardo's comparative advantage theory for Prebisch, the higher the rate of growth of productivity in the export sector of the periphery ( primary commodities ) the higher the need for import substituting industrialization but also the classical approach to the terms of trade that argued that in the long term they should move in favour of primary production ( see for example J. S. Mill, 1848 and J. M. Keynes, 1920 ). On the other hand, Prebisch would certainly be in agreement with Joan Robinson ( 1979 ) when she argues that in Ricardo's classical example Portugal would end up with a low rate of accumulation and having destroyed its promising textile industry, while England ended up with an industrial revolution.

His best-known thesis is the tendency to deterioration of the terms of trade of the periphery, the development of which coincided in time with Hans Singer's theory on the subject ( 1950 ).

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### Robinson, Joan. (1903-83)

Joan Robinson was the only woman ever to have achieved outstanding eminence in economic theory (which, no doubt, tells us more about economic theory than about women). Her *Economics of Imperfect Competition* (Macmillan, 1933; 2nd ed., 1969) taught an entire generation of economists the microeconomics that now figures so heavily in elementary textbooks. A stalwart defender of Keynes and a leading populariser of Keynesian economics in the 1930s, she went on after the war to convert Keynesian short-period analysis into a Keynesian-type theory of economic growth, thus laying the foundation of a currently thriving school of Post-Keynesian economics.

Later she attacked the neoclassical theory of capital and the associated marginal productivity theory of distribution in a classic article, 'The Production Function and the Theory of Capital', *Review of Economic Studies*, 2, 1954, there by launching the so-called 'Cambridge Controversies'—Cambridge, England versus Cambridge, USA—one of the most acrimonious theoretical debates to have disfigured the face of modern economics. Convinced that she had discovered a fatal flaw in standard economic theory—capital cannot be measured independently of the rate of interest and the rate of interest is not uniquely related to the marginal productivity of capital—she moved steadily away on almost all economic questions towards a unique heterodox position of her own.

Joan Robinson was born in 1903 into a middle-class, academic English family, descended on her father's side from F. D. Maurice, the great nineteenth-century Christian Socialist. She graduated from Girton College, Cambridge in 1925 and shortly thereafter married Austin Robinson, soon to become a Cambridge economist in his own right. After a spell in India the Robinsons returned to Cambridge where Joan joined the Cambridge faculty as an assistant lecturer in economics; she became a university lecturer in 1937, reader in 1949 and, finally, a full professor in 1965, retiring in 1971.

Weaving together the ideas of such seemingly contradictory authors as Keynes, Kalecki, and Sraffa, she struggled hard in her later years to provide an alternative economics that would not depend, as orthodox economics clearly does, on the purely hypothetical comparison of two or more equilibrium positions: since historical time is irreversible, she argued, comparative static analysis is almost irrelevant.

A glance at Joan Robinson's five volumes of *Collected Papers* (Basil Blackwell, 1951, 1964, 1965, 1973, 1979) shows that she is one of the best counter-examples of the generalisation that all economists write badly: her style, marked by the frequent use of colloquialisms, rhetorical barbs, and a peculiar but intoxicating type of verbal algebra is a sheer delight to read. On the other hand, her admiration of Mao's China was a continual embarrassment to her friends and foes alike.

## Rosenstein-Rodan, P. (1902-85)

Rodan was one of the founders and first leaders of the field of development economics. Born in 1902, his formative intellectual years were in the Austrian School of economics at the University of Vienna. He moved to the Department of Political Economy at University College, London, in 1931.

Rodan's early essays in economics show a preoccupation with themes which reappeared throughout his professional career: the interaction and complementarity of economic processes (1933) and their temporal patterns (1934). Rodan's seminal article on developing countries (1943) argued that complementarities and externalities in demand and production created a need for the programming of investment. The arguments were subsequently extended to justify the need for an across-the-board 'big push' for a successful start to the development process (1963). He was among the first to apply the concept of 'disguised unemployment', described by Joan Robinson (1936), to developing countries as a persisting rather than cyclical problem.

Rodan first became actively engaged in development policy during his tenure at the World Bank from 1947 to 1954. In 1954 he moved to the Department of Economics at the Massachusetts Institute of Technology, where he produced an influential article (1961) which demonstrated that feasible levels of assistance to developing countries would substantially improve their growth performance. After retirement from MIT in 1968 he moved to the University of Texas and then to Boston University in 1972, where he established and worked in the Center for Latin American Development Studies until his death in 1985. Rodan was an active policy adviser to international agencies and governments of many countries and served on the Panel of Experts, the 'Nine Wise Men' of the Alliance for Progress, from 1961 to 1966.

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## Rostow, Walt W. (1916-2003)

Walt Rostow's *Process of Economic Growth* (W. W. Norton, 1952; Oxford University Press, 1953; 2nd ed., 1960) and *The Stages of Economic Growth: A Non-Communist Manifesto* (Cambridge University Press, 1960; 2nd ed., 1971) were postwar best-sellers among non-fiction books. The Rostowian concepts of 'saving ratios' and 'capital-output ratios' reaching the critical levels required for 'take-off to self-sustaining economic growth provided the vocabulary of the growth mania of the 1960s and for a few years it seemed as if literally every course in economics included *The Stages of Economic Growth* on its reading list. But steady criticism gradually eroded the enthusiasm which these works had earlier aroused and nowadays they are generally regarded as an embarrassing symptom of the hopelessly naive thinking about growth that characterised much economic thought in the early post-war period.

'The Harrod-Domar model of economic growth had demonstrated that any self-sustaining rate of growth of income in a country implies a definite relationship between the proportion of income saved, the saving ratio, and the productivity of new investment, the output-capital ratio. So, if one knew the value of one of these ratios, one could deduce the required value of the other one to produce steady economic growth. It appeared that the capital-output ratio is largely determined by the state of technology in a country and is, therefore, incapable of being quickly altered. However, the saving-ratio depends entirely on voluntary decisions and is presumably capable of being manipulated by government policy. Rostow examined the historical record of the now industrialised countries and claimed to find definite phases in the two ratios, such that, given the prevailing capital-output ratio, saving rates gradually rose to reach the levels that permitted the 'take-off' to steady, exponential growth: Britain reached the take-off in the 1780s, the USA reached it in the 1820s, France and Germany reached it in the 1850s or 1860s, and so forth. Rostow also showed that most of the under-developed countries in Asia, Africa and Latin America had not yet reached these critical levels in the two ratios but the underlying model permitted calculation of the saving rates required to achieve 'take-off'.

Rostow was born in 1916 in New York City. He received his BA in 1936 from Yale University, his MA from Balliol College, Oxford in 1938, and his PhD from Yale University in 1939. He began teaching at Harvard University in the 1940s and became a Professor of Economic History at Harvard in 1952.

Rostow was deeply involved in President Johnson's discredited policies in Vietnam and he left government service in 1969 when the war in Vietnam was wound up to take up a post at the University of Texas (Austin)

## Schultz, Theodore W. (1902-98)

A scholar, research entrepreneur, and intellectual catalyst, Schultz has been motivated through a long and active life by a drive to deepen economic understanding and to foster enlightened policies in the furtherance of human welfare. Although he has served as adviser to agencies of the United States, the United Nations, other governments and many non-profit organizations, Schultz has always maintained independence. He has received many honours, including the Walker award (the highest given by the American Economic Association) and a Nobel prize for contributions to development economics.

Schultz was born in 1902. Growing up on a farm in South Dakota, he never attended secondary school, but as a young man he tested for entrance to South Dakota State College where he obtained an MS degree (1928), going on to an economics PhD from the University of Wisconsin (1930). For most of his professional life Schultz has been at the University of Chicago, to which he came from Iowa State College in 1943.

With his increasing interest in economic development around the world, and 10 less developed countries in particular, Schultz came increasingly to consider the importance of agricultural development for general economic growth. His understanding of what rural poverty can mean, his respect for the shrewdness of unschooled practical men, and his appreciation of the value of education were joined in *Transforming Traditional Agriculture* (1964). This book challenged the 'zero marginal product' hypothesis in agriculture and proposed that ultimately farmers' education could be a low-cost investment in acquiring a 'permanent income stream'.

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## Simon, Herbert A. (1916- )

In 1978 he was awarded the Nobel Prize in Economic Sciences for his lifetime study of organizations, with particular reference to the limits of human rationality in the decision making process. The award came over thirty years after the publication of *Administrative Behavior* (1947), Simon's pioneering work on decision making. While thirty-one years may seem like an unusually long time to come to appreciate the importance of Simon's seminal work, we are now in truth only beginning to realize the significance of his thinking and the impact his insights have had on a number of fields of which economics is but one.

For Simon, born June 15, 1916, the Nobel Prize came late in life and was a genuine surprise. Considered a heretic by many conventional economists, Simon was an uneasy visitor to the field.

Herbert Alexander Simon was born on June 15, 1916 in Milwaukee, Wisconsin. His parents, Arthur and Edna Merkle Simon, nurtured in him an early attachment to books and other things of the intellect. Simon's father had come to the United States from Germany in 1903 after earning an engineering diploma from Technische Hochschule of Dormstadt. He was an electrical engineer, an inventor of electrical control gear, a patent attorney, and an active leader in professional and civic affairs in Milwaukee.

One of the two major themes that would become the cornerstone of Simon's theory of choice was his concept of bounded rationality. Conventional choice theory assumes perfect rationality, decision makers having complete knowledge of all the possible choice options available to them and anticipating with certainty the consequences of any decision they make.

The upshot of this bounded rationality is that optimizing behavior may not be possible because: (1) the optimal solution to a problem is not in the subset of alternatives the decision maker is considering; or (2) even if it is, the decision maker may not possess the wherewithal to differentiate the optimal solution from others nearly as good but clearly suboptimal in a world of perfect knowledge and foresight. Under these conditions, "satisficing," not optimizing behavior becomes the norm. The decision-making process does not involve a comprehensive comparison of all alternatives in terms of some objective function. Rather candidate solutions are tested serially in terms of some acceptability criterion, and the first solution considered that passes the acceptability test is adopted. This is the essence of "satisficing," the second of the two major themes that form the foundation of Simon's theory of choice.

## Solow, Robert M.(1924- )

The Nobel economist who pioneered modern growth theory is Robert Solow, Nobel laureate of 1987.

One of Solow's college tutors was Wassily Leontief, who taught him respect for disciplined theory supported by empirical testing. Neither Solow nor Leontief would tolerate vague generalizations unsupported by facts. Still, Solow understands that economic activity is only one part of an enormously complicated web of human behavior, difficult to explain simply and comprehensively and subject to change unforeseen by the most precise economic model. In fact, he says, sometimes economic models are merely "nature's way of helping you to recognize nonsense when you see it."

Solow was a teenager in the United States while the world economy languished in the Great Depression and while fascism / nazism was capturing European governments. To Solow the high school student, it seemed as if all of society had broken down economically and, in consequence, politically as well.

People express their preference for growth in their willingness to sacrifice current consumption, to save today for the sake of investment to be followed by even greater consumption tomorrow. A nation expresses its preference for current versus future consumption in the relative weights it places on, to use a common analogy, fresh strawberries and cream today versus strawberry jam tomorrow. Many factors enter the choice of preference weights, most notably the urgency of current wants. For a desperately poor nation, a meal today is more than just a preference but an absolute necessity; investment for future consumption must take a back seat to feeding and sheltering people today.

For nations beyond such desperation, growth becomes a real possibility. Such nations create social, political, and economic institutions that reflect their preference for current versus future consumption.

His new concept is described as the steady state, a term that sounds like stagnation but actually means growth at a certain constant rate. A nation's steady-state rate of growth is determined by basic factors unique to each nation factors describing, first, its propensity to save and invest and, second, the resources it requires for producing output. The resources required for producing output depend on available technologies, often expressed in terms of the nation's capital / labor ratio. A nation that produces, say, petroleum-based chemicals requires a significantly greater quantity of capital per unit of labor than a nation that produces simple crafts, making for a significantly higher capital / labor ratio.