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**Employment, Technology and Institutions
in the Process of Structural Change
A History of Economic Thought Perspective**

a cura di Pier Luigi Porta e Gianni Viaggi

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IN THE PROCESS OF STRUCTURAL CHANGE
A HISTORY OF ECONOMIC THOUGHT PERSPECTIVE**

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In collaboration with ESHET
and the University of Pavia

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INTRODUCTION

Pier Luigi Porta and Gianni Vaggi

The present issue of the Working Papers series of the Dipartimento di Economia Politica at Milano-Bicocca reproduces the contributions presented at the mid-year ESHET Conference which took place at the Universities of Pavia and Milano-Bicocca on 16 and 17 November 2001. The program was arranged jointly by Gianni Vaggi and Pier Luigi Porta and the Conference was jointly organised by ESHET with the Department of Political Economy and Quantitative Methods of the University of Pavia and the Department of Political Economy of the University of Milano-Bicocca.

The idea around which the Conference was built referred basically to Luigi Pasinetti's conception of structural change and structural dynamics in a history-of-thought perspective. Luigi Pasinetti, Eshet's first President, opened the Conference at the University of Pavia. The program included two sessions taking half a day each: the opening session was in Pavia on 16 November 2001 and the final session in Milan the 17 November. Luigi Pasinetti chaired the session held at the University of Pavia and Andrew Skinner was the chairman in Milan.

The Conference has been an attempt to focus on the way in which great economists of the past analyse some specific processes of economic and social change. Structural change is a phenomenon that too often the modern economic theory neglects. As it has often been emphasized by Luigi Pasinetti in his lifelong research work on structural dynamics, this was not the case in past and above all for some of the greatest authors.¹ The Conference ran through some of the major topics and tried to focus on the implications for the methodology of economic science and its evolution. The Conference thus brought into focus some of the fundamental aspects of structural change, in particular on the role of technology and of institutions. A special attention was devoted to money.

In general terms, the Conference, through new readings of a number of the vital contributions in the history of the economic thought, highlighted some of the key analytical and methodological problems for a better understanding of the real world. In particular, the function of studying the Classical economists in the light of Luigi Pasinetti's scientific work is to understand what *we* are doing, for a notion of what the frontier of latter-day analysis actually *is*, can in fact only be acquired through awareness and fully-fledged openness to the historico-analytic background.

The scheme described here is reflected in the contributions printed in this booklet. The papers are given in the order of their presentation during the Conference.

In particular, the *first session* included research work on Smith and other classical authors such as Ricardo and other contributions from the Continent. The session examined in particular the role of technology and of trade policies in the process of structural change. Andrew Skinner's and Erich Streissler's papers focus on the British Classics, Adam Smith and Ricardo in particular. Bertram Schefold goes backwards in time and treats Mercantilist and Cameralist aspects of German economic thought. Philippe Steiner develops knowledge, division of labour and growth in Jean-Baptiste Say.

¹ See, e.g., Porta, P.L. "Structural Analysis in Retrospect. A Note on Luigi Pasinetti's *Structural Economic Dynamics*", in *Storia del pensiero economico*, n. 35, 1998, pp. 43-60, where it is argued that "under the historico-analytic perspective, Pasinetti's work emerges as an original and independent voice within the reconstruction of Classical analysis". Cp. also L. Lambertini "Il concetto di integrazione verticale come strumento analitico e come comportamento strategico", *ibid.*, pp. 169-200.

The *second session* of the Conference dealt with the evolution of the monetary theory, from the 19th century onwards and with the formation and the role of the central banks. It also highlighted the importance of modern instruments for the understanding of long-run social changes. Thus Cristina Marcuzzo's paper discusses the relationship of Keynes to the quantity theory of money also on the basis of an interesting collation of documents from the Cambridge archives. Walter Eltis gives a stimulating Wicksellian interpretation of the present crisis; his contribution is then taken up and discussed by Pascal Bridel. Finally Christian Schmidt's contribution focuses the attention on the relevance of game-theoretical concepts to structural dynamics.

The editors wish to thank the authors for their prompt response in making their papers available for the present issue.

ADAM SMITH (1723-1790): THEORIES OF POLITICAL ECONOMY

ANDREW SKINNER
University of Glasgow

This contribution is primarily concerned with Smith's approach to political economy seen as theory. It is also designed to draw attention to Smith's wider purposes and to confirm the significance of Edwin Cannan's discoveries of 1895.

I System

Smith was elected to the Chair of Logic and Rhetoric in the University of Glasgow on 9 January 1751. In the following year he was translated to the Chair of Moral Philosophy. As his pupil John Millar recalled:

'His course of lectures on this subject was divided into four parts. The first contained Natural Theology; in which he considered the proofs of the being and attributes of God, and those principles of the human mind upon which religion is founded. The second comprehended Ethics strictly so called, and consisted chiefly of the doctrines which he afterwards published in his Theory of Moral Sentiments. In the third part, he treated at more length of that branch of morality which relatives to **justice**, and which, being susceptible of precise and accurate rules, is for that reason capable of a full and particular explanation' (Stewart, I.18).

'In the last part of his lectures, he examined those political regulations which are founded, not upon the principle of **justice**, but that of **expediency**, and which are calculated to increase the riches, the power, and the prosperity of a State...What he delivered on these subjects contained the substance of the work he afterwards published under the title of An Inquiry into the Nature and Causes of the Wealth of Nations' (Stewart, I.20).

It only became possible to evaluate the third part of the major programme when Edwin Cannan discovered the **Lectures on Jurisprudence**. Cannan recalled that:

'On April 21, 1895, Mr Charles C. Maconochie, whom I then met for the first time, happened to be present when in course of conversation with the literary editor of the Oxford Magazine, I had occasion to make some comment about Adam Smith. Mr Maconochie immediately said that he possessed a manuscript report of Adam Smith's lectures on jurisprudence, which he regarded as of considerable interest (Cannan, 1896, xv).

Cannan's reaction can be imagined.

II Ethics and Jurisprudence

One of the most interesting sections of the course is that which deals with public jurisprudence. Smith began the argument by discussing the pattern of development known to have taken place in the classical world, before going on to consider those forces which caused the decline and fall of the Roman Empire in the West. This argument, with its attendant emphasis on the 'four stages', made it possible to appreciate the significance of, and the inter-relations between, Books V and III of the WN. We are now familiar with the point that the first two socio-economic stages, hunting and pasture, are most fully developed in the treatment of justice and defence. Book III, (and parts of Book V) on the other hand, contain one of the most sophisticated analyses of the origin and breakdown of the agrarian (allodial and feudal) stage before going on to consider the emergence of the exchange economy – the 'final' stage of commerce.

The links between the first two parts of the great plan are many and various. The TMS for example, may be regarded as an exercise in social philosophy, which was designed in part to show the ways in which so self-regarding a creature as man erects barriers against his own passions, thus explaining the fact that he is typically found in 'troops and companies'. The argument places a good deal of emphasis on the importance of general rules of behaviour which are related to experience, and which may thus vary in content, together with the need for some system of government as a pre-condition of social order.

The historical analysis, with its four socio-economic stages, complements this argument by formally considering the origin of government and by explaining to some extent the forces which cause variations in accepted standards of behaviour over time. Both are related in turn to Smith's treatment of political economy. There are a number of links.

First, Smith suggests that the economic structure which is consistent with the stage of commerce is not to be regarded as a model, but rather as a structure with a history. The historical process which is outlined in WN Book III culminates in a system wherein all goods and services command a price.

Secondly, he argued that this new structure would feature new forms of activity and sources of wealth; developments which would feature a shift in the balance of economic and therefore of political power. The point owned much to David Hume, as Smith acknowledged. Hume wrote that in England 'the lower house is the support of our popular governments, and all the world acknowledges, that it owned its chief influence and consideration to the increase of commerce, which threw such a balance into the hands of the commons' (Essays, 277-8).

Third, Smith confirmed that in the case described there must be a major change in the pattern of dependence and subordination as compared to the feudal period. Since all goods and services command a price, it follows that while the farmer, tradesman or artificer must depend upon his customers, 'though in some measure obliged to them all,...he is not absolutely dependent upon any one of them' (WN, III.iv.12).

Finally, it is suggested that the type of institutional structure described will be associated with what Hume described as a particular set of 'customs and manners'. The link here is once again with the analysis of the TMS and man's desire for social approbation.

For Smith, 'Power and riches appear...then to be, what they are, enormous and operose machines contrived to produce a few trifling conveniences to the body, consisting of springs the most nice

and delicate, (TMS IV.i.8). But Smith continued to emphasise that the pursuit of wealth is related not only to the desire to acquire the means of purchasing ‘utilities’ but also to the need for status.

‘From whence, then arises that emulation which runs through all the different ranks of men, and what are the advantages which we propose by that great purpose of human life which we call bettering our condition? To be observed, to be attended to, to be taken notice of ...are all the advantages which we can propose to derive from it’ (TMS, I.iii.2.1).

Smith also suggested that in the modern economy, men tend to admire not only those who have the capacity to enjoy the trappings of wealth, but also the qualities which contribute to that end.

Smith recognised that the pursuit of wealth and ‘place’ was a basic human drive which would involve sacrifices which are likely to be supported by the approval of the spectator. The ‘habits of oeconomy, industry, discretion, attention and application of thought, are generally supposed to be cultivated from self-interested motives, and at the same time are apprehended to be very praiseworthy qualities, which deserve the esteem and approbation of everybody’ (TMS, IV.2.8). Smith developed this theme in a passage which was added to the TMS in 1790:

‘In the steadiness of his industry and frugality, in his steadily sacrificing the ease and enjoyment of the present moment for the probable expectation of the still greater ease and enjoyment of a more distant but more lasting period of time, the prudent man is always both supported and rewarded by the entire approbation of the impartial spectator’ (TMS, VI.1.11).

The most polished accounts of the emergence of the exchange economy and of the psychology of the ‘economic man’ are to be found, respectively, in the third book of WN and in Part VI of TMS which was added in 1790. Yet both areas of analysis are old and their substance would have been communicated to Smith’s students and understood by them to be a preface to the treatment of political economy.

It is a subtle argument taken as a whole. Nicholas Phillipson has argued that Smith’s ethical theory ‘is redundant outside the context of a commercial society with a complex division of labour’ (1983, 179, 182). John Pocock concluded that:

‘A crucial step in the emergence of Scottish social theory, is, of course, that elusive phenomenon, the advent of the four stages scheme of history. The progression from hunter to farmer, to merchant offered not only an account of increasing plenty, but a series of stages of increasing division of labour, bringing about in their turn an increasingly complex organisation of both society and personality’ (1983, 242).

Others have associated these trends with the emergence of what has been described as a particular pattern of ‘manners’ – a bourgeois ideology.

It is against this background that Smith presented his economic analysis.

III Economics (1). Hutcheson.

The early analyses of questions relating to Political Economy are to be found in three documents: The **Early Draft** (Scott, 1937), the lectures delivered in 1762-63 (Lothian, LJA) and the text discovered by Cannan (1896, LJB). Cannan's discovery is the most significant in respect of both date and content. The version contained in LJ(B) is the most complete and polished and provides an invaluable record of Smith's teaching in this branch of his project in the last year of his Professorship (1763-64).

The Cannan version yielded two important results.

First, Cannan was able to confirm Smith's debts to Francis Hutcheson. Hutcheson's economic analysis was not presented by him as a separate discourse, but rather woven into the broader fabric of his lectures on jurisprudence. Perhaps it was for this reason that historians of economic thought had rather neglected him. But the situation was transformed as a result of Cannan's work who first noted that the **order** of Smith's lectures on 'expediency' followed that suggested by Hutcheson, albeit, significantly, in the form of a single discourse. The importance of the connection was noted by Cannan (1896, xxv-xxvi; 1904, xxxvi-xli). Cannan was soon followed by the entry in the **Palgrave** (1899). Hutcheson's economic analysis received its most elaborate treatment in W R Scott's **Francis Hutcheson** (1900) in this period.

Renewed interest in Hutcheson's **economic** analysis revealed that it had its own history. It is evident that he admired the work of his immediate predecessor in the Chair of Moral Philosophy, Gerschom Carmichael (1672-1729), and especially his translation of, and commentary on, the works of Pufendorf. In Hutcheson's address to the 'students in Universities', the **Introduction to Moral Philosophy** (1742) is described thus:

'The learned will at once discern how much of this compend is taken from the writings of others, from Cicero and Aristotle, and to name no other moderns, from Pufendorf's small work, **De Officio Hominis et Civis Juxta Legem Naturalem** which that worthy and ingenious man the late Professor Gerschom Carmichael of Glasgow, by far the best commentator on that book, has so supplied and corrected that the notes are of much more value than the text' (Taylor, 1965, 25).

It is to W L Taylor that we are indebted for the reminder that Carmichael and Pufendorf may have shaped Hutcheson's economic **ideas**, thus indirectly influencing Smith (op cit, 28-29).

Undoubtedly, both men followed a particular **order** of argument. Starting with the division of labour they sought to explain the manner in which disposable surpluses could be maximised, before going on to emphasise the importance of security of property and freedom of choice. This analysis led naturally to the problem of value and hence to the analysis of the role of money. What is distinctive about the analysis is the attention given to value **in exchange** where both writers emphasised the role of utility and disutility: perceived utility attaching to the commodities to be acquired, and perceived, disutility embodied in the labour necessary to create the goods to be exchanged. The distinction between utility anticipated and realised is profoundly striking (Skinner, 1996, ch 5). This tradition was continued by Smith both in LJ and WN, but with a change of emphasis towards the **measurement** of value – thus explaining Terence Hutchison's point that Smith retained **some** of his heritage (1988, 199; see ch 11). Hutchison has noted that the

Pufendorf/Hutcheson line was continued most notably by Beccaria, Condillac (and much later by Walras; see ch 17).

Secondly, it is apparent that the account which Smith provides in LJ(B) is concerned with an **economic** system which features the activities of agriculture, manufacture, and commerce (LJ (B) 210) where these activities are characterised by a division of labour (LJ(B) 211-23) with the patterns of exchange facilitated by the use of money (LJ(B) 235-43). There are three main features of the central analysis: the treatment of the division of labour, the analysis of price and allocation, and the exposure of the mercantile fallacy.

The division of labour is central to the analysis. It is by reference to this institution that Smith explains the growth in opulence which is associated with the development of the arts under the stimulus of the ‘natural wants’ of man (LJ(B) 209-211).

As in the case of the **Wealth of Nations**, Smith’s handling of price theory is amongst the most successful aspects of the study, featuring as it does a clear distinction between natural and market price together with an examination of their inter-dependence. **Natural** price is defined in effect as the supply price of a commodity, where the latter refers to labour cost (LJ(B), 227).

Market price, on the other hand, is the price which may prevail at any given point in time and will be determined, Smith argued, by the ‘demand or need for the commodity’, its abundance or scarcity in relation to the demand (a point which is used to explain the ‘paradox’ of value), and, finally, the ‘riches or poverty of those who demand’ (LB(B) 227-8). Smith then went on to suggest that although the two prices were logically distinct, they were also ‘necessarily connected’. Thus in the event of market price rising above the natural level, the reward of labour in this employment will rise above its natural (long-run equilibrium) rate, leading to an inflow of labour and an expansion in supply (and vice-versa). In equilibrium, therefore, the market and natural price will be the same; a point which allowed Smith to go on to argue that ‘whatever police’ tends to prevent this coincidence will ‘diminish public opulence’ (LJ(B) 230). The familiar examples which contributed to keep the market above the natural price, include taxes on industry, monopolies, and the exclusive privileges of corporations, all of which affect price by virtue of their direct impact on selling price.

Smith’s understanding of the interdependence of economic phenomena was quite as sophisticated as that of his master. Yet at the same time, it must be noted that his lecture notes do not confirm a clear distinction between factors of production (land, labour, capital) nor between those categories of return which correspond to them (rent, wages, profit). Nor is there any evidence of a macro-economic model of the system as a whole: a model which Smith first met during his visit to France.

IV

Economics (II): The Physiocrats, Quesnay

Adam Smith’s visit to France was his only journey outside Great Britain. The fact that the visit took place at all was due to the success of the **Theory of Moral Sentiments**; Hume, in a rather more serious tone, also reported that ‘Charles Townshend, who passes for the cleverest Fellow in England, is so taken with the Performance, that he said to Oswald he wou’d put the Duke of Buccleugh under the Author’s care’. Hume bestirred himself on Smith’s behalf, but assumed that he would wish to welcome the Duke as a student in Glasgow, as distinct from giving up his chair. This was a reasonable assumption, bearing in mind Smith’s enjoyment of his post and the programme of publication which was announced in the closing pages of the first edition of **The Theory of Moral Sentiments**.

Smith's resignation from the Chair at the early age of forty-one would no doubt surprise Hume, but it may well be that the proposed visit to France was attractive precisely because it afforded an opportunity to meet a group of thinkers whom Smith so much admired.

Smith left Glasgow in January 1764 and arrived in Paris on 13 February. He resigned from his academic post the following day (Corr, letter 81). On 4 March he was in Toulouse which was to be his base for many months. David Hume arranged a number of introductions but few of his contacts were available, causing Smith to write to Hume that the 'life which I led at Glasgow was a pleasurable dissipated life, in comparison of that which I lead here at present'. He added that 'I have begun to write a book in order to pass away the time. You may believe I have very little to do' (Corr, letter 82).

But the situation soon improved, partly as the result of a series of expeditions to Bordeaux, the Pyrenees, and Montpellier.

Smith arrived back in Paris in February 1766, to begin a stay of some ten months. The visit was clouded by the developing quarrel between Rousseau and Hume. Further, in August, Smith was caused real anxiety by the illness of the Duke. The Duke recovered, but sadly his brother was taken ill in October and died on the nineteenth of the month. At this point, the party left for home, and reached London on 1 November. Smith never left Britain again.

But from an intellectual point of view, the visit was a resounding success. Hume's contacts and the reputation of TMS ensured an entry to both English and French circles. The latter were especially important in that Smith was afforded an opportunity to meet Diderot, Helvetius and Holbach. But there were other important contacts to be made, which are of particularly interest to the economist and to commentators on WN. These included Quesnay, Mirabeau, Dupont de Nemours and, amongst others, Mercier de la Riviere whose book **L'ordre naturel et essentiel des sociétés politiques** (1767) was considered by Smith to be 'the most distinct and best connected account' of Physiocratic doctrine.

When Smith arrived in Paris, the School was at the zenith of its influence. Two journals, the **Journal d'Agriculture** and the **Ephemerides du Citoyen** carried articles of a professional nature while in addition the central texts were already published, most notably Quesnay's **Tableau** (1758), Mirabeau's **Friend of Man** (1756, 1760) and the **Philosophie Rurale** (1763).

The content of Smith's library confirms his interest in the School. But it is also important to notice that he enjoyed the friendship of Quesnay, whom he described as 'one of the worthiest men in France and one of the best physicians that is to be met with in any country. He was not only physician but the friend and confidant of Madam Pompadour, a woman who was no contemptible judge of merit' (Corr, letter 97). In addition, we have Dugald Stewart's authority that 'Mr Smith had once an intention (as he told me himself) to have inscribed to him his **Wealth of Nations**' (Stewart, III.12).

Much Physiocratic writing was to prove unattractive to some, most obviously, perhaps, the doctrine of legal despotism and a political philosophy which envisaged a constitutional monarch modelled upon the Emperor of China. The uncritical attitudes of the disciples to the teaching of the master, Quesnay, were also a source of aggravation.

But Smith did recognise that the system:

‘with all its imperfections, is, perhaps, the nearest approximation to the truth that has yet been published upon the subject of political economy, and is upon that account well worth the consideration of every man who wishes to examine with attention the principles of that very important science’ (IV.ix.38).

The reason for this assessment may be found in the Physiocratic definition of wealth, in their liberal attitude to trade policy, but above all else in the quality of the basic model (in sharp contrast to Linguet who wrote off the **Tableau** as ‘an insult to common sense, to reason, and philosophy’ (Rothbard, 377). Quesnay’s purpose was both practical and theoretical. As Meek has indicated, Quesnay announced his purpose in a letter to Mirabeau which accompanies the first edition of the **Tableau**.

‘I have tried to construct a fundamental **Tableau** of the economic order for the purpose of displaying expenditure and products in a way which is easy to grasp. And for the purpose of forming a clear opinion about the organisation and disorganisation which the government can bring about’ (Meek, 1962, 108).

V

Economics III: Turgot

The model in question sought to explore the inter-relationships between output, the generation of income, expenditure and consumption – or in Quesnay’s words, a ‘general system of expenditure, work, gain and consumption’ (Meek, 1962, 374) which would expose the point that ‘the whole magic of a well ordered society is that each man works for others, while believing that he is working for himself’ (Meek, 1962, 70).

Peter Groenewegen has confirmed that **Turgot** was in Paris between July and September 1766 (Groenewegen, 1969, 272). The belief that the two men met and that they discussed economic questions is supported by the Abbe Morellet who, in a passage which refers to Smith, confirmed that:

‘M. Turgot, who like me loved things metaphysical, estimated his talents greatly. We saw him several times; he was presented at the house of M. Helvetius; we talked of commercial theory, banking, public credit and several points in the great work he was meditating’ (1823, I, 244).

But it is not known how often the two men met, and it appears that they did not correspond. In a letter to the Duc de la Rochefoucauld, dated 1 November 1785, Smith referred to the ‘ever-to-be-regretted Mr Turgot’ and added that ‘tho’ I had the happiness of his acquaintance, and I flattered myself, even of his friendship and esteem, I never had that of his correspondence’ (Corr, letter 248). But if the two men *were* friends it is perhaps hardly surprising in view of the fact that their scientific temperaments were so similar.

The purely economic analysis must also have made an immediate impact on Smith not least because Turgot opened his argument, as he had originally done, with the division of labour. In this connection, Turgot drew attention to the causes of increased productivity and to the associated point that ‘the reciprocal exchange of needs, renders men necessary to one another and constitutes the bond of society’ (Meek, 1973, 122).

But Turgot also offered a more familiar account of the ‘bond’ by offering a model which linked the different sectors of activity, and the various socio-economic groups, in a cycle of activities which involve the generation of income, expenditure, and productive activity.

The first class may be represented as that of the cultivators. Turgot effectively re-stated the by-now time-honoured dictum that ‘it is always the land which is the primary and unique source of all wealth’ (147). Strictly speaking the Husbandman:

‘is therefore the unique source of all wealth, which, through its circulation, animates all the industry of society; because he is the only one whose labour produces anything over and above the wages of labour’ (123).

As before, the **Cultivators** are designated as the ‘productive class’.

The second social group is represented by the **Proprietors** of land (the disposable class) who receive an income in the form of **rent**. This class:

‘may be employed to meet the general needs of the Society, for example, in war and the administration of justice, whether through personal service, or through the payment of a part of its revenue’ (127).

Turgot added, in a passage whose implications would be uncomfortable for some, that:

‘The Proprietor enjoys nothing except through the labour of the Cultivator ... but the Cultivator has need of the Proprietor only by virtue of human conventions and the civil laws’ (128).

Finally there are the **artisans**, who do not generate any net revenue; also the **stipendiary** class, who are ‘supported by the product of the land’ (127).

These would have been regarded as fairly conventional points, and so too would Turgot’s emphasis on the role of capital (fixed and circulating). But it is at this stage that Turgot advanced beyond Quesnay, by introducing a distinction between Entrepreneurs and Wage Labour, and, therefore, a further distinction between profits and wages as categories of return.

It is worthy of note that Turgot should have defined **profit** as the reward accruing to Entrepreneurs for the risks incurred in combining the factors of production (ie, fixed and circulating capitals), while the ‘simple workman, who possesses only his hands and his industry, has nothing except in so far as he succeeds in selling his toil to others’ (122).

The relevant passages deserve some elaboration. The industrial stipendiary class:

‘finds itself, so to speak, subdivided into two orders: that of the Entrepreneurs, Manufacturers and Masters who are all possessors of large capitals which they turn to account by setting to work, through the medium of their advances the second order, which consists of

ordinary Artisans who possess no property but their own hands, who advance nothing but their daily labour, and who receive no profit but their wages' (153).

Turgot also remarked that the position of the Entrepreneurs engaged in agriculture 'must be the same as that of the Entrepreneurs in Factories' (ibid), adding that:

'We also see that it is capitals alone which establish and maintain great Agricultural enterprises, which give the land, so to speak, an invariable rental value, and which ensure to the Proprietors a revenue which is always regular and as high as it is possible for it to be' (155).

Turgot isolated four distinct factors of production (land, labour, capital and entrepreneurship), and three categories of return (rent, wages, and profit). He also supplied a distinctive version of the circular flow.

If we map these points against Quesnay's basic model it now emerges that the entrepreneurs engaged in agriculture advance rent to the proprietors, thus providing this group with an income which is available for use in a given time period. The Entrepreneurs advance wages to labour as a group and also effect purchases **between** the sectors in which they are engaged, as well as **within** the sectors to which they belong.

Looked at from another point of view, Turgot's model indicates that output is made up of consumer and investment goods; that the income thus generated may be divided into two streams (consumption and saving) and used to make purchases of consumer and investment goods. The goods withdrawn from the market in a given period are then replaced by virtue of current productive activity. While aware of the possibility of contraction, it is interesting to note that Turgot believed that savings will normally be converted into capital expenditure 'sur le champ' (Schumpeter, 1954, 324; Groenewegen, 279).

Smith's commentary of Physiocratic teaching is readily accessible and provided his readers with a broadly accurate account of the **Analyse**. The detailed account which Smith offered (WN, IV.ix) is made even more intriguing by the fact that while remaining faithful to the original, he went to great pains to associate the 'super model' with a clear division between factors of production and categories of return – the Turgot version, although he did not directly cite his authority.

VI Economics (IV): The Wealth of Nations

That Smith benefited from his examination of the French system was quickly noted by Cannan. In referring to the theories of distribution and to the macro-economic dimension, Cannan noted that:

'When we find that there is no trace of these theories in the **Lectures**, and that in the meantime Adam Smith had been to France ... it is difficult to understand, why we should be asked, without any evidence, to refrain from believing that he came under physiocratic influence after and not before or during his Glasgow period'.

He added:

‘Adam Smith, as his chapter on agricultural systems shows, did not appreciate the minutiae of the table very highly, but he certainly took these main ideas and adapted them as well as he could to his Glasgow theories’ (1904, xxxi).

Smith’s debts to the physiocratic **model** may be seen in the content of the analytical apparatus which was developed in the first two books of WN. In these books, Smith in effect transformed his earlier, sophisticated, analysis of the interdependence of economic phenomena in such a way as to permit him to create a system which was at once descriptive and analytical. Building upon an analysis which owed much to the **Lectures** and to the Physiocrats, Smith developed a synthetic system which offered an opportunity to understand the full range of problems which should be encountered by ‘economists’ if the economy as a system is to be fully understood.

A Model of Conceptualised Reality

The concept of an economy involving a flow of goods and services, and the appreciation of the importance of intersectoral dependencies, were familiar in the eighteenth century. Such themes are dominant features of the work done, for example, by Sir James Steuart and David Hume. But what is distinctive about Smith’s work, at least as compared to his **Scottish** contemporaries, is the emphasis given to the importance of **three distinct factors** of production (land, labour, capital) and to the three categories of return (rent, wages, profit) which correspond to them. What is distinctive to the modern eye is the way in which Smith deployed these concepts in providing an account of the flow of goods and services between the sectors involved and between the different socio-economic groups (proprietors of land, capitalists, and wage-labour). The approach is also of interest in that Smith, following the lead of the French Economists, worked in terms of period analysis – the year was typically chosen, so that the working of the economy is examined within a significant time dimension as well as over a series of time periods. Both versions of the argument emphasise the importance of capital, fixed and circulating.

Taking the economic system as a whole, Smith suggested that the **total stock of society** could be divided into three parts. There is, first, that part of the total stock which is reserved for immediate **consumption**, and which is held by all consumers (Capitalists, labour and proprietors) reflecting purchases made in previous time periods. The characteristic feature of this part of the total stock is that it affords no revenue to its possessors since it consists in the stock of ‘food, cloaths, household furniture, etc, which have been purchased by their proper consumers, but which are not yet entirely consumed’ (WN, II.i.12).

Secondly, there is that part of the total stock which may be described as ‘**fixed capital**’ and which will be distributed between the various groups in society. This part of the stock, Smith suggested, is composed of the ‘useful machines’ purchased in preceding periods but currently held by the undertakers engaged in manufacture, the quantity of useful buildings, and of ‘improved land’ in the possession of the ‘capitalist’ farmers and the proprietors, together with the ‘acquired and useful abilities’ of all the inhabitants (WN, II.i.13-17), that is, human capital.

Thirdly, there is that part of the **total** stock which may be described as ‘**circulating capital**’, and which again has several components, these being:

- 1 The quantity of money necessary to carry on the process of circulation.
- 2 The stock of provisions and other agricultural products that are available for sale during the current period, but are still in the hands of either the farmers or merchants.
- 3 The stock of raw materials and work in process, held by merchants, undertakers, or those capitalists engaged in the agricultural sector (including mining).
- 4 The stock of manufactured goods (consumption and investment goods) created during the previous period, but which remain in the hands of undertakers and merchants at the beginning of the period examined (WN, II.i.19-22).

The logic of the process can be best represented by separating the activities involved much in the manner of the physiocratic model with which Smith was familiar. Let us suppose that, at the beginning of the time period in question, the major capitalist groups possess the net receipts earned from the sale of products in the previous period, and that the undertakers engaged in agriculture open by transmitting the total rent due to the proprietors of land for the current use of that factor. The income thus provided will enable the proprietors to make the necessary purchases of consumption (and investment) goods in the current period, thus contributing to reduce the stocks of such goods with which the undertakers and merchants began the period.

Secondly, let us assume that the undertakers engaged in both sectors, together with the merchant groups, transmit to wage labour the content of the wages fund, thus providing this socio-economic class with an income that can be used in the current period. It is worth noting in this connection that the capitalist groups transmit a fund to wage labour which formed a part of their **savings**, providing by this means an income that is available for current **consumption**.

Thirdly, the undertakers engaged in agriculture and manufactures will make purchases of consumption and investment goods from each other, through the medium of retail and wholesale merchants, thus generating a series of expenditures linking the two major sectors. Finally, the process of circulation may be seen to be completed by the purchases made by individual undertakers within their own sectors. Once again, these purchases will include consumption and investment goods, thus contributing still further to reduce the stocks of commodities that were available for sale when the period under examination began, and which formed part of the circulating capital of the society in question. Looked at in this way, the 'circular flow' could be seen to involve purchases that take goods from the circulating capital of society, which are in turn matched by a continuous process of **replacement** by virtue of current production of materials and finished goods – where both types of production require the use of the fixed and circulating capitals of **individual entrepreneurs**, while generating the income flows needed to purchase commodities (and services). Smith elaborated on the argument.

The expenditure of the consumers of particular commodities in effect replaces the outlays of those who retail them, just as the capital of the retailer replaces, together with its profits, that of the wholesale merchant from whom he purchases goods, thereby enabling him to continue in business (WN, II.v.9). In turn, the capital of the wholesale merchant replaces, together with their profits, the capitals of the farmers and manufacturers of whom he purchases the rude and manufactured products which he deals in, and thereby enable them to continue their respective trades (WN, ii.v.10). At the same time, part of the capital of the master manufacturer is 'employed as a fixed capital in the instruments of his trade, and replaces, together with its profits, that of some other

artificer of whom he purchases them. Part of this circulating capital is employed in purchasing materials, and replaces, with their profits, the capitals of the farmers and miners of whom he purchases them. But a great part of it is always, either annually, or in a much shorter period, distributed among the different workmen whom he employs' (WN, II.iv.11). The farmers perform a similar function with regard to the manufacturing sector.

Smith can be seen to have addressed a series of problems which begin with an analysis of the division of labour, before proceeding to the discussion of value, price and allocation, and thence to the issue of distribution in any one time period and over time.

The analysis offered in the first book enabled Smith to proceed to the discussion of both macro-statics and macro-dynamics, in the context of a model where all magnitudes are dated. What Smith had produced was a model of conceptualised reality which was essentially descriptive, and which was further illustrated by reference to an **analytical** system which, if on occasion subject to ambiguity, was none the less so organised as to meet the requirements of the Newtonian ideal. The system was intended to be **comprehensive**.

VII *Implications of the Analysis*

J S Mill, the archetypal classical economist of a later period, is known to have remarked that 'The **Wealth of Nations** is in many parts obsolete and in all, imperfect'. Writing in 1926, Edwin Cannan observed:

'Very little of Adam Smith's scheme of economics has been left standing by subsequent enquirers. No one now holds his theory of value, his account of capital is seen to be hopelessly confused, and his theory of distribution is explained as an ill-assorted union between his own theory of prices and the Physiocratic fanciful Economic Table' (1926, 123).

In view of authoritative judgements such as these, it is perhaps appropriate to ask what elements in this story should command the attention of the historian and economist. A number of points might be suggested.

First, there is the issue of **scope**. As we have seen, Smith's approach to the study of political economy was through the examination of history and ethics. The historical analysis is important in that he set out to explain the origins of the commercial stage. The ethical analysis is important to the economist because it is here that Smith identifies the values which are appropriate to the modern situation. It is here that we confront the emphasis on the desire for status (which is essentially Veblenesque) and the qualities of mind which are necessary to attain this end: industry, frugality, prudence.

The TMS also reminds us that the pursuit of economic ends takes place within a **social** context, and that men maximise their chances of success by respecting the rights of others. In Smith's sense of the term, 'prudence' is essentially rational self-love. In a famous passage from the TMS (II.ii.2.1) Smith noted, with regard to the competitive individual, that:

'In the race for wealth, and honours, and preferments, he may run as hard as he can, and strain every nerve and every muscle, in order to outstrip all his competitors. But if he should

justle, or throw down any of them, the indulgence of the spectators is entirely at an end. It is a violation of fair play, which they cannot admit of’.

Smith’s emphasis upon the fact that self-interested actions take place within a social setting and that men are motivated (generally) by a desire to be approved of by their fellows, raises some interesting questions of continuing relevance. For example, in an argument which bears upon the analysis of the TMS, Smith noted in effect that the rational individual may be constrained by the reaction of the spectator of his conduct – a much more complex case than that which more modern approaches may suggest. Smith made much of the point in his discussion of Mandeville’s ‘licentious system’ which supported the view that private vices were public benefits, in suggesting that the gratification of desire should be consistent with observance of the rules of propriety – as defined by the spectator, ie, by an external agency. In an interesting variant on this theme, Etzioni has recently noted that we need to recognise ‘at least two irreducible sources of valuation or utility: pleasure and morality’ (1988, 21-24).

Secondly, there are a series of issues which arise from Smith’s interest in political economy as a system. The idea of a single all-embracing conceptual system, whose parts should be mutually consistent, is not easily attainable in an age where the division of labour has increased the quantity of science through specialisation. Smith was aware of the division of labour in different areas of science, and of the fact that specialisation often led to systems of thought which were inconsistent with each other (**Astronomy**, IV.35, 52, 67; Skinner, 1996, 43). But the division of labour within a **branch** of science, eg, economics, has led to a situation where sub-branches of a single subject may be inconsistent with one another.

As a third point, it may be noted that one of the most significant features of Smith’s vision of the economic process lies in the fact that it has a significant time dimension. For example, in dealing with the problem of value in exchange, Smith made due allowance for the fact that the process involves judgements with regard to the utility of the commodities to be acquired, and the disutility involved in creating the goods to be exchanged. In the manner of his predecessors (Hutcheson, Carmichael and Pufendorf), Smith was aware of the distinction between utility (and disutility) anticipated and realised, and, therefore, of the process of adjustment which would inevitably take place through time.

Smith’s theory of price, which allows for a wide range of changes in taste, is also distinctive in that it allows for competition **among** and **between** buyers and sellers, while presenting the allocative mechanism as one which involves simultaneous and inter-related adjustments in **both** factor and commodity markets (Skinner, 1996).

As befits a writer who was concerned to address the problems of change, and adjustment to change, Smith’s position was also distinctive in that he was not directly concerned with the phenomenon even of **partial** equilibrium. For Smith, the ‘natural’ (supply) price was, as it were:

‘the central price, to which the prices of all commodities are continually gravitating ... whatever may be the obstacles which hinder them from settling in this centre of response and continuance, they are constantly tending towards it’ (WN, I.vii.15).

But perhaps the most intriguing feature of the **macro** model is to be found in the way in which it was linked to the analytics of Book I and in the way in which it was specified. Smith argued that incomes are generated as a result of productive activity, thus making it possible for commodities to

be withdrawn from the ‘circulating’ capital of society. The consumption goods withdrawn from the existing stock may be used up in the present period, or added to the stock reserved for immediate consumption; or used to replace more durable goods which had reached the end of their lives in the current period. In a similar manner, undertakers and merchants may also add to their stocks of materials, or to their holding of fixed capital, while replacing the plant which had reached the end of its operational life. It is equally obvious that undertakers and merchants may add to, or reduce their **inventories** in ways which will reflect the change patterns of demand for consumption and investment goods, and their past and current levels of production.

Smith’s emphasis upon the point that different ‘goods’ have different life-cycles (which may derive from Steuart) also means that the pattern of purchase and replacement may vary continuously as the economy moves through different time periods, and in ways which reflect the various age profiles of particular products as well as the pattern of demand for them. If Smith’s model of the circular flow is to be seen as a spiral, rather than a circle, it soon becomes evident that this spiral is likely to expand (and contract) through time at variable rates.

It is perhaps this total vision of the complex working of the economy that led Mark Blaug to comment on Smith’s distinctive and sophisticated grasp of the economic **process** and to distinguish this from his contribution to particular **areas** of economic analysis.

Blaug noted that:

‘In appraising Adam Smith, or any other economist, we ought always to remember that brilliance in handling purely economic concepts is a very different thing from a firm grasp of the essential logic of economic relationships. Superior technique does not imply superior insight and vice-versa. Judged by standard of analytical competence, Smith is not the greatest of eighteenth century economists. But for an acute insight into the nature of the economic process, it would be difficult to find Smith’s equal (1985, 57).

Joseph Schumpeter, not always a warm critic of ‘A Smith’, yet regarded the WN as ‘the peak success of (the) period:

‘though the **Wealth of Nations** contained no really novel ideas, and though it cannot rank with Newton’s **Principia** or Darwin’s **Origin** as an intellectual achievement, it is a great performance all the same and fully deserved its success’ (1954, 185).

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SMITH AND RICARDO ON COMPARATIVE ADVANTAGE IN RELATION TO FACTOR MOVEMENTS

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I.

The theory of comparative advantage, commonly – and with some justice - attributed to David RICARDO, is one of the most successful and most durable explanatory notions of international economic exchange. I take it up here for two related reasons, the one forward -looking, the other backward-looking in time. The forward-looking aspect is the question whether RICARDO’s model will provide a useful tool for analysing the economic consequences of the future European enlargement which will concern economies at much lower stages of economic development and of per capita national incomes. The backward looking question is whether RICARDO really provided a model that was so much more technically advanced than what Adam SMITH had already stated in the *Wealth of Nations*.

In this paper I attempt to put the history of economic analysis to its noblest use: namely to find in the ideas of the past a hint or germ of such solutions for the economic problems of the future as are better suited to the future’s changing circumstances than the standard modes of analysis; or, in short, to activate the innovatory power of past thought over that of the present.

As HAYEK among others pointed out, the social world is much too complicated to be analysed completely by our limited human understanding. Economics therefore is purposeful simplification, and, if done well, we can hope it is inspired simplification. Thus it is also historically specific. In international economics particularly, the basic assumptions tend to show a high degree of built-in obsolescence. So time and again, we have to try afresh.

II.

One of the most interesting features of the leading modern text-book in International Economics, that by P. KRUGMAN and M. OBSTFELD¹, is its forcefully voiced doubt that the HECKSCHER-OHLIN model, which dominated foreign trade theory (and practice) during the 1960s and 1970s, has any explanatory power left. As is well-known, the above named model, now usually called the “HOS-model” (as embodying also the important contributions by Paul SAMUELSON together with Gustav STOLPER²) is a two country, two commodity and two factor model, the factors commonly

¹ Paul R. KRUGMAN and Maurice OBSTFELD; *International Economics – Theory and Policy*, Now: Addison – Wesley Publishing, 4th edition 1994, 5th edition 1997, 6th edition 2000.

² See Paul A. SAMUELSON, “International Trade and the Equalisation of Factor Prices”, *Economic Journal* 58 (1948), pp. 163-184; the same, “International Factor Price Equalisation Once Again”, *Economic Journal* 59 (1949), pp. 181-196.

assumed to be labour and capital, the relative quantities and (with imperfect trade substitution) possibly also the relative prices of these factors differing between countries. The country relatively abundant in one of these factors will mainly provide the commodity the production of which uses this abundant factor relatively intensively, and vice versa. The model assumes free commodity trade but no factor movement. Now KRUGMAN points out that, as capital is once more freely mobile world-wide, there is no such thing as relative abundance or scarcity of capital anywhere in the world. Thus the model founded on the availability of capital relative to labour breaks down.³ And, indeed, empirical tests of this type of HOS model commonly already showed rather poor results,⁴ even before a general movement of capital became overwhelming once more. Therefore KRUGMAN concludes that the Ricardian model is still the best explanation of international trade available; and, of course, likewise his own “new trade theory model”, based on monopolistically competitive markets, is best suited to the trade between the most developed countries. The latter tend to trade much in heterogeneous commodities, whose production is best described by a cost structure with considerable fixed costs and constant marginal costs, i. e. KRUGMAN’s own modelling structure.

It may be disputed whether KRUGMAN’s objection to the explanatory power of the “HOS-model” has in recent years been fully convincing. First of all, the rates of return on capital expected by investors in emerging markets differ substantially from those achieved in the economically most advanced nations: Obviously, firms in emerging markets often have to pay substantial risk premia, basically due to higher country risks. Thus, in spite of free international capital mobility, capital cannot be imported perhaps at the same conditions as in the exporting country and, if so, cannot be considered an internationally homogeneous factor. Less developed countries still remain poorer in capital. They remain economies with a higher capital price due to a greater scarcity of capital. It must be pointed out, however, that the concept of riskiness is not easily introduced into pure trade models.

Secondly, it may well be doubted that – among the many possible stylised groupings of the factors of production in international trade – the deepest insights are provided by the capital-labour

³ KRUGMAN-OBSTFELD have progressively toned down their explicit criticism of the HECKSCHER-OHLIN model, evidently more for commercial reasons than others. The fourth edition, p. 79, after speaking of the “negative results of tests”, said: “there is by now strong evidence against the pure HECKSCHER-OHLIN model. The best answer at this point seems to be to return to the Ricardian idea that the trade pattern is largely driven by international differences in technology rather than resources”. From the fifth edition, p. 85, the results are no longer “negative” but “mixed”. The second sentence above is dropped and substituted by: “Most trade theorists now believe that to explain...the pattern of international trade.... it is necessary to drop the HECKSCHER-OHLIN assumption that countries share the same technologies”. The sixth edition, p. 85, only repeats the first sentence quoted.

⁴ See, e.g., Alan DEARDORFF, “Testing Trade Theories and Predicting Trade Flows”; in: Ronald W. JONES and Peter B. KENEN, eds., *Handbook of International Economics*, vol. 1, Amsterdam, North Holland, 1984.

dichotomy, or, more precisely, a dichotomy of all the different kinds of labour on the one hand and all the different kinds of capital on the other. A HOS-type model using as the stylised factor dichotomy qualified labour on the one hand and unqualified labour on the other may provide much better results than models with the usual capital-labour dichotomy.⁵ But such an improved modelling structure has its own difficulties. The qualification of labour is a continuous variable of infinitely small gradations relative to unqualified labour, and it may be doubtful where exactly this continuum should be split. And if one finds a meaningful split does such a concept as, e. g., “higher education” mean the same thing in two geographically widely separated areas? It is also quite possible that after appropriate classification one is stuck with the rather trite conclusion that a country cannot produce commodities for which it lacks essential factors, e. g. highly qualified labour. A HOS-type model breaks down if one country does not have enough of each factor needed, or, technically speaking, it breaks down when corner solutions have to be expected.

Now KRUGMAN may have somewhat overdone his criticism of the present empirical relevance of HOS modelling: For Europe, e. g., or, at least, for the Europe of a quarter century ago, the HOS model did provide some useful insights into patterns of specialisation. But the model of international trade due to comparative advantage, i. e. Ricardos model, still provides a much more valid insight, an insight into both a more easily measurable and a more frequently relevant difference between conditions of production. What still seems to matter most are the technological differences between countries. In particular, developed countries obviously trade much in goods produced by world monopolies – and monopolies due to proprietary production techniques.

III.

Ricardo’s original insight, however, is based on the assumption of a lack of factor movements. And the problem of integration within the European Community and the new members acceding to it is precisely one of a continually more integrated factor market. As to the newly acceding countries and their lag in total factor productivities relative to the former core countries of the EU the most important question is: What sort of integration will come about: Will there be only an integration of the markets for goods and services, or will there mainly occur a movement of capital from the old member countries, or will the dominant feature be a movement of labour from the new members to the old? Perhaps, more precisely: What mixture of these three possibilities will we get? The Ricardian model is singularly ill-suited to answer these questions.

RICARDO’s own defence of his modelling structure is both logically weak and historically counterfactual. Immediately after his rather brief treatment of the theory of trade due to comparative advantage, RICARDO says:

“Experience, however, shows that the fancied or real insecurity of capital, when not under the immediate control of its owner, together with the natural disinclination which every man has to quit the country of his birth and connexions, and intrust himself, with all his habits fixed, to a strange government and new laws, check the emigration of capital. These feelings, which I should be sorry to see weakened, induce most men of property to be satisfied with a low rate of profits in their own country, rather than seek a more advantageous employment for their wealth in foreign nations”.⁶

⁵ See as a short analysis, e.g., Jeffrey D. SACHS and Howard J. SHATZ, “U. S. Trade with Developing Countries and Wage Inequality”, *American Economic Review*, Papers and Proceedings 86 (1996), pp. 234-239.

⁶ *The Works and Correspondence of David Ricardo*, ed. P. SRAFFA, vol. I, *On the Principles of Political Economy and Taxation*, Cambridge, Univ. Press, 1970, ch. VI, p. 136f.

This is an astonishing and highly “ad hoc” statement, coming, as it does, from the son of an immigrant! Note that it is, implicitly and counterfactually, assumed by RICARDO that labour cannot move without its complement of capital and, on the other hand, capital can only move together with its owner.

Historically, RICARDO’s statement was incorrect. The first decade after the Napoleonic wars, in which RICARDO published the three editions of his *Principles*, saw a particularly large volume of international capital transfers. The House of BARING, specialized in large international loans, was then called the “sixth world power”. Admittedly, the capital transfers were more between governments and less between private persons. Furthermore, in this period British mechanics emigrated to the continent in noticeable numbers, bringing with them the know-how as how to run factories efficiently. The British mechanics were advertised proudly by their Continental employers as personal proof of the quality of the commodities to be produced by newly founded factories.

Nevertheless, the RICARDIAN emphasis on commodity trade instead of international factor movements did not fare badly historically, although for reasons other than those directly implicit in his theory. During the middle two quarter centuries of the 19th century commodity trade became much cheaper due to innovations in transport, i. e. due to the railways and the steam boat. Then it was the availability of as yet hardly cultivated land in the New World – or, rather the New Worlds – which stimulated remunerative comparative advantage trade. Therefore, an unprecedented increase in international factor movements during the last quarter of the 19th century and up to 1914 did not invalidate the assumptions of comparative advantage trade: Factor movements basically just meant that more of the same could be produced in the then rapidly developing world without much substitution between factors. As Robert MUNDELL showed so admirably in his Nobel Lecture,⁷ international factor movements went into a progressive decline after 1914, reaching their nadir in the middle of the 20th century. MUNDELL does not stress that labour movements also were more and more restricted. There is the well-known switch of the USA to more restrictive immigration laws after the First World War. So in a sense the RICARDO model became the ideal model of international exchange during the Bretton Woods period with its emphasis on goods market integration but not on factor market integration. It has to be added that most trade in basic agricultural products was limited due to ever increasing protection in agriculture. Thus comparative advantage had to work only within the range of industrial products and not between industry and agriculture or, on the other hand, between industry and services, also often protected for political reasons. From 1980 onwards, the mobility of both labour and capital was once more on the increase, however. This is true particularly within the EU. Thus RICARDO’s idea of comparative advantage is not likely to help us understand the probable effects of the forthcoming European integration. It might even be a source of false hopes for the poor acceding countries. One of the leading German labour economists, a US-citizen teaching in Berlin, has even suggested that the most plausible effect might be increased unemployment in the new member countries;⁸ and, one might add, immiserisation (at least in parts) instead of integration and income convergence. A tell-tale example of difficulties of integration could be provided by Eastern Germany. It is quite possible, though not suggested by RICARDO, that up to a sufficiently small difference in per capita incomes trade may cause integration, while – in spite of political integration - economic disintegration or rather divergent developments may occur whenever income differences are too large.

⁷ Robert A. MUNDELL, “A Reconsideration of the Twentieth Century”, *American Economic Review*, 90 (June 2000), pp. 327-340.

⁸ Michael C. BURDA, “Mehr Arbeitslose – Der Preis für die Osterweiterung?”; in: *Erweiterung der EU*, Jahrestagung 1999, Schriften des Vereins für Socialpolitik N. F. 274, Berlin, Duncker und Humblot, 2000, pp. 79-102.

IV.

In fact, Adam SMITH's analysis in the *Wealth of Nations* may provide a better model than the Ricardian theory of comparative advantage. One reason is that RICARDO's analysis is static as to technology while SMITH's is not. Secondly, SMITH stresses above all economies of scale, which are ignored by RICARDO. For the enlargement of markets, economies of the scale of production may be crucial. For, as SMITH famously remarked, "the extent of (the division of labour) must always be limited by....the extent of the market".⁹

One can often hear it said that SMITH did not yet have the insight of the theory of comparative – in contrast to absolute – advantage, the latter being an innovation of RICARDO's. But the theory of comparative advantage is fully stated in the *Wealth of Nations*, and is illustrated by an empirically more convincing case study than the weird example of RICARDO, who assumes that Portugal is more productive than England in everything. The theory of comparative advantage is stated already in the very first chapter of WN in the course of the analysis of the division of labour¹⁰, where, of course it rightly belongs. SMITH says:

"The most opulent nations, indeed, generally excel all their neighbours in agriculture as well as in manufactures; but they are commonly more distinguished by their superiority in the latter than in the former. Their lands are in general better cultivated, and having more labour and expense bestowed upon them, produce more, in proportion to the extent and natural fertility of the ground. But this superiority of produce is seldom much more than in proportion to the superiority of labour and expense. In agriculture, the labour of the rich country is not always much more productive than that of the poor; or, at least it is never so much more productive, as it commonly is in manufactures. The corn of the rich country, therefore, will not always, in the same degree of goodness, come cheaper to market than that of the poor. ...The corn of Poland, in the same degree of goodness, is as cheap as that of France, notwithstanding the superior opulence and improvement of the latter country. The corn of France is, in the corn provinces, fully as good, and in most years nearly about the same price with the corn of England, though, in opulence and improvement, France is perhaps inferior to England. The corn-lands of England, however, are better cultivated than those of France, and the corn-lands of France are said to be much better cultivated than those of Poland. But though the poor country, notwithstanding the inferiority of its cultivation, can, in some measure, rival the rich in the cheapness and goodness of its corn, it can pretend to no such competition in its manufactures; at least if those manufactures suit the soil, climate, and situation of the rich country. The silks of France are better and cheaper than those of England, because the silk manufacture, at least under the present high duties upon the importation of raw silk, does not so well suit the climate of England as that of France. But the hard-ware and the coarse woollens of England are beyond all comparison superior to those of France, and much cheaper too in the same degree of goodness. In Poland there are said to be scarce any manufactures of any kind, a few of those coarser household manufactures excepted, without which no country can well subsist."

Note that SMITH's example is nearly as detailed as that of RICARDO and that the latter uses as examples similar articles, wine and cloth, as those examined by SMITH. What is missing, in SMITH, however, is an aspect at least implied by RICARDO, the shift in employment in order to keep full employment as far as possible. The main technical difference in treatment is that RICARDO uses a numerical demonstration, which seems to impress the primitive mind more forcefully – and this in spite of the fact that his example is evidently factually absurd, Portugal

⁹ WN, I.iii.1, p. 31, in the Glasgow Edition, Oxford UP 1976.

¹⁰ WN, I.i.4, 16f. My stress by underlining the key sentence.

being in his case in every industry absolutely more productive than the then “workshop of the world”.

In another chapter SMITH concludes: “The natural advantages which one country has over another in producing particular commodities are sometimes so great, that it is acknowledged by all the world to be in vain to struggle with them... Whether the advantages which one country has over another, be natural or acquired, is in this respect of no consequence. As long as the one country has those advantages, and the other wants them, it will always be more advantageous for the latter, rather to buy of the former than to make.”¹¹

If we now perform a mental jump in time over two and a quarter centuries and turn to the problems of present-day Poland, we find that its former comparative advantage in the production of corn (i.e. wheat) has waned by now. In SMITH’s time wheat for export was produced very cheaply on a large scale on the vast estates of the aristocracy, using cheap servile labour. Communism and post-communist development have turned most of these large estates into small peasant holdings which produce wheat very inefficiently. Very few “natural or acquired“ advantages of Eastern Europe appear to be overwhelming; in fact by now it is not clear where any comparative advantage of Poland relative to the developed countries of EU Europe lies, while it is clear that its absolute productivity is vastly lower. Due to this misguided international specialisation – or, rather, non-specialisation – the most likely outcome of EU integration of Poland is merely large scale emigration from Poland toward the West, particularly to Germany and Austria. Remember that, against RICARDO’s assumption of the fullest possible factor use, unemployment in Poland is at present measured to be 18 percent.

V

SMITH’s main contribution to foreign trade theory, however, does not lie in the static theory of comparative advantage, but in dynamic aspects. He stresses above all what we would now call economies of scale and positive external effects in production. Economies of scale and positive external effects have, indeed, proved very important for the success of the European Union over the past four decades. But it should be remembered that economies of scale favour in particular the most highly developed countries and much less so emerging nations. Economies of scale are by their very nature largest when the proportion of fixed costs relative to variable costs is highest. But high proportions of fixed to variable costs are typical exactly of the most advanced industries using highly qualified labour, the latter mostly lacking as yet in emerging economies.

A high proportion of fixed capital occurs usually in industries with a high share of research and development costs, pharmaceuticals being a typical case: By definition, research and development provides an example of fixed costs, as they are run up prior to actual production. Thus it is the most highly developed economies which profit most by the extent of the market. Therefore, the opulent older EU-members are likely to profit more from EU enlargement than the countries newly acceding. Furthermore, in trying to catch up the new member countries may run into great difficulties because their few valuable research experts are likely to emigrate. SMITH justly remarks: “As a rich man is likely to be a better customer to the industrious people in his neighbourhood, than a poor, so is likewise a rich nation. ... A nation that would enrich itself by foreign trade is certainly most likely to do so when its neighbours are all rich, industrious and

¹¹ WN, IV. ii. 15, p. 458.

commercial nations”.¹² From this point of view economic integration into EU-Europe of the Countries of Eastern Europe is likely to favour the latter; and that is, indeed, their hope. But this maxim presupposes that they do produce commodities meeting the high quality standards of Western Europe – and that is not so certain, at least in parts.

SMITH’s central claim is, however: “By means of (foreign trade), the narrowness of the home market does not hinder the division of labour in any particular branch of art or manufacture from being carried to the highest perfection. By opening a more extensive market for whatever part of the produce of their labour may exceed the home consumption, it encourages them to improve its productive powers, and to augment its annual produce to the utmost, and thereby to increase the real revenue and wealth of the society. These great and important services foreign trade is continually occupied in performing, to all the different countries between which it is carried on”.¹³

Thus, SMITH claims that foreign trade “encourages” each nation “to improve its productive powers, and to augment its annual produce to the utmost”. In contrast to RICARDO he emphasizes not only economies of scale but above all the stimulation of technical advances, and perhaps also (because his language is not quite clear here) the possibility that foreign trade may help to avoid temporary short-falls in home demand. Technical advances frequently presuppose a large and a stable market. These effects, indeed, have prevailed in the development within the European Union, rather than the static comparative advantages.

Once more, however, it is not so clear whether these effects will be strong and ubiquitous in Eastern Europe, when it is likely that these countries will lose the best members of their labour force to the West: And this is particularly true of Poland with a tradition of migration. With not too large a gap in development – and consequently not too large a gap in personal incomes – emigration of the most highly qualified person may often turn out to be only temporary: The most capable youngsters will acquire advanced skills in neighbouring countries, but after some years may return to practice them in their native environment. In such cases, the foreign country serves merely as a vocational college writ large. In the long run such migration rather rebounds to the advantage of the original home country. But if the development gap is too large, no such “return of the natives” may take place: There are just not enough opportunities at home.

It remains to be seen which of these scenarios will be acted out on the stage of future European integration between, be it repeated, in part very unevenly developed aspirants. Adam SMITH, after all, only sketched one possibility.

¹² WN, IV.iii.c.11, p. 494f.

¹³ WN IV.i.31, p. 446f.

WIRTSCHAFT UND GELD IM ZEITALTER DER REFORMATION¹

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I.

Wechselvoll wie Deutschlands äußere Geschichte ist die seines wirtschaftswissenschaftlichen Schrifttums. Dem mit dem Dreißigjährigen Krieg verbundenen Niedergang folgte eine Epoche, während deren der deutsche Kameralismus zwar zahlreiche Bücher minderen Ranges über die Verwaltung fürstlicher Domänen oder die Hebung des Landbaus hervorbrachte, aber nur wenige Werke, die als Wegbereiter moderner ökonomischer Theorie angesehen werden².

Nicht viele Dogmenhistoriker wissen, daß dagegen im 16. Jahrhundert, während Humanismus und Reformation, ein neues ökonomisches Denken zum schriftlichen Ausdruck drängte. Hier spiegelte sich der Aufschwung, den vor allem Deutschlands Süden im Zeitalter der Entdeckungen ergriff. Roscher, der so viel zur Erforschung der Frühgeschichte der deutschen Nationalökonomie³ leistete, hat auch auf die drei Flugschriften⁴ aufmerksam gemacht, die wir hier im Faksimile vorlegen. Es handelt sich möglicherweise um das früheste Beispiel einer mit gedruckten Pamphleten ausgetragenen Kontroverse zu wirtschaftlichen Fragen.

¹ This is a modified version of my Introductory Essay to *Vademecum zu drei klassischen Schriften frühneuzeitlicher Münzpolitik*, edited by Bertram Schefold, Düsseldorf: Verlag Wirtschaft und Finanzen 2000. Companion volume to the facsimile reprint of *Gemeyne Stimmen von der Muntz (1530), die Müntz Belangende (1548)*. Düsseldorf: Verlag Wirtschaft und Finanzen 2000.

² In der Reihe der *Klassiker der Nationalökonomie* erschienen
Becher, J.J.: *Politischer Discurs*. Repr. Frankfurt 1668, Düsseldorf: Verlag Wirtschaft und Finanzen 1990;
Hörnigk, P.W. von: *Oesterreich über alles*. Repr. o.O. 1684, Düsseldorf: Verlag Wirtschaft und Finanzen 1997 und
Justi, J.H.G. von: *Grundsätze der Policy-Wissenschaft*. Repr. Göttingen 1756, Düsseldorf: Verlag Wirtschaft und Finanzen 1993.

Herrn Dr. Karl Kunze verdanke ich die Anregung, die sehr seltenen, dem Gedankengut der deutschen Ökonomie zuzurechnenden Bände von Carl, E.L.: *Traité de la richesse des princes et de leurs états et des moyens simples et naturels pour y parvenir*, Nachdr., hg. v. B. Schefold, 3 Bände, Hildesheim: Olms 2000, wieder aufzulegen.

³ Roscher, W.: *Geschichte der National-Oekonomie in Deutschland*. Repr. München 1874, Düsseldorf: Verlag Wirtschaft und Finanzen 1992 (*Klassiker der Nationalökonomie*) und
Roscher, W.: "Über die Blüte deutscher Nationalökonomie im Zeitalter der Reformation", in: *Historisch philologische Berichte der K. sächsischen Gesellschaft* v. 12. Dec. 1861, S. 145-174.

⁴ *Die drei Flugschriften über den Münzstreit der sächsischen Albertiner und Ernestiner um 1530*. Hg. v. W. Lotz. Leipzig: Duncker 1893. Lotz gibt die Texte in dem schönen und kräftigen, uns heute nicht mehr immer leicht verständlichen Deutsch der Lutherzeit wieder; eine Übersetzung, die zugleich eine Interpretation ist, hat er beigegeben. Das klassische Werk wurde von Stadermann mit einer eigenen Einleitung und derjenigen von Lotz wieder abgedruckt, und zwar in der modernen Fassung, so daß unser Leser, wenn es nötig sein sollte, bequem auf diese Übersetzung zurückgreifen kann (Stadermann, H.-J.: *Der Streit um gutes Geld in Vergangenheit und Gegenwart*. Tübingen: Mohr 1999). Die ersten beiden Flugschriften wurde für unsere Reihe nach der Erstausgabe faksimiliert, wobei der Anhang der zweiten Flugschrift, der aus einem Wiederabdruck der ersten besteht, weggelassen ist. Die Erstausgabe der dritten Flugschrift scheint verschollen; hier bildete der früheste der uns bekannt gewordenen Wiederabdrucke (Leipzig 1548) die Vorlage.

Bevor Roscher die Münzschriften als Keimlinge nationalökonomischer Wissenschaft zu würdigen lehrte, wurden sie als Quellen der Geld- und insbesondere der Münzgeschichte herangezogen⁵. Roscher, dem man schon die Wiederentdeckung des Oresmius⁶ verdankte, sah das Hauptverdienst der Münzschriften in der Feststellung der Grundsätze, nach denen gutes Geld geprägt werden soll, wie das Oresmius - der sich freilich vorwiegend auf eine ethische Argumentation stützte - schon gefordert hatte. Diesen Standpunkt nimmt hier die albertinische Seite in der Debatte ein. Sachsen war nämlich aus dynastischen Gründen geteilt. Der eine (katholische) Teil stand unter der Herrschaft der Albertiner, die sich dafür einsetzten, den Silbergehalt der Münzen nicht zu ändern, während der andere Teil von den (protestantischen) Ernestinern regiert wurde, die eine Herabsetzung des Silbergehalts befürworteten. Der Streit mußte ausgetragen werden, weil sich beide Seiten durch eine Münzeinung und die regierenden Häuser durch gemeinsame Besitzinteressen an den Silberminen verbunden fanden. Er endete mit einer vorläufigen Aufhebung der Verbindung - aus Gründen, die jenen ähneln, welche von Skeptikern der europäischen Währungsunion als mögliche Gründe eines künftigen Scheiterns derselben genannt werden.

Wäre es nur um die Frage der Beibehaltung oder der Änderung des Münzfußes gegangen, hätten die wenigen erhaltenen Exemplare der Schriften in Bibliotheken und Archiven halbvergessen weiter ruhen können. Roscher erkannte jedoch, daß sie frühe Formulierungen merkantilistischer Lehrsätze enthalten. Heute sehen wir, daß in ihnen auch schon klassische Gesichtspunkte eingenommen werden, daß um theoretische Begründungen gerungen wird und sich wirtschaftspolitische Schicksalsfragen der Reformationszeit angesprochen finden. Zu den Ursachen und Wirkungen des Binnen- und des Außenhandels, den Vorzügen der Geldwertstabilität und der Beschäftigungswirkungen von Abwertungen, der Vorteile der Konkurrenz- und der Gefahr der Monopolbildung, den erhofften oder eingebildeten wirtschaftlichen Besserstellungen dank politischer Bindung in Zünften oder durch staatliche Lenkung werden Ansichten geäußert, bestritten, verworfen und doch wieder aufgegriffen. Im Gespräch der beiden Namenlosen, von denen wir nicht einmal wissen, welche Stellungen sie bekleideten und woher sie ihr Wissen über Tatsachen und Zusammenhänge bezogen, schwingen auch die Leidenschaften der Zeit mit: welcher Glaube zu bekennen sei, wie sich Bauern, Handwerker und Edelleute versöhnen ließen, ob man sich für den von den Handelsgesellschaften herangetragenen Sturm der Neuerungen öffnen müsse, wie man den leicht ausführbaren Reichtum des Landes, das Silber, verwerten dürfe und wie man den eigenen Nutzen mit dem der Gemeinschaft zu vermitteln habe.

Die in der Sprache Luthers vorgetragenen Argumente lassen sich also als ein Streit um den Umgang mit den wirtschaftlichen Herausforderungen der Moderne lesen. Sie erscheinen insofern vielseitiger als die zeitlich nahestehende monetäre Schrift des Copernicus⁷, die für die Klassikerreihe geeigneter gewesen wäre, wenn es sich nur darum handelte, in das geldtheoretische Wissen der Zeit einzuführen.

Die Zentren der wirtschaftlichen Entwicklung in Deutschland lagen zu Beginn des 16. Jahrhunderts im Süden, als Städte wie Augsburg und Ulm den Verkehr mit Venedig und Antwerpen aufrecht erhielten, eine Heimindustrie (Weberei) sich entwickelte und bei einzelnen Gütern die ersten Schnüre zum künftigen Netz eines weltumspannenden Handels verknüpft wurden. Sachsen, das sich erst später zu einer industrialisierten Region wandeln sollte, hatte nicht viel zu bieten außer dem Silberexport. In den Münzschriften deutet sich der Zwiespalt an, vor dem Länder, die durch einen

⁵ Vgl. Klotzsch, J.F.: *Versuch einer chur-sächsischen Münzgeschichte. Von den ältesten bis auf jetzige Zeiten*. 1. Theil. Chemnitz: Stöbel 1779, S. 250-254.

⁶ Oresmius, N.: *Tractatus de natura, origine, jure et mutationibus monetarum*. Repr. 1485, Düsseldorf: Verlag Wirtschaft und Finanzen 1995 (*Klassiker der Nationalökonomie*).

⁷ Copernicus, N.: *Die Geldlehren des Nicolaus Copernicus. Texte, Übersetzungen, Kommentare*. Hg. v. E. Sommerfeld. Vaduz/Liechtenstein: Topos 1978.

Rohstoff reich sind, immer stehen: ob sie diesen Reichtum genießen dürfen, so lange er anhält, oder ob sie um den Preis von Lenkungsmaßnahmen den Aufbau einer Wirtschaftsstruktur fördern sollen, die künftig auch andere Exporte ermöglichen wird.

Die Wirtschaftsformen der frühen Neuzeit sind von den unseren nicht so scharf unterschieden wie die der Antike oder des Hochmittelalters. Die vorher mit den ökonomischen Erwägungen organisch verbundenen philosophischen, juristischen und theologischen Überlegungen lösen sich ab wie eine alte Haut. Beide Autoren möchten ihren Lesern an mehreren Stellen zu verstehen geben, daß es ihnen mit dem Glauben ernst ist, aber die Verbindungen zwischen den Glaubensinhalten und den wirtschaftlichen Zielen spielen nur noch eine zurückgehende Rolle.

Ich will versuchen, für die sächsischen Münzschriften einen geistesgeschichtlichen Hintergrund zu geben, indem ich anhand der Beispiele anderer Schriften aus dem deutschen Raum im 16. Jahrhundert den zeitgenössischen Umgang mit besonders strittigen Fragen beleuchte: Peutinger zur Rolle der Handelsgesellschaften und der sogenannten Monopole, Fronsperger zum Eigennutz als Triebkraft des wirtschaftlichen Handelns, Luther zur versuchten, in der Reformation erneuerten Rückbindung der Wirtschaft in die christliche Vorstellung von einem gottgefälligen Leben in der Gemeinschaft. Dann soll eine Zusammenfassung der Münzschriften, bezogen auf diese Dimensionen der Untersuchung, folgen.

II.

Die rechts- und wirtschaftspolitische Auseinandersetzung über die sogenannten Monopole war die "erste wirtschaftspolitische Debatte unserer Geschichte, die alle Stände und Volksschichten erregte und gezwungen hat, ihren Willen kund zu tun"⁸. Das Staunen über das Aufsteigen der großen bürgerlichen Häuser, die Zweifel, ob der Erwerb ehrlich war, die Bewunderung für die unternehmerischen Leistungen und die Furcht vor der eigenen Verarmung, absolut oder im Vergleich zu den Erfolgreichen, klingen heute noch nach. Richard Ehrenbergs⁹ Darstellung der Wirtschaftsmacht der Fugger wurde zu einem in mehrere Sprachen übersetzten Klassiker der Wirtschaftsgeschichte. Das späte 19. Jahrhundert sah eine Verwandtschaft zur Bildung von Unternehmersdynastien in der eigenen Zeit, und Ehrenberg¹⁰ ließ eine populärwissenschaftliche Fassung folgen, in der er die Parallele zu den Rothschild und Krupp zog.

Die Fugger, um uns nun an dieses Beispiel zu halten, waren bedeutende Kaufleute im Handel mit Venedig, begannen dann, sich im Bergbau zu engagieren, und betrieben die vor- und nachgelagerten Geschäfte, die mit der Silbergewinnung zusammenhingen. Die Verlagerung der Handelswege von Venedig nach Lissabon und Antwerpen erschwerten den Großhandel; sie erweiterten daraufhin das Kreditgeschäft und entschieden die Kaiserwahl 1519. Sie ermöglichten es Karl V. von Habsburg, den Sieg über Franz I. von Frankreich davonzutragen. Schrittweise, zögernd stiegen sie in den Adelsstand auf (denn er war ja im Geschäft hinderlich) und zogen mit dem Ruhm auch Hass auf sich.

⁸ Bog, I.: "Geleitwort", in: Blauch, F.: *Die Reichsmonopolgesetzgebung im Zeitalter Karls V. Ihre ordnungspolitische Problematik*. Stuttgart: G. Fischer 1967 (Schriften zum Vergleich von Wirtschaftsordnungen, H. 8), S. VII-VIII.

⁹ Ehrenberg, R.: *Das Zeitalter der Fugger. Geldkapital und Creditverkehr im 16. Jahrhundert*. 2 Bände. Jena: G. Fischer 1896.

¹⁰ Ehrenberg, R.: *Die Fugger, Rothschild, Krupp*. 3. Aufl. Jena: G. Fischer 1925 [1901].

Zu einer Monopolbildung im engeren Sinn kam es kaum. Bei Silber und Barchent nie, bei Kupfer¹¹ und Pfeffer nur vorübergehend. Man versuchte, in einer Periode fallender Preise die Produktion zurückzubinden. Der König von Portugal besaß ein Monopol über den Pfefferhandel, das er zur fiskalischen Absicherung der Kosten des Unterhalts seiner Kolonien nutzte. Im Weitervertrieb des Pfeffers standen die Handelsgesellschaften jedoch im Wettbewerb.

Die Fugger betätigten sich als Mäzene der Kunst und Wissenschaft und gaben den Armen, wovon noch heute die von ihnen für die Bedürftigen gebauten Wohnungen in Augsburg zeugen. Der Fugger-Mythos wurde seither zum selbständigen historischen Untersuchungsgegenstand¹². Die neue wirtschaftliche Erscheinung stellte solche Traditionen wie die Bindung von Unternehmensgröße und Preisbildung durch die Zünfte und die kirchliche Ächtung des Wuchers auf verschiedenen Ebenen in Frage. Die Politik ging gegen die Handelsgesellschaften vor. Sie waren ein Verhandlungsgegenstand auf dem Reichstag zu Köln von 1512. Auf dem Reichstag von Nürnberg von 1522/1523 suchte man ihr Kapital zu beschränken. Das Reichsgericht ermittelte gegen mehrere Augsburger Handelshäuser wegen Monopolverdacht, während andererseits der Kaiser seine Kreditgeber zu schützen suchte. Es wurden Gutachten geschrieben, unter denen die des Augsburger Stadtschreibers Conrad Peutinger¹³ herausragen. Sie verdienen nicht nur das Interesse des Historikers, sondern sollten von der Theoriegeschichte wegen der Klarheit und Schärfe der Argumentation beachtet werden. Wir wollen sie in Auszügen verfolgen.

Unter mehreren greifen wir besonders die zeitlich letzte und umfassende Denkschrift Peutingers aus dem Jahre 1530 heraus, die als Widerlegung des "Ratslag der monopolia halb"¹⁴ des Monopol-Ausschusses des Augsburger Reichstags anzusehen ist.

Schon 1523 hatte sich Peutinger gegen die Zunftvorschriften gewandt, welche die Zahl der Lehrlinge und Gesellen beschränkten und dadurch den besseren und fleißigeren Handwerkern die Entfaltungsmöglichkeiten raubten. "Et exempla quottidie habemus, quod si inter artifices conventum est, quod unus habeat nisi tot famulos, vel hoc tantum in suo artificio exerceat, in ista quidem conventionione meliori artificio et qui bene suum artificium curat, prodigalitem fugit, parsimoniam amat, semper obstat egens, pauper, prodigus, nihil curans et decoctor."¹⁵

So behindere man die Verwirklichung von Gottes Willen, des Glücks ("fortuna") und die bessere Leistung. Die traditionelle Ordnung ist nun gerade nicht die gottgewollte, sondern das Ziel ist, wie er dann in deutscher Sprache sagt: "In summa in kauffen, verkauffen, arbeit zue bestellen oder auf sich zu nemen, soll yederman frey sein"¹⁶.

Die Gegenposition wurde im "Ratslag der monopolia halb" (1530) formuliert¹⁷. Da werden die Vorwürfe gegen die Gesellschaften - wenn man will, gegen eine Kartellbildung - erhoben: "erhaltung des fierkauffs sonnderliche verainigung ... aufrichten, den kauffer oder verkeuffer andingen, sollch gwar niemand dann inen zu kauffen zu geben, oder das er die nit neher geben woll,

¹¹ Ehrenberg veröffentlichte im Anhang des ersten Bandes [1896, S. 417-420] zwei Verträge großer Augsburger Handelsgesellschaften über die Bildung eines Syndikats für den Kupferhandel.

¹² Burkhardt, J.: *Augsburger Handelshäuser im Wandel des historischen Urteils*. Berlin: Akademie Verlag 1996 (Colloquia Augustana, Bd. 3).

¹³ Bauer, C.: "Conrad Peutingers Gutachten zur Monopolfrage. Eine Untersuchung zur Wandlung der Wirtschaftsanschauungen im Zeitalter der Reformation", Teil 1, in: *Archiv für Reformationsgeschichte*, 1954, Jg. 45, Heft 1, S. 1-43; sowie ders. Teil 2, *ebenda*, Heft 2, S. 145-196.

¹⁴ A.a.O., S. 16.

¹⁵ A.a.O., S. 4.

¹⁶ A.a.O., S. 13.

¹⁷ A.a.O., S. 16.

dann sy mit ime uberkomen haben. alles dem gmaynen nutz zu unwiderpringlichen nachtail unnd schaden"¹⁸.

Gegen solche Monopolbildung sprächen das römische Recht und die Beschlüsse des Kölner Reichstags und des Kaisers Maximilian. Das Pfeffermonopol des Königs von Portugal gebe zu Absprachen der Gesellschaften Anlaß, man lasse die Preise steigen - allerdings nicht alle auf einmal, damit es niemand leicht merke¹⁹. Die Gesellschaften werden für den Edelmetallexport verantwortlich gemacht, der unnützen Luxusgüterimporten dient; sie bringen den Metallhandel überhaupt in ihre Hände und verkaufen gar den Ungläubigen. Ihre Händlertätigkeit erfaßt schließlich auch traditionelle Handelsbereiche wie den von Vieh oder Getreide und "so werden die armen kaufleut durch dise reiche gesellschaftten und furkauffer verderbt"²⁰. Verbote und Größenbegrenzungen sollen Abhilfe schaffen²¹.

In Peutingers sorgfältiger und auf die Einzelheiten der Vorwürfe eingehender Antwort werden zunächst die Absprachen bestritten, da sie unglaubwürdig seien.

Zwar habe, was den Pfeffer anlange, der portugiesische König sein Monopol, aber er verkaufe an mehrere²², und er verweist auf eine Substitutionskonkurrenz: "similes species aromatum eciam in magna quantitate urbi Venetiarum et aliis emporiis apportari solent"²³. Teuer zu verkaufen sei nicht notwendig ein Ausdruck eines Monopols, sondern das Recht des Händlers. Der Preisauftrieb könne diesem auch nicht allein zugeschoben werden, denn er leite sich von der Macht des portugiesischen Königs als Einzelverkäufer ab, ferner von Ernteschwankungen und schließlich von einer allgemeinen Preisauftriebstendenz, die, weil alle Güter umfassend, nicht von den Gesellschaften allein stammen könne²⁴.

Auch beim Bergbau sei es ganz unmöglich, die Konkurrenz aufzuheben, da so viele Minen existierten ("pluribus diversis societatibus eciam simul coniunctis impossibile esset, has mineras et metalla omnia in unam manum deportare vel constringere"²⁵). Er fügt hinzu, daß, selbst wenn es gelänge, im Bergbau die Preise durch ein Kartell hochzutreiben, ein Vorteil sich ergäbe: man könne dann die Minen als großes Gottesgeschenk besser unterhalten²⁶. (Das Monopol verletzt die Bedingungen statischer Effizienz, nach Paretos Kriterium, aber es kann, wenn die Monopolgewinne für Verbesserungen der Produktionstechnik eingesetzt werden, dynamisch effizienter sein als Wettbewerb.)

Die Edelmetallausfuhr wird mit der Arbeitsteilung unter den am Welthandel beteiligten Ländern verteidigt ("licet una provincia alteram naturali quodam instinctu alat et eidem subvenit"²⁷). Die Gesellschaften machen nicht arm, sondern sie haben Viele reich gemacht. Sie allein, dank ihrer Größe, können ferne Länder erschließen²⁸, und wollten die Händler einzeln mit Antwerpen handeln, würden die Waren teurer.

¹⁸ A.a.O., S. 17.

¹⁹ A.a.O., S. 18.

²⁰ A.a.O., S. 19.

²¹ A.a.O., S. 20 ff.

²² A.a.O., S. 29 f.

²³ A.a.O., S. 30.

²⁴ A.a.O., S. 31.

²⁵ A.a.O., S. 33.

²⁶ A.a.O., S. 33.

²⁷ A.a.O., S. 34.

²⁸ A.a.O., S. 35.

Man werfe den Gesellschaften Eigennutz vor (er zitiert das deutsche Wort: "aigennützig handtierungen"), aber das Handeln im eigenen Interesse ("proprium commodum quaerere"²⁹) sei nicht verboten, und wenn die Kaufleute sich nicht nur mit ihren Gütern und dem Vermögen, sondern auch mit leiblicher Beschwernis und Gefahren den Reisen aussetzten, werde auch den Müßigen und Selbhaften Nutzen gebracht. So klingt an, daß sich mit der Verfolgung des Eigenntzes ein öffentliches Interesse verbindet.

Ein Monopol, wenn es das denn gäbe, müßte man untersagen, aber beim Handel mit Gewürzen und Erzen bestünde es nicht. Eine Größenbegrenzung der Gesellschaften sei nicht tunlich, denn sie würden infolge einer solchen ins Ausland abwandern, und es sei unerhört, einem, der aus der Gnade Gottes Reichtum erworben habe, nun zu verbieten, im Einklang mit Gott, der Ehre und dem Recht durch Fleiß, Arbeit und Leistung den Erwerb zu vermehren und ihn abzuhalten, sich und die Seinen in bessere Umstände zu versetzen. Daher sei der Versuch, die Gesellschaftsgröße zu begrenzen, "contra non solum privatam, sed eciam contra omnem publicam utilitatem et ideo maius monopolium induceret quam forte hactenus est auditum"³⁰.

Auch Tarife (Preisfixierungen) seien unmöglich, denn Preise schwankten unvermeidlich bei Landfrüchten, und die Produktion müsse zurückgehen, wenn Preise festgelegt würden, die die Kosten nicht deckten. Den Handel zu verbieten, führe nur dazu, daß andere ihn übernähmen. Er schließt, indem er Städte und Händler dem Kaiser empfiehlt und ihn ihres Gehorsams versichert.

Die Interessen der Städte des Reiches waren dabei nicht gleichgerichtet³¹. Den Städten der Hanse lag an den alten Privilegien, Ulm und Frankfurt fürchteten die Augsburger Konkurrenz. So sieht sich Peutinger gezwungen, Argumente der Gegner aufzunehmen und diese unter ihren Voraussetzungen vorzutragen. Im Kern aber geht es ihm um die Verteidigung eines freien Unternehmertums, das er als gottgewollt empfindet und nur durch den Rahmen der Ehrbarkeit und der Gesetze beschränkt sein läßt.

Diese entschiedene, späteren naturrechtlichen Begründungen der Handelsfreiheit vergleichbare Stellungnahme läßt Peutinger als einen großen Vorläufer erscheinen. Seine sachliche Begründung legt er klug an, indem er behauptet, es gäbe in Deutschland überhaupt keine Monopole und dabei voraussetzt, daß nur das Monopol im Wortsinn, und nicht etwa auch unvollkommene Konkurrenz, anstößig sei. Einzig das Monopol des Königs von Portugal gibt er zu. Da-gegen bemerkt Höffner: "Wir sahen jedoch, daß der Fernhandel mit Vorliebe gerade auf dem Fürstenmonopol weitere Monopole aufbaute. Davon schweigt Conrad Peutinger, obwohl ihm zum Beispiel die Kupfer-Monopolversuche der Fugger sehr wohl bekannt waren ..."³².

Peutinger sah offenbar das Dynamische des Marktprozesses, der sich vorübergehend ausbildende Unvollkommenheiten und Machtballungen immer wieder auflöst, und wenn die Dynamik des nationalen Marktes nicht genügte, berief er sich auf die internationale Konkurrenz. Entsprechend schwebte ihm eine abgestufte Vermögensverteilung vor und nicht eine Polarisierung zwischen Kapitalbesitzern und Abhängigen. Marx hat in den Schlußkapiteln des Ersten Bandes von "Das Kapital" bei seinen Überlegungen zur sogenannten "ursprünglichen Akkumulation" die Anfänge kapitalistischer Entwicklung mit der Abscheidung einer besitzenden Klasse vom Proletariat in Verbindung gebracht; das Proletariat entstand durch Vertreibung aus selbständiger Landarbeit, das Kapital überschritt die Schwelle, jenseits deren das Vermögen zum Ankauf von Produktionsmitteln

²⁹ A.a.O., S. 37.

³⁰ A.a.O., S. 38.

³¹ Bauer, a.a.O. [FN 12], S. 154.

³² Höffner, Joseph: *Wirtschaftsethik und Monopole im fünfzehnten und sechzehnten Jahrhundert*. Jena: G. Fischer 1941, (Freiburger Staatswissenschaftliche Schriften, Heft 2), S. 59.

und ihrem Einsatz zur "Ausbeutung" fremder Arbeit ausreicht, durch Gewalt und Plünderung, besonders außereuropäischer Gebiete. Peutingers Unternehmer gelangen zu erstem Reichtum durch Fleiß und eigene Arbeit, durch wagemutigen Handel, dann, auf höherer Stufe, durch das internationale Handelsgeschäft und die Bergwerke, während das Kreditwesen im Gutachten kaum zur Sprache kommt. Sombart hatte die Marxsche Fragestellung wieder aufgenommen und eine erste Vermögensbildung aufgrund der Akkumulation von Grundrenten vermutet. Strieder³³ zeigte später für Augsburg, daß die Vermögen der reichen Familien und Patrizier überwiegend im Handel selbst entstanden, der oft aus zunftgebundener Tätigkeit hervorging und sich allmählich entwickelte. Danach erwarben Kaufleute und Gewerbetreibende das Kapital zur Ausdehnung ihrer Geschäfte im wesentlichen selbst und ohne ihre berufliche Stellung zu wechseln. Obwohl das den Humanisten sonst fernlag, hat Peutinger so im Rahmen eines Rechtsgutachtens zur Monopolfrage die Entstehung und die eigentümliche gesellschaftliche Zwischenstellung des frühneuzeitlichen Bürgertums, seine wirtschaftlichen Aufgaben und seine Stellung im Staat bestimmt.

III.

Die Autoren der im 16. Jahrhundert heraufkommenden Merkantilperiode, die so oft Kaufleute waren, wollten zumeist dartun, daß sie die Gesellschaft nicht zersetzten, sondern den Fürsten und der Gemeinschaft dienten. Die weitergehende Behauptung, die Verfolgung des Eigennutzens könne auch der Gesamtheit dienen, wie dies die moderne Ökonomie seit Mandeville und Smith vertritt, ließ länger auf sich warten. Bei Peutinger klingt der Gedanke zwar an, wird aber nicht näher ausgeführt. Die antike Stoa vertrat ihn bereits - zunächst ohne wirtschaftlichen Bezug -, doch Christentum und Mittelalter forderten die Hingabe an Gott und den Nächsten, und so sah man die Verfolgung von Eigennutz und von Gemeinwohl als Gegensätze.

Da muß es uns erstaunen, obwohl es die Kraft und Richtung der deutschen Wirtschaftsentwicklung im 16. Jahrhundert kennzeichnet, daß 1564 in Frankfurt am Main ein Büchlein erschien, das den Eigennutzen lobt wie Mandeville es 1714 (seine Schrift wurde gerade 150 Jahre später als Buch gedruckt) wieder wagen sollte³⁴. Der Text steht unter dem gereimten Motto:

Der Eigen Nutzen bin ich genannt /
Hoch und nidren Stenden wol bekañt.
Doch nicht so böß als man mich macht /
Wo man die Sachen recht betracht.
Manchem vil guts durch mich beschicht /
Hersegn man mir kein lob vergicht³⁵.

Auf dem Holzschnitt des Titelbildchens prangt ein munter prassender Mann in freier Landschaft, die Haare windzerzaust, in der einen Hand eine Ente, in der anderen eine Schweinshaxe. Er sitzt auf

³³ Strieder, Jakob: *Zur Genesis des modernen Kapitalismus. Forschungen zur Entstehung der großen bürgerlichen Kapitalvermögen am Ausgange des Mittelalters und zu Beginn der Neuzeit, zunächst in Augsburg*. 2. Aufl. München: Duncker & Humblot 1935.

³⁴ Mandeville, B. de: *The Fable of the Bees, or: Private Vices, Publick Benefits*. Repr. 1714. Düsseldorf: Verlag Wirtschaft und Finanzen 1990.

³⁵ *Von dem Lob deß Eigen Nutzen. Mit vil schönen Exempeln vnd Historien auß heyliger Göttlicher Schriftt zusammen gezogen / durch Leonhard Fronsperger an tag geben*. Getruckt zu Franckfurt am Mayn 1564.

einem Hügel, mit Weinflasche und Broten zu seinen Füßen, und auf seinem Bauch steht geschrieben: "Alls in Mein Sack."

Die ständische Gesellschaft erfüllt sich in Herrschaft und Dienst - so zumindest stellt sie sich dar. Ein Gemeinnutzen geht dem einzelnen voran, heißt es in den Schriften. Die Oberen haben die Voraussetzungen zu schaffen, die es den Unteren erlauben, die Nahrung aller hervorzubringen. Die Glieder der Gesellschaft sind wie die Organe jedes Lebewesens aufeinander angewiesen, wie im Gleichnis des römischen Menenius Agrippa, der das Patriziat als Magen, die Plebs als Arme und Beine des Volkskörpers darstellte. Da war es eine große Überraschung, als 1985 in einem Vortrag in der Bayerischen Akademie der Wissenschaften hingewiesen wurde auf "eine Schrift, die sich bei näherer Prüfung als nicht weniger als eine Vorwegnahme all dessen erwies, was Mandeville zu Beginn des 18. Jahrhunderts schrieb"³⁶. An die Stelle der Vorstellung eines durch Normen gestifteten Gesellschaftszusammenhangs trat die einer Vermittlung durch die individuellen Eigeninteressen.

Fronsperger war Ulmer Bürger. Er berichtet im Vorwort, er habe mit einem bekannten Freund, einem Doktor Oswald Gut, der "Marggräffischer Cantzler" gewesen sei, jahrelang besprochen, weshalb es nicht auf den Gemeinnutzen, sondern den Eigennutzen ankomme. Gut habe vorgehabt, ein Werk über den Eigennutz zu schreiben. Es sei schließlich Guts Wunsch gewesen, Fronsperger solle das Werk zu Ende führen. Von Gut wissen wir, daß er 1530 von Karl V. geadelt wurde und daß ihn im Jahr darauf Markgraf Ernst zum Kanzler ernannte; 1554 starb er. Fronsperger hat Bücher über Kriegführung und über praktische Fragen der städtischen Wirtschaft geschrieben; nach Schulze³⁷ haben sie nur kompilatorischen Charakter.

Da wir von den persönlichen Abhängigkeiten so wenig wissen, bleibt nur übrig, das Werk aus sich selbst heraus zu kommentieren. Es beginnt in heiter bis ironischem Ton mit der Bemerkung, man lobe das Angenehme, tadele das Unangenehme, lobe aber nicht den Eigennutz, obwohl man seit Adams Zeiten nach ihm lebe. Beschimpft werde vielmehr der Eigennutz (der in der Ich-Form spricht), "als ob ich sey ein Landtverderber / ein zerstörer aller guter Pollicey / Erbarkeit / Sitten / Einigkeit / Fridens ..." ³⁸. Kinderverse würden auf ihn gereimt:

"das Evangelium wer nicht so schwer /
Wenn der Eigen nutz nicht wer"³⁹,

aber die Welt könne nicht ohne ihn bestehen!

Zum Beweis wird der Leser durch die Auflösung einer Reihe von Selbsttäuschungen hindurchgeführt. Man glaubt, die Wahrheit zu ertragen, aber muß erfahren, daß oft die Schmeichelei den Frieden erhält. Wie verdreht die Welt sein kann, hat man von Erasmus und seinem Lob der Narrheit gelernt: "Als die Göttin Narrheit ... durch den Hochgelehrten vbertrefflichen beredten Mann / Erasmus von Rotterdam / also gelobt vnd herfür gestrichen ist / das man jetzt dafür halt / vnd glaubt / das sie Menschlichem Geschlecht nicht geringen verstand und nutz schaffe" ... ⁴⁰ - doch meint der Eigennutz, das der Narrheit gespendete Lob stehe ihm zu.

³⁶ Schulze, Winfried: *Vom Gemeinnutz zum Eigennutz. Über den Normenwandel der ständischen Gesellschaft der Frühen Neuzeit*. München: Stiftung Historisches Kolleg 1987, (Schriften des Historischen Kollegs, Vorträge 13), S. 20.

³⁷ A.a.O., S. 27, S. 26.

³⁸ Fronsperger, a.a.O.[FN 34], S. 2 (links).

³⁹ A.a.O., S. 2 (rechts).

⁴⁰ A.a.O., S. 9 (links).

Wie es sich für ein politisches Buch alter Art gehört, beginnt die Reihe der Illustrationen mit der Ehe, die man nicht aus Gemeinnützigkeit, sondern aus eingepflanzter Begierde eingeht. Dasselbe gelte von der Freundschaft, und ohne diese wäre das Leben wie die Erde ohne Sonne. Und nachdem so auf den Eigennutz zurückgeführt wurde, was andere eher der Liebe zugeschrieben hätten, geht es leichter weiter mit der Güterversorgung - welcher Bauer würde sich um des Gemeinwohls willen plagen? - mit dem Handwerk und den Kaufleuten. Eine gelegentliche Tat für den Gemeinnutz breche die Regel nicht. Die Geistlichkeit und die Regenten schließlich erstrebten ihre Ämter um ihrer selbst willen, aber nicht, wie Erasmus meinte, aus Narrheit. Wollte einer die Schafe um ihrer selbst willen hüten (wie es nämlich die Antike und die christliche Tugendlehre verlangten)? Der Eigennutz entgegnet: "... kan ich nicht wissen / ob jemand denn allein Christus der Welt Seligmacher der einzig waar und gut Hirt gethan hab / aber bey den Menschen wirdt solches vergebentlich gesucht ..." ⁴¹.

Dahinter steht, daß Gott die Welt wie eine einzige "Policey", also wie ein einziges Staatsgebilde, geschaffen habe; man fände dies bei Cicero aus dem Naturrecht ("auß Natürlichem liecht" ⁴²) entwickelt. Gott habe nämlich die Welt so eingerichtet, daß jedes Land des anderen bedarf und, was die Menschen betreffe, sei es wie bei Bryson: Die Menschen seien untereinander abhängig, daß sie wie die Glieder einer Kette aneinandergeschmiedet erschienen. Offenkundig handelt es sich bei dieser Erklärung, wie das Gute aus dem Eigennutz entsteht, um einen Rückgriff auf die stoische Tradition, auf der, wie wir heute wissen, zweihundert Jahre später die Smithsche Lehre fußen sollte. So habe Gott einen Menschen um des anderen willen erschaffen, und die Güter der Welt seien für alle da, aber nicht, wie der Pöbel meine, zur gewaltsamen Teilung, auch nicht zum Gemeinbesitz. Sondern "... durch die vngleicheit vnd streitende gegensatzung erscheint die allergröst gleichheit / und aller lieblichst Hermoney und einigkeit / die kein zung genug außsprechen oder voll loben / noch kein hertz sich gnugsam verwundern kan / gleichsam als in einer Orgel vil vnd mancherley Pfeiffen sind / kurz vnd lang / groß vnd klein / deren keine auch in jrem gethön einander gleich / aber auß solchen vngleichen stimmen die aller süssest Hörmoney der Music entspringt ..." ⁴³. So treffen wir also bei Fronsperger auch schon die durch den musikalischen Vergleich untermauerte Harmonievorstellung an. Er wagt sodann eine stoische Deutung der christlichen Lehre: der Mensch solle sich als Verwalter eines von Gott anvertrauten Gutes fühlen. Den Gemeinnutzen kennt niemand so recht, den Eigennutzen aber wohl, und so versteigt dieser sich zur Versicherung, "... ob ein gemeinen Nutz auff Erden ist / oder seyn kan / so hat er doch von mir seinen ... vrsprung / also / daß ich wol sein Vatter mit recht genennt werden möchte / etc." ⁴⁴.

Schließlich wird in kühner Wendung auch Gott dank dem Eigennutz gelobt, denn man wünscht, des ewigen Lebens teilhaftig zu werden, während der Autor andererseits jeden verbrecherischen Mißbrauch des Eigennutzes von sich weist, mit dem Gleichnis des Chrysipp: den Eigennutz solle man verfolgen wie der Wettläufer, der den Gegner zu überholen trachten darf, dem es aber verboten bleibt, den Rivalen durch Stöße und Abschneiden des Weges zu behindern. Schließlich verteidigt der Eigennutz den Reichtum. In der Geschichte von Lazarus sei der Reiche nicht verdammt worden, weil er viel besaß, sondern weil er versäumte, von seinem Überfluß abzugeben.

So entsteht die Denkwelt Fronspergers aus dem Zusammenströmen antiker und biblischer Einflüsse: "Man sol arbeiten und schaffen als wolten wir ewig leben / vnd gegen Gott versünen / als wolten wir augenblicklich sterben" ⁴⁵. Während Mandeville seinen Leser durch zynische Untertöne

⁴¹ A.a.O., S. 22.

⁴² A.a.O., S. 26 (links).

⁴³ A.a.O., S. 29.

⁴⁴ A.a.O., S. 38 (links).

⁴⁵ A.a.O., S. 45 (rechts).

beunruhigt, will ihn Fronsperger durch Humor erfreuen und durch weltoffene Gelehrsamkeit und heilsgewisse Frömmigkeit erbauen.

IV.

Man hat festgestellt, daß nicht nur Fronsperger, sondern auch Mandeville von Erasmus abhängig war, und vermutet, es sei der im "Lob der Torheit" entwickelte Begriff der Eigenliebe (philautia), der den Weg zur Bestimmung des Eigennutzens als des allgemeinen Antriebs zum Handeln eröffnet habe⁴⁶. Die heitere Ironie des Erasmus steht freilich einem einfachen Reduktionismus entgegen. Gewiß läßt er erkennen, daß die Narrheit (verstanden als Beschränktheit) eine wesentliche Bedingtheit aller menschlichen Hervorbringung sei. Die Narrheit meint etwa von den Bücherschreibern: "Diese Leute haben mir alle gar viel zu danken Bald setzen sie noch etwas dazu, bald ändern sie es wieder; bald streichen sie etwas hinweg, bald setzen sie es wieder drüber; bald wiederholen die das Nemliche, bald arbeiten sie es wieder um; bald bringen sie es ans Licht, und bald lassen sie es wieder viele Jahre lang liegen. Sie sind nie mit sich zufrieden; und wie theuer erkaufen sie diese nichtige Belohnung, den Ruhm ... Durch so viele Beschwerden und Übel glaubt es dann ein Weiser dahin zu bringen, daß er von dem oder jenem Triefäugigen gelobt werde ..."⁴⁷. Wahrheitsgemäß oder auch nur, um seinem literarischen Unterfangen den Anschein übertriebenen Ernstes zu nehmen, berichtet Erasmus in seiner Zueignung an Thomas Morus, er habe die Schrift auf einer Reise von Italien nach England verfaßt: "ne totum hoc tempus, quo equo fuit insidendum, amousois et illiteratis fabulis terretur"⁴⁸.

Die humanistische Bewegung, die Erasmus als einen der gelehrtesten und geistreichsten Köpfe anerkannte, stand dem praktischen Leben eher fern. Immerhin enthielt der 1516 in Basel von Erasmus veröffentlichte Fürstenspiegel "Institutio Principis Christiani" auch vorausweisende Bestimmungen, wie daß die Natur alle Menschen frei geboren habe und Dienstbarkeit und Leibeigenschaft wider die Natur aufgebracht und eingeführt worden seien. Während Erasmus Fleiß und Arbeit anerkennt, überwiegt in der Einschätzung der Tätigkeit der Kaufleute das Erbe der mittelalterlichen Kritik⁴⁹.

Als, von Erasmus geistig mitvorbereitet, aber nicht gewollt, die Reformation über Deutschland und Europa hereinbrach und jeden Menschen vor schwierigste Gewissensfragen stellte, richtete sich die agitatorische Wucht nicht nur gegen die herrschende Kirche, sondern auch gegen wirtschaftliche Erscheinungen, die als Mißstände empfunden wurden. Diese Kräfte, die auch der Katholizismus kritisiert, aber nicht bewältigt hatte, wollte der Protestantismus brechen. Wir erinnern an einige Zitate aus Luthers in der Reihe der "Klassiker der Nationalökonomie" erschienenem Buch⁵⁰.

⁴⁶ Schulze, a.a.O.[FN 35], S. 23.

⁴⁷ Erasmus von Rotterdam: *Lob der Narrheit*. Aus dem Lateinischen übers. und mit Anm. begl. von W. G. Becker. Basel: J. J. Turneysen 1780.

⁴⁸ ΜΩΡΙΑΣ ΕΓΚΩΜΙΟΝ, sive STULTITIAE LAUS. Des. Erasmi Rot. Declamatio, cum figuris ... J. Holbenii Denuo typis madavit G. G. Beckerus. Basileae: J. J. Thurneysen 1780, Praefatio.

⁴⁹ Autorenkollektiv: *Grundlinien des ökonomischen Denkens in Deutschland. Von den Anfängen bis zur Mitte des 19. Jahrhunderts*. Berlin: Akademie-Verlag 1977. (Akad. d. Wiss. der DDR. Schriften des Zentralinst. f. Wirtschaftswiss, Nr. 3), S. 64 f.

⁵⁰ Luther, Martinus: *Von Kauffshandel und Wucher*. Vuittenberg 1524. Repr. Düsseldorf: Verlag Wirtschaft und Finanzen 1987 (*Klassiker der Nationalökonomie*).

Es ist hier nicht der Ort, auf seine sonstigen ökonomischen Ansätze einzugehen, also auf seine Polemik gegen den Wucher und überhöhte Gewinne oder seine Lobrede der Arbeit, des gerechten Lohnes und eines auf die Bemessung der Arbeitsanstrengungen gestützten Preises der Arbeitsprodukte. Hier interessiert uns die Monopolfrage, zu der er andeutet: "Von den Gesellschaften sollt ich wol viel sagen / Aber es ist alles grundlos vnd bodelos / mit eyttel geysz vnd vnrecht ... Monopolia: Wilche auch die weltliche heydenische rechte verbieten / als ein öffentlich schedlich ding ... Heur steygern sie den yngber / Vber eyn jar den saffran" (Blatt D III).

Die Polemik nimmt nicht nur den Unwillen des Volkes gegen das neue Unternehmertum auf, sondern auch den Ärger über den Edelmetallabfluß und den als unnötig empfundenen Luxuskonsum: "Gott hat vns deutschen dahyn geschlaudert / das wyr vnsrer gollt vnd sylber müssen ynn frembde lender stossen / alle welt reych machen / vnd selbst bettler bleyben / Engeland sollt wol weniger gollts haben / wenn deutschland yhm seyn tuch liesse / vnd der König von Portugal sollt auch weniger haben / wenn wyr yhm seyne wurtze liessen ... Franckfurt ist das sylber vnd gollt loch / da durch aus deutschen land fleusst / was nur quillet und wechst / gemuntzt odder geschlagen wird bey vns" (Blatt A II-III).

So leidenschaftlich, wie Luther predigte, wollte man auch handeln. Es war der Überschwang junger Menschen, die zu den Vordenkern der Reformation wurden. "Die Anhängerschafter Luthers von Anbeginn an war vor allem eines, sie war jung"⁵¹. Die Professoren um Luther waren bei ihrer Berufung unter 30, Wittenberg, mit vielleicht 2.500 Einwohnern, war bevölkert von etwa halb so vielen Studenten, und diese Jugend sah sich den alten Prälaten in der katholischen Hierarchie gegenüber.

Roscher, dem Luther der größte Deutsche in der Geschichte war, hat in seinen Untersuchungen zur Nationalökonomik der Reformationszeit erstaunliche Forderungen aus den "Wilden Flugschriften" der Zeit vor dem Bauernkrieg zusammengetragen. So habe Eberlin von Günzburg eine Ämterhierarchie gefordert, in der kein Amt mehr erblich war, alle Amtsträger besoldet, die Schulpflicht allgemein, und 1524 habe Thomas Müntzer vor den Ernestinischen Fürsten auf Schloß Allstedt gepredigt: "Die Grundsuppe des Wuchers, der Dieberei und Räuberei sind unsere Fürsten und Herren, nehmen alle Creaturen zum Eigenthum ... darum schinden und schaben sie den armen Ackersmann, Handwerksmann ... so er sich dann vergreift an dem Allergeringsten, so muß er hängen ... Die Herren machen das selber, daß ihnen der arme Mann Feind wird."⁵² 1534 verlangten dann die Wiedertäufer in Münster, zum Gemeinbesitz nach dem Vorbild der Apostel zurückzukehren.

Das ist das geistige Umfeld, in welches Roscher seine Beschreibung der drei Münzschriften einreicht, die er "zu den merkwürdigsten Monumenten der älteren Volkswirtschaftslehre zählt; die beiden Albertinischen Flugschriften sprechen ein "so reines, klares, einfach sachgemäßes und doch kraftvoll schönes Deutsch, wie man es nur irgend von einem Zeitgenossen Luthers und Huttners erwartet". Den Ernestiner lobt er, weil er "die Grundgedanken des sog. Mercantilsystems" enthalte, ein Jahrhundert vor Thomas Mun⁵³. Müller-Armack bestätigte dieses Urteil in seiner "Genealogie der Wirtschaftsstile", wo er insbesondere schrieb: "Die erste Schrift zur Rechtfertigung merkantilistischer Weltpolitik, die ernestinische Streitschrift von 1530, leitet bereits die Notwendigkeit der unterwertigen Binnenwährung aus dem Ziel der Entwicklungsförderung ab."⁵⁴

⁵¹ Höffler, Herbert: *Die Reformation. Einführung in die Geistesgeschichte der deutschen Neuzeit*. Frankfurt: Klostermann 1936, S. 33.

⁵² Roscher, W: *National-Oekonomik*, a.a.O.[FN 2], S. 84 f, S. 89.

⁵³ A.a.O., S. 103 ff.

⁵⁴ Müller-Armack, Alfred: *Genealogie der Wirtschaftsstile. Die geistesgeschichtlichen Ursprünge der Staats- und Wirtschaftsformen bis zum Ausgang des 18. Jahrhunderts*. Stuttgart: Kohlhammer 1944, 3. Aufl., S. 83.

Um uns schließlich der Lage in Deutschland im Jahre 1530 anzunähern, als die erste der Münzschriften erschien, sei noch an das politische Geschehen erinnert. Karl V., auf der Höhe seiner Macht von Italien nach Deutschland zurückkehrend, versuchte, der Reformation zunächst ohne Drohungen zu begegnen. An dem Reichstag, der mit großem Gepränge in Augsburg stattfand, rief er die protestantischen Großen zu sich und suchte sie zu überreden, das Predigen abzustellen. Da erwiderte Markgraf Georg von Brandenburg: "Herr, ehe ich von Gottes Wort abstünde, wollte ich lieber auf dieser Stelle niederknien und mir den Kopf abhauen lassen." Ranke, dem wir nun folgen, fährt fort: "Der Kaiser, der nichts als Worte der Milde von sich hören lassen wollte und von Natur wohlwollend war, erschrak selbst über die Möglichkeit, die ihm hier aus fremdem Munde entgegnetrat. 'Lieber Fürst', erwiderte er dem Landgrafen in gebrochenem Niederdeutsch 'nicht Kopf ab'."⁵⁵

Die Protestanten hatten gehofft, der Kaiser werde als Schiedsrichter auftreten; er fand sich aber gedrängt, für die katholische Mehrheit zu sprechen. Daß die protestantischen Fürsten bei seiner wachsenden Strenge festblieben, hing vor allen an Johann von Sachsen, von dem Ranke schreibt: "... für Vergnügungen und Weltlust war er nicht geboren; das Unangenehme, das dabei nicht zu vermeiden ist, ging ihm allzu tief und quälte ihn mehr, als ihn der leichte Genuß erfreute Vom ersten Auftreten Luthers an widmete er der Lehre desselben die freudigste Teilnahme; sein von Natur ernstes und in der Tiefe religiöses Gemüt war von derselben allmählich ganz durchdrungen Nach dem Bauernkrieg erhoben sich die Ideen der Reaktion auf das Gewaltigste; so sehr sie ihm von seinem weltklugen und in den Geschäften geübten Vetter empfohlen wurden, so ließ Johann sich nicht von ihm übermeistern. ... In alledem hatte nun Luther den großen Einfluß auf ihn. ... So geschah denn auch unter Johanns Vortritt die Protestation, die der ganzen Partei Name und Weltstellung gegeben hat. ..." ⁵⁶

Indessen wurde der Reichstag für Johann teuer. "Wir liegen mit großen Kosten hier, haben etwa 12.000 Gulden aufnehmen müssen: kaiserliche Majestät hat uns noch mit keinem Worte zugesprochen ..." schrieb Johann am 28. Juli (am 15. Juni war Karl V. in Augsburg eingezogen). "Luther versicherte, hätte dieser Fürst gewankt, so würde keiner seiner Räte festgehalten haben."⁵⁷ Wäre die türkische Gefahr nicht gewesen, hätte der Kaiser vielleicht bereits Gewalt angewendet. - Diese wenigen Andeutungen mögen genügen, um zu veranschaulichen, wie der Ernestiner in religiösen Dingen mutig und radikal auf Seiten der Neuerer stand und dabei zuweilen die wirtschaftlichen Grundlagen seiner Herrschaft vernachlässigte, während sein katholischer albertinischer Vetter, lange schon an der Regierung, am Hergebrachten festhielt.

V.

Wir haben nun die unmittelbare Vorgeschichte der sächsischen Lande darzulegen, von welcher der Münzstreit ausging. Hier folgen wir den Darstellungen von Lotz und Klotzsch⁵⁸.

⁵⁵ Ranke, L. von: *Deutsche Geschichte im Zeitalter der Reformation*. Bd. 3. Meersburg und Leipzig: S. W. Hendel 1933 [1840], S. 149.

⁵⁶ A.a.O., S. 161 f.

⁵⁷ A.a.O., S. 163 f.

⁵⁸ Die Einleitung von Lotz wurde von Stadermann, a.a.O., S. 59-67, wieder abgedruckt.

Angesichts des überall schwachen Steueraufkommens mußten sich auch die sächsischen Fürsten in der ersten Hälfte des 15. Jahrhunderts der Münzverschlechterung als einer Einnahmequelle bedienen; in der zweiten fanden Reformbemühungen statt. In der aus dynastischen Gründen 1485 vorgenommenen sächsischen Teilung war beschlossen worden, die Bergwerke nicht zu teilen, sondern sie gemeinsam zu nutzen und jährlich abzurechnen. Der Inhaber der Kurwürde, der Ernestiner Friedrich der Weise, der bis 1525 lebte, und sein albertinischer Vetter, Herzog Georg, erstrebten zusammen eine stabile Münzpolitik. 1525 löste Johann der Beständige Friedrich den Weisen ab. Wie wir sahen, unterstützte er den evangelischen Glauben, während der albertinische Herzog Georg katholisch blieb. Graf Albrecht von Mansfeld, der in Münzeinung mit den beiden Sachsen stand, schlug vor, den Silberpreis zu erhöhen und damit eine Münzverschlechterung zu verbinden; ein Grund dafür war, daß der hohe Silbergehalt der Münzen dazu verführte, sie einzuschmelzen und schlechtere Münzen aus dem Ausland in Umlauf zu bringen (die guten Münzen wurden im Inland seltener - nach Greshams Gesetz).

Zunächst waren beide Sachsen für die Reform, aber Herzog Georg sprach sich ab 1526 dagegen aus; es ist unbekannt, ob nur Sachgründe oder auch die religiöse Entzweiung eine Rolle spielten. Klotzsch meint, Herzog Georg habe sich verpflichtet gefühlt, sein den Untertanen gegebenes Wort, die Münze nicht zu verringern, halten zu müssen. "Immittelst gab selbiger dem wiederholten Vorschlage des Churfürsten, zu einer persönlichen und gemeinschaftlichen Ueberlegung nach, welche in der Stadt Zeitz, Montags nach Valentini 1526, gehalten, und wobey der Gegenstand vertheidiget, und bestritten, nichts aber entschieden ward. Herzog George behauptete standhaft die Gründe seines Widerspruchs, und beyde Fürsten schieden, nicht ohne heimlichen Unwillen, von einander."⁵⁹ Der Kurfürst ließ jedoch in seinen Bestrebungen nicht nach. "Nachdem nun Herzog George sich, je länger desto mehr überzeugte, daß er, anhaltend, nur vergeblich sich demjenigen widersetzen würde, was er nicht ganz verhindern konnte, gab er endlich dem Verlangen des Churfürsten zu einer Münztrennung stilleschweigend nach."⁶⁰ Die beiden Fürsten hoben die gemeinsame Münzstätte in Schneeberg auf und teilten während einiger Jahre das aus dem Bergwerk gewonnene Silber in natura; sie prägten daraus je eigene Münzen. So kam es zu den Münzschriften, in deren erster der Parteigänger des albertinischen Herzogs Georg "sehr laut wieder eine Münzringering redete"⁶¹.

Die Folge war, daß beide Parteien getrennt prägten, je mit eigenem Namen und Wappen. Herzog Georg fand sich schließlich veranlaßt, der Münzverschlechterung ein Stück weit nachzukommen. Die Versammlungen der Landstände wurden einbezogen und Johanns Nachfolger, Johann Friedrich, wünschte ab 1534 wieder zur gemeinschaftlichen Prägung zurückzukehren. "Und es kamen auch, mit dem Anfange des Jahres 1534, neue gemeinschaftliche Gepräge, unter beyder Fürsten Bildnissen, Rahmen und Wappen zugleich, wieder zum Vorscheine."⁶² Am Ende hatten sich die Gegner der Münzverschlechterung nur teilweise durchgesetzt. Später entriß der Albertiner Moritz den Ernestinern die Kurwürde und erließ 1549 eine Münzordnung, welche die Münzverringering nicht rückgängig machte, aber das komplizierte Münzsystem in Einzelheiten vereinfachte⁶³.

⁵⁹ Klotzsch, a.a.O., S. 250 f.

⁶⁰ A.a.O., S. 251.

⁶¹ A.a.O., S. 252.

⁶² A.a.O., S. 259 f.

⁶³ In Haupt, Walther: *Sächsische Münzkunde*. Berlin: VEB Deutscher Verlag der Wissenschaften 1974 (Arbeits- und Forschungsberichte zur sächsischen Bodendenkmalpflege, Beiheft 10) finden sich die verschiedenen Münzordnungen, mit Listen der Münzen, ihren Gewichten und Feingehalten, zusammengestellt, verbunden mit einer Erläuterung der Hauptetappen der Münzgeschichte, Tafeln der Münzen und mit Karten der albertinischen und ernestinischen Lande.

Die sächsische Münzgeschichte ist grundsätzlich nicht isoliert zu sehen; sie steht im Zusammenhang mit der Entwicklung der Münzen im deutschen Reich überhaupt, wo immer wieder eine Vereinheitlichung der Münzordnungen angestrebt wurde. Doch ließen sich die Fürsten ihr Münzregal nicht rauben, das ihnen Einkünfte sicherte und mit Wappen und Bild ihre Souveränität in umlaufenden Prägungen zum Ausdruck brachte. Daß die Münzen sich entwerteten, lag dabei nicht nur an den wiederholten Herabsetzungen, die der Erhöhung der Einnahmen dienen sollten, sondern sie waren auch nie ganz zu vermeiden, weil Münzen sich im Verkehr selbst dann abnutzen, wenn sie nicht illegal beschnitten und abgerieben werden⁶⁴. Die Inflation des 16. Jahrhunderts, die man hauptsächlich mit dem Import amerikanischer Edelmetalle in Verbindung zu bringen pflegt⁶⁵, hatte schon im vorangehenden Jahrhundert eingesetzt; ihr Anfang wird für München, Augsburg und Frankfurt auf die Jahre zwischen 1460 und 1470 datiert. In den Münzschriften von 1530-1531 wird die Einfuhr der Edelmetalle aus der neuen Welt noch nicht erwähnt. So ist klar, daß die Inflation nicht ausschließlich aus dem Edelmetallimport erklärt werden kann; neben der Münzverschlechterung kommen noch verschiedene kosten- und nachfrageseitigen Faktoren in Frage⁶⁶, von denen mehrere in den Münzschriften angesprochen werden.

VI.

Gleich mit den Eingangsworten gibt der Albertiner, der Autor der ersten Flugschrift "Gemeyne stimmen", zu verstehen, woran er festzuhalten gedenkt. Die staatliche Ordnung ist so gefügt, seit dem Sündenfall, daß

"die vnderthanen der Obirkeyt / sollen gehorsam sein / ynn allen ehrlichen / zimlichen dingen / die nicht widder yhn sein. Widerümb ist der Obirkeyt auffgelegt / der vnderthanen nutz vñ bestes zu-uorfügen / bey yhrer seligkeit ..."⁶⁷.

Die Obrigkeit soll die Untertanen auf dem Weg der Tugend erhalten, diese mögen gehorsam bleiben und sehen, wie sie ihrerseits die Obrigkeit stützen, um gut regiert zu werden. Unter solchem Regiment gedeihen beide Seiten. Man sehe, wie in Sachsen, Thüringen und Meißen schöne Kirchen und Spitäler und Häuser des Adels gebaut worden seien. Damit stieg die allgemeine Wohlfahrt.

"Als haben sich auch die vndern merglich gebessert / wie es augenscheinlich an gepewden / an viel örtern erscheinet" (S. 5).

⁶⁴ Vgl. Schefold, Bertram: "Nicolaus Oresmius. Die Geldlehre des Spätmittelalters", in: *Vademecum zu einem Klassiker der mittelalterlichen Geldlehre*. Kommentarband zum Repr. der Handschrift um 1485 von Oresmius, N.: *Tractatus de origine et natura, jure & mutationibus monetarum*. Düsseldorf: Verlag Wirtschaft und Finanzen 1995, (*Klassiker der Nationalökonomie*), S. 19-72, insbes. S. 57-64.

⁶⁵ Schefold, Bertram: "Spanisches Wirtschaftsdenken zu Beginn der Neuzeit", in: *Vademecum zu zwei Klassikern des spanischen Wirtschaftsdenkens*. Kommentarband zu den Repr. von Azpilcueta (1556) und Ortiz (1558). Düsseldorf: Verlag Wirtschaft und Finanzen 1998, (*Klassiker der Nationalökonomie*), S. 5-38.

⁶⁶ Vgl. *The Cambridge Economic History of Europe*, vol. 4, chapt. VII, Prices in Europe from 1450 to 1750. Cambridge: University Press 1967, S. 378-486, insbes. S. 401.

⁶⁷ Lotz, a.a.O.[FN 3], S. 3. (Seitenverweise zu den *Münzschriften* werden nachfolgend den Zitaten ohne weitere Angaben angefügt).

Der Albertiner sagt nun nicht, eine solide Rechtsordnung und die Entfaltung der freien Wirtschaft habe dieses Wachstum ermöglicht, obwohl er kaum andere Maßnahmen hätte empfehlen können, wenn er so modern dachte, sondern er drückt sich anders aus. Gott habe dem Lande eine Obrigkeit gegeben, die mehr den allgemeinen Nutzen als den eigenen suchte, die an den Ausgaben für den guten Frieden nicht sparte und die - womit wir endlich zum Thema gelangen - eine ehrliche gute Münze prägte. Namentlich wurde für die Bergwerke viel aufgewandt,

"die [nicht]⁶⁸ on sunder gros darlegen erregt vnd erhalten werden" (S.7),

und daraus leitet sich der gestiegene Wohlstand ab, denn es mehrte sich die Bevölkerung, der Absatz der Waren, damit die Einkommen des Adels, der Bürger, Handwerker und Bauern. Der erfaßte Kausalzusammenhang ist wohl einfach dieser: wachsende Verdienstmöglichkeiten und wachsende Bevölkerung bedingen sich gegenseitig, wobei ein besserer Geldumlauf den Verkehr erleichtert.

"Dann wue mennige des volcks / da ist vortreib der wahr" (S.7).

Es wächst also die Zahl der Menschen, die Beschäftigung und der Umfang der Produktion. Die Lebensqualität nimmt zu. Von technischem Fortschritt im Sinne einer Produktivitätssteigerung ist jedoch nicht die Rede.

Leider hat man das wirtschaftliche Gedeihen mit der Frage angefochten

"Abs gut sey / gute aber geringe Müntz ym Lande zuschlahen / vnd zu haben" (S. 7).

Es folgt eine sehr klare Zusammenfassung der Argumente der Gegenpartei. Diese meine, es werde zuviel des Silbers exportiert, und in Notlagen seien die Steuern zu hoch. Man solle aus der Menge des Silbers, aus der gegenwärtig $8\frac{1}{4}$ Gulden geprägt würden, künftig 10 Gulden prägen. Der zusätzliche Münzgewinn der Herren betrüge $1\frac{3}{4}$ Gulden, also mehr als eine Steuer, und dieser Ertrag flösse, solange man am Bergbau festhielte. Die (abgewertete) Münze bliebe im Lande, weniger Luxusgüter würden importiert, und auch die Grundnahrungsmittel seien dann billiger, das Silber aber teurer und insofern besser verwertet.

Die Gegenargumentation des Albertiners setzt mit dem Argument ein, das auch dem modernen Leser am leichtesten eingeht: der Kritik der Auffassung, daß der Münzgewinn eine gute und dauerhafte Form der Besteuerung sei. Die Steuer sei zu hoch, solange die Preise ungeändert blieben, aber man habe zu beachten,

"das die Müntz wie alles andere / so aus Metal gemacht...dornach gewirdert werde / was es an yhm selbst von Silber vñ Metall ynn sich hat..." (S.11).

Der Albertiner ist also Metallist; der Wert der Münze bestimmt sich nach ihrem Metallgehalt, so daß infolge der Herabsetzung die Geldpreise aller Güter steigen müssen. Daß gemäß der Quantitätstheorie die Kaufkraft der Münze als Geld über ihrem Metallwert stehen könnte, so wie

⁶⁸ Das zu ergänzende Wort fehlt im Text. Bergwerke sind also nicht ohne große Geldaufwendungen in Betrieb zu nehmen und aufrecht zu erhalten.

heutzutage die Kaufkraft der Banknote über ihrem Papierwert steht, zieht er nicht in Betracht. Wir werden weiter unten sehen, daß der Ernestiner konsequent verlangt, nach der Herabsetzung den Geldumlauf nicht anschwellen zu lassen und eine "Übermünzung" zu vermeiden. Insofern liegt der Stellungnahme des Ernestiners eine quantitätstheoretische Vorstellung zugrunde.

Die metallistische Auffassung wirkt im Außenverkehr überzeugender, wo die Währungen zahlreicher Fürstentümer und Prägungen jeden Alters gehandelt werden. Der Albertiner bemerkt ironisch, daß niemand im Ausland die verschlechterte Münze haben wolle, und in der Tat kann im Ausland solange mit ihr nicht gekauft werden, als der Halter im Inland gemäß ihrem Nennwert mehr erhält, als sie im Ausland wert ist, wenn sie dort, alter Gewohnheit folgend, nach ihrem Metallgehalt geschätzt wird. Es wird dem Ernestiner schwer fallen, hierauf zu antworten, denn die moderne Erfahrung, daß Banknoten außerhalb des Landes unter normalen Bedingungen zu stabilen Kursen gewechselt werden können, die auf der Handelsbilanz, den Kaufkraftparitäten und weiteren Einflußfaktoren beruhen, steht ihm nicht vor Augen, und noch viel weniger verfügt er über eine dieses Phänomen erklärende Theorie.

Wir können unsererseits jedoch nachvollziehen, weshalb die Münze im Ausland nach ihrem Metallgehalt bewertet wurde. Sie war jedenfalls nicht weniger wert, weil sie eingeschmolzen werden konnte, und andererseits nicht mehr, wenn die höhere Kaufkraft, die sie im Inland besaß, im Ausland nicht zur Geltung kam, weil es sonst nicht viel zu exportieren gab. Das Hauptexportprodukt der Sachsen war (darin sind sich die Gegner einig) das Silber selbst, und ihre Währung wäre bei vermindertem Silbergehalt nur gestiegen, wenn sich die Außenhandelsposition verbessert hätte.

Diesen Zusammenhang durchschauten beide Autoren immerhin ansatzweise. Der Ernestiner möchte nicht so sehr die Ausfuhr erhöhen als die Einfuhr drosseln, da diese ihm hauptsächlich aus Luxuswaren zu bestehen scheint, die er als verwerflich empfindet. Durch seine Wertung vermengt sich die wirtschaftliche Frage mit gesellschaftspolitischen Zielen, die beider regiliösen Standpunkt berühren. Der Albertiner will die Argumentationsebenen getrennt halten; er verspricht sich von ökonomischen Maßnahmen keine moralische Besserung und versteigt sich zur Behauptung:

"So würde man doch des fürwitz ym Lande nich los / dann man manchen funde / ehr er seinen willen brech / er schickte ehr gen Venedig dornach / alßdann verlöre yhe er die zerung doran / vnd stünde fahr / wie er das vber Land zu sich brechte / das man yhme vmb sonst vors haus zu kauffen schaffte ..." (S. 13).

Wenn der Händler die Gewürze nicht mehr importiert, wird sie ihr Liebhaber selber in Venedig holen lassen! Was aber den Kauf der Güter des Grundbedarfs betrifft, kommt es immer auf die Qualität des Geldes an:

"Brod / Bier / vnd alle andere wahr wird gegeben werden / wie man Müntz hat / man teuscht den hendeler nicht" (S. 13).

Damit läßt sich dann auch zeigen, daß die Müntzherabsetzung schon gar nicht zu niedrigeren Preisen führt, wie von der ernestinischen Seite vermutet wurde.

Die metallistische Grundposition scheint auf eine klassische Wertlehre vorauszuweisen, die den Preis aus den Produktionsbedingungen der langen Periode unter Absehung von subjektiven Einflüssen bestimmt. In der Tat heißt es vom Kaufmann, daß er

"sich alwege nach der natürlichen widerung der Müntz / so sie des silbers halben hat / vnd nicht auff die zufellige die aus der achtung komet / pflaget zurichten" (S.15).

Der Albertiner behandelt seinen Satz, daß die Kaufkraft der Silbermünze nach dem Wert des in ihr enthaltenen Silbers geschätzt werden müsse, wie ein Axiom, also wie eine Aussage, die allen weiteren Ableitungen als Voraussetzung zugrundeliegt und selbst nicht streng begründet, sondern nur plausibel gemacht wird. Plausibel scheint ihm das Axiom vor allem in der Anwendung auf das Ausland, denn wenn dort vollwertige Silbergulden fremder Prägung zirkulieren, wird man unterwertige sächsische Gulden diesen nicht gleichstellen. Wir würden vielleicht sagen, daß die Kaufkraft der Münze ihren Silberwert in einer Welt, in der der Staat noch schwach war, nicht weit übersteigen konnte, weil sonst die Versuchung, die Münze zu fälschen, gefährlich zunahm. Er meint, ein überhöhter Kurs ließe sich nur durchsetzen, wenn er von allen Ländern angenommen würde, was ihm ebenso unwahrscheinlich scheint, wie daß alle Menschen in Sprache und Sitte übereinstimmen und dieselbe Religion annehmen. So begründet er,

"das der Silberkauff nich kan noch mag erhöhet werden / es würde dann das silber bey allen Nation höher vnd grösser geacht" (S. 15).

Damit der erhöhte Prägegewinn übrigbleibt, wird nach dem ernestinischen Schema vorausgesetzt, daß die Bergwerke ihr gefördertes Silber zum selben nominalen Preis abgeben müssen wie bisher. Wenn der Albertiner dazu schreibt:

"So man den Gewergken das silber nicht anders der anzall nach wolt bezalen / dann bißhero / vnd es gleichwol viel höher yn die Müntz vnd kauff bringen / das daß aller Göttlichen vñ natürlichen billigkeit entgegen" (S.17 f.),

scheint er sich auf eine gottgesetzte und naturrechtliche Begründung des Metallismus zu berufen, wie wir sie bei Oresmius finden. Wenn er den Satz aber fortsetzt mit

"dann die Gewergken erbawens ye mit grosser darlegung" (S. 19),

verweist er auf die Produktionskosten des Silbers, die, wie dann angedeutet wird, bei der nachfolgenden, für unvermeidbar gehaltenen Inflation infolge der Herabsetzung der Münze steigen müssen. Insofern bestätigt sich, daß der Metallismus auf die Produktionskostentheorie vorausweist. Die Bergwerke wurden in Gesellschaftsform betrieben, deren Anteilseigner zum Teil in entfernten Städten wohnten (schwindelhafte Verkäufe von Anteilen an in schlechtem Zustand befindlichen Bergwerken kamen bereits vor). Die Warnung, die Anteilseigner würden sich zumindest teilweise aus dem Bergwerksbau zurückziehen, wenn infolge der Inflation die Rentabilität sänke, ist begründet. Der Bergwerksbesitzer würde künftig mehr Silber produzieren müssen, um eine gegebene Menge anderer Güter kaufen zu können.

Im Fortgang des 16. Jahrhunderts wurden viele europäische Silberminen unrentabel. Das lag nicht nur an der hier beklagten heimischen Münzverschlechterung, sondern auch an der Konkurrenz der Silberproduktion aus der Neuen Welt. Sie bedeutete, daß nicht nur die Münzen, sondern auch das Silber selbst an Kaufkraft verloren; beides geschah auch dann, wenn die Zahl und der Gehalt der

Münzen, in die eine gegebene Menge Silber ausgeprägt wurde, sich nicht änderten. Die amerikanischen Minen produzierten billiger.

Der Albertiner, der den darzulegenden Stoff überlegt anordnet, untersucht nun, wie die Inflation die Gesellschaftsschichten verschieden trifft und erinnert dazu wieder an die Fürsorgepflicht der Obrigkeit. Er verweist auf Städte, die, wie Prag und Regensburg, verarmt seien, "der bösen geringen Müntze halben" (S. 21). Die Verarmung drückt sich ihm kurioserweise darin aus, daß in den alten Häusern das Eisenwerk, also die Nägel und Klammern, mehr wert seien als diese selbst.

Es folgt, für uns nicht überraschend, eine zutreffende Beschreibung der Wirkung der Inflation auf Darlehen und Renten, mit dem unvermeidlichen Konflikt zwischen Schuldner und Gläubigern, und das Fazit

"So hetten wir mit der geringen Müntze den handel vorterbet / die Zöll vnd Glayte geschwecht / das Bergwergk vordrugkt / vnd den vnfrieden am halse / doraus ewigs vorderb / leibes vnd der Seele erfolgt" (S. 23).

Die Störung des sozialen Friedens zieht die Sünde nach sich. Zu den Inflationsgewinnern könne man auch die Händler rechnen, die, wie es schon Oresmius beobachtet hatte, aufgrund der besseren Marktkenntnis beim Münzwechsel gewinnen können. Der Albertiner macht aber darauf aufmerksam, daß diese Händler zumeist auch Geldverleiher sind, so daß sie als Gäubiger vermutlich sehr viel mehr verlieren würden, als sie als Wechsler gewinnen könnten, denn die Summe der ausstehenden Darlehen sei weit größer als die Bargeldmenge.

Nach dieser überraschenden und fortschrittlichen Abschätzung wird noch weiter abgerechnet mit den Mißgünstigen und jenen, die gerne sähen, daß keine Juden im Land wären

"domit sie den wucher allein hetten / das seind böse leute" (S. 25).

Die Schrift schließt, wie sie begonnen hat, mit der Berufung auf den Herrn, mit der Hoffnung auf Reichtum und Seligkeit.

VII.

Auf die abgewogenen und überlegten, auf gute Ordnung und den Fortschritt im gegebenen Rahmen zielenden Ausführungen des katholischen Albertiners folgen die längeren, oft bissigen, zuweilen widersprüchlichen, ebenso oft in eine erwünschte Zukunft wie in eine verschönerte Vergangenheit weisenden und dabei mehrfach auffallend originellen Kritiken des protestantischen Ernestiners. Auch er sei wohlmeinend und untertänig, wird im Titel versichert, dann heißt es aber gleich, der andere Schreiber gliche dem Wolfe, der den Schafen empfahl, vor dem Wald zu weiden. Er vertrete das Interesse der Kaufleute. Diesen und ihrem Anhang würden Vorteile verschafft, nicht dem Gemeinwohl ("der gemeine Landnütz", S: 29). Voll Empörung fügt der Ernestiner hinzu:

"Darzu müssen sie das Heilwertige wort Gottes / zu einem schanddeckel jhrer wucherlichen lasterwerck gebrauchen" (S. 29).

Schließlich wird ausgerechnet dem auf Ordnung bedachten Albertiner Agitation vorgeworfen. Man solle sich aber in Ruhe beraten. Wenn man schon von den Fürsten verlange, den Silberpreis zum Vorteil der Kaufleute festzusetzen, weshalb verlange man dann nicht auch - so wird ironisch gefragt -, den Kaufleuten Maximalpreise vorzuschreiben, um sie an der Preistreiberei zu hindern (S. 31)? Ob es einem lieber sei, in einer Stadt 50 - 60 reiche Kaufleute zu haben, bei Verarmung der übrigen Bevölkerung, oder das Gedeihen der Vielen?

Der Ernestiner führt die sich schon abzeichnende Inflationstendenz auf Preissteigerungen und Gewinnmitnahmen seitens der Kaufleute unter den Bedingungen eines sich infolge zunehmender Konzentration verschlechternden Wettbewerbs zurück. Eine wachsende Nachfrage nach Luxusgütern spielt den Kaufleuten in die Hände. Dem könne man aber steuern, und wenn der Luxus erschwert würde, hätte es keineswegs die Folge, daß alle Konsumenten die Luxuswaren sich selbst im Ausland holten, wie es der Albertiner mit seinem Beispiel desjenigen behauptet hatte, der sogar nach Venedig reisen würde, um sich das Gewünschte zu holen. Lotz spricht hier von "handelspolitisch schutzzöllnerischen Vorschlägen, in denen wir luxusfeindlichen Polizeigeist mit jener Verwechslung von Geld und Reichtum kombiniert finden, welche letztere irrigerweise früher als allen Merkantilisten eigentümlich angesehen wurde"⁶⁹. Immerhin hat der Ernestiner gegen den Albertiner Recht, daß eine Abwertung die Importe vermindert und den Luxusanspruch zu decken erschwert.

Nach diesem Vorgeplänkel wird darauf verwiesen, daß die Argumente an dem in unserer Einleitung erwähnten Treffen von 1526 schon ausgetauscht worden seien und die Reichsstände sich dazu geäußert hätten, so daß der Ernestiner zweifelt, ob die Kaufleute fähig wären, ein wohlbegründetes Gutachten ("gutgrundige vorlegung", S. 35), abzugeben. Obwohl der Ernestiner hier das Vorurteil des geschulten Kanzleibeamten über den ungebildeten Kaufmann auszusprechen scheint und sich in heftigen, um nicht zu sagen aufhetzenden Worten ausdrückt, hebt er hier das Wichtige hervor: Wirtschaftsfragen sollen im sachlichen Gespräch ausgetragen und geregelt werden. Und daran versucht er sich nun.

Die Münzherabsetzung brächte den Herren nicht nur Vorteile, denn dem gewachsenen Münzgewinn stünden Verluste bei ihren Zinseinkünften gegenüber. Daß die Herabsetzung nicht einseitig zum Vorteil der Fürsten erdacht sei, könne man auch daran ersehen, daß sie infolge der verminderten Einfuhr geringere Einkünfte aus Wegegeldern zu erwarten hätten. Die Einbußen der Wirte und Fuhrleute dürfte in Anbetracht von deren Reichtum in Kauf genommen werden. Es bliebe jedenfalls der regionale Handel mit den lebensnotwendigen Gütern.

"Das alles sind die nottufftigsten wharn / der man ynn keinen wegk entratten mag / auswendig und ynwendigen landes" (S. 39).

So habe man es selbstverständlich keineswegs auf die Abschaffung allen Handels oder allen Gewerbes abgesehen. Der Leser wird nicht umhin können, an Luthers Predigten für eine mäßige Lebensführung zu denken, in der Gewinnen und Handeln höchstens einen bescheidenen Platz einnehmen dürfen. Sie gelten dann als läßliche Sünden. Der Standpunkt des Verwalters zeichnet sich ab, wenn erwähnt wird, man habe die mannigfaltigen Einkünfte aus den Wegegeldern überschlagen lassen; er wünscht eine "richtige pollice" (geordnete Politik, (S. 37), hier wohl: eine rigorose Besteuerung und Gesetzgebung wider den Luxus durchgeführt zu sehen.

⁶⁹ Lotz, a.a.O., S. 30 f.

Der Autor nähert sich nun den Thesen, die ihm am wichtigsten scheinen. Er beklagt, wie viel Silber gefördert und ausgeführt worden sei und fragt, was das Land dadurch gewonnen habe. Daß es der breiten Bevölkerung gut ging, wird man in den ersten Jahren nach dem Bauernkrieg kaum behaupten. Wenn man in den Ausführungen des Ernestiners nur die Verwechslung von (verlorenem) Geld und (verlorenem) Reichtum sieht, entgeht einem das Verständnis der damals drängenden Frage, ob der Reichtum nicht besser hätte verteilt werden können.

Wer etwas ändern will, muß zuerst beweisen, daß die gegenwärtige Lage nicht befriedigen kann. Der Ernestiner zeigt mit vielen Beispielen, daß die Preise *trotz* der Bezahlung in vollwertiger Münze gestiegen seien, und das seit 25 Jahren, nicht etwa seit nur drei oder vier. Wie wir sahen, stützt die moderne wirtschaftshistorische Forschung die Sicht, die Inflation sei nicht nur monetär verursacht gewesen und habe schon im vorangehenden Jahrhundert eingesetzt. Die gute Münze habe keine Vorteile gebracht, lautet die Schlußfolgerung, die in Wirklichkeit natürlich unbewiesen bleibt, da die Inflation bei fortgesetzter Münzherabsetzung sicherlich größer gewesen wäre, wie der Albertiner in seiner Antwort hervorzuheben nicht versäumen wird.

Das Silber sei überbewertet, denn man habe es eingeschmolzen, weil Silber so billiger zu haben war als ungemünztes Silber. Lotz, der nicht an die Möglichkeit einer Überremission von Silbermünzen denken mag, vermutet, das Silbermonopol der Herren habe zu einem überhöhten Preis für Rohsilber geführt⁷⁰. Der Ernestiner dagegen spricht von einem "überflus solcher überwürdigen Müntz" (S. 47). Zum Verständnis dieses auch bei Copernicus anzutreffenden, sachlich kaum zu widerlegenden Arguments hat man sich vorzustellen, daß die Kaufleute und Händler die guten Münzen herausfischten und der Umlauf im Volk mit schlechten, zum Teil mit ausländischen Münzen durchgeführt wurde, was den Ernestiner zu einem Vergleich veranlaßt: Die Gäule, die den Hafer anbauen, werden am wenigsten damit gefüttert (denn der bleibt den Reitpferden vorbehalten).

"Ynn summa / die frembden und reichen Lande/ als Italia / Franckreich / die Nider Burgundische lande / auch Engelland etc. die stellen das furnemen und grund yhrer handlung darauff / das sie die wahr / aus yhren landen / yn frembde abfüren / vnd dagegen das reichtumb / das ist gelt / empfahren und suchen." (S. 47).

Mit erstaunlichem Scharfblick erfaßt der Ernestiner hier die merkantilistische Politik der exportorientierten Länder, die über Bergwerke zur Förderung des für den Güterumlauf damals unentbehrlichen Edelmetalls nicht verfügen. Die Formulierung, daß man seinen Reichtum (nämlich das Geld) für Luxuswaren hingeben müsse, scheint eine naive Verwechslung von Reichtum und Geld zu meinen, aber der Autor will, wie der Zusammenhang klar macht, darauf aufmerksam machen, daß der Silberexport und Luxuswarenimport nur wenigen im Lande dient: den Bergwerksbesitzern und den von ihnen Abhängigen, denen also, die nun reich genug werden, um Luxusgüter zu importieren, während sich wenig Beschäftigungsgewinn für Gewerbetreibende und Ackerbauern ergibt. Sie leiden an der Überbewertung der Währung. So läuft es darauf hinaus,

"das hundert ungeuerlich sich reichen / dagegen die Fürsten / vnd der gemeyn landman / vorder-ben / der / Gott lob / mehr dann hundert tausend sein / die sich doch ane das viel höher hetten bessern sollen" (S. 47).

Die Theorie lehrt, daß zwei Länder sich durch die Ausnutzung der komparativen Vorteile im internationalen Handel besser stellen, aber diese Vorteile kommen nicht notwendig allen zugute, und wenn nur beim einen die Produktivität durch technischen Fortschritt steigt, verschlechtert sich

⁷⁰ Lotz, a.a.O., S. 45 f.

in der langen Frist die relative Stellung des anderen. In der Sicht des Ernestiners werden die Handelsbeziehungen überdies durch die zunächst paradox anmutende Verbindung einer Überemission von Münzen von zu hohem Silbergehalt gestört.

Unter den weiteren Argumenten findet sich ein interessanter Versuch, unlautere Praktiken der Großkaufleute im Wettbewerb aufzu-decken. Sie hielten die gute Ware zurück und verkauften schlechte an die kleinen Händler, und wenn diese die schlechte Ware an die Kunden zu bringen versuchten, träten Beauftragte der Großhändler auf, welche nun mit der guten Ware die kleinen Händler vom Markt verdrängten. Daß dies vorkäme, wird behauptet von "etlichen Monopoliern" (S. 53); die Praxis führt dazu, daß

"der gemeine kauffmann / bei jhnen schwerlich auffzukomen vermag" (S. 55),

und so sind die Anbieter dann in der Lage, die Preise weiter zu steigern.

Die Hauptsache sei, daß die Münzung sich nach dem Silberpreis zu richten habe. Die Bergwerksbesitzer sollten allerdings weniger erhalten, als wenn sie ihr Silber auf dem offenen Markt verkauften. Da man für das Silber bisher ebenso viel bezahlt habe, sei die Maßnahme nicht übertrieben und nicht gefährlich, es sei denn

"es bescher vns dan Gott / viel / und vberflussige Bergwerg" (S. 57).

Genau dies trat ein. Den in ihrer Konkurrenzfähigkeit geschwächten europäischen Bergwerken traten die amerikanischen gegenüber.

In diesem Absatz, in welchem der Autor versucht, seine Maßnahmen als gemäßigte hinzustellen, wird nochmals darauf hingewiesen, daß gegenwärtig die guten mittelgroßen sächsischen Münzen eingeschmolzen, im Ausland billiger ausgeprägt und re-importiert würden. Das eben müsse man verhindern. Die großen Münzen wiederum zirkulierten zwar noch, jedoch mit einem Agio, das ihr Einschmelzen verhindere. Die Berechtigung des Agios bestreitet der Ernestiner nicht; es ist ihm aber ein Beweis, daß das Münzwesen neu geordnet werden müsse. Man brauche eine

"gebürliche messigung / anderung/ vnd ordenung ... nach würdigem wert vñ geltung des silbers" (S. 63).

Auf den gestiegenen Silberpreis sei nun allerdings auch nicht mit einer Überemission zu antworten.

"Es ist aber nicht die meynung / das man sich also vnvorsichtig / vbermüntzen / vnd die silber vnwert machen solt" (S. 65).

Der Ernestiner möchte somit eine unterwertige Münze prägen lassen und sie im Umlauf knapp genug halten. Nach dieser Interpretation verstand er nicht nur, wie Copernicus, daß eine Geldschwemme zur Inflation führt, sondern auch, daß eine vorsichtige Emission auch bei unterwertigen Münzen mit stabilen Preisen verträglich bleiben kann, wobei er es allerdings für nötig hielt, den Preisauftrieb durch unvollkommene Konkurrenz zu bekämpfen. Diese Gedankenverbindung geht über die später im 16. Jahrhundert gehörte Vorstellung eines rein quantitätstheoretischen Zusammenhangs von Geldmenge und Preisniveau weit hinaus.

Viel verlegener ist unser Ernestiner (aber nicht um Worte), wenn er erklären soll, wie sich die Bergwerke unter den für sie verschlechterten Rentabilitätsbedingungen halten sollen. Er redet von den armen Bergleuten, welche die Klüfte erschließen und das Erz schürfen, von den Kaufleuten, die dann die Berganteile an sich bringen und von der guten Verwaltung, die der Betrieb erfordere. Er hält es für "Meuterey" (S. 69), wenn man da den Fürsten mit noch weitergehenden Forderungen komme, wie die aufrührerischen Bauern, die gesagt hätten

"Wir wöllen frey sein vñ kein pflicht auff vns tragen" (S. 69).

Die Bergwerksbesitzer sollen also niedrigere Gewinne hinnehmen und gleichwohl gehorsamst investieren. - Schließlich kehrt er zum merkantilistischen Leitmotiv zurück. Reich nenne man die Länder mit viel Gewerbe und Handel, die Niederlande, Norditalien, England und Frankreich. Wenn diese durch Handel reich sind: weshalb will man dann die Ausdehnung des Handels in Sachsen begrenzen? Die erste, einfache und für uns befremdliche Antwort lautet: Reichtum ist Geld, und über diesen Reichtum verfügt Sachsen bereits. Es ist in Gefahr, ihn durch Handel zu verlieren. Denn

"Die selbigen Königreich / lande / vnd Inseln alle / haben jhr gewerb / handtirung / ordenung / Pollicey / vnd narung jnn vielwege / darauff gericht / das sie die wahr aus jhren vnd ander landen / zu vns Deutschen / Vngern und Behem fast viel füren / vnd das gelt zu sich hinein bringen / dadurch sie sich reichen / vnd erhöhen." (S. 75).

Diese Sätze sind ein eindeutiger und klarer Ausdruck der merkantilistischen Lehre, wonach die aktive Handelsbilanz den an Edelmetall armen Ländern die Edelmetalleinfuhr erst erlaubt, ohne die unter den herrschenden Umständen kein Geldumlauf und kein Marktverkehr möglich ist. Nur wird die Lehre von der aktiven Handelsbilanz hier nicht wie bei den berühmten englischen Merkantilisten aus der Sicht des die Edelmetalleinfuhr benötigenden Landes dargestellt, sondern aus der des Edelmetallexporteurs. Weshalb aber ist diesem der Edelmetallabfluß nicht angenehm, solange dafür Waren erworben werden?

Hier verliert sich der Ernestiner in finsternen Andeutungen: Bis auf einzelne begünstigte Händler verarme das Land. Es fehlt der Entwurf eines Gegenbilds - jedenfalls in ausdrücklicher Form, da es sich implizit immerhin erschließen läßt -, wie ohne die Edelmetallexporte eine eigenständige Industrialisierung besser erreicht würde. Das war die Lehre von Ortiz⁷¹ in Spanien, beinahe 30 Jahre später. Verschiedene Gründe mögen den Ernestiner bewogen haben, selbst einer solchen Vorstellung nicht nachzugehen. Vielleicht war er zu konservativ, vielleicht nicht klug genug, das Ziel der der Entwicklung einer breiteren wirtschaftlichen Basis begrifflich klar zu formulieren. Wahrscheinlich gab die zeitgenössische Lage den Ausschlag: die Reformatoren predigten das einfache, bescheidene Leben. Der Ernestiner will für die Masse der Bevölkerung nicht mehr und nicht we-niger als ein ordentliches Auskommen nach alter Sitte, ohne Störung durch neue Bedürfnisse und neue Güter, höhere Preise und sinkende Kaufkraft der Einkommen und ohne daß durch das Aufsteigen neuer Schichten Neidgefühle geweckt werden. Wenige hundert Menschen seien in den Ländern der Fürsten zu Sachsen reichlich versorgt, aber: Trotz der "milden Gabe Gottes / der Bergweg / vnd der ... fruchtbarkeit / der lande" (S. 75) haben wir "vnbedacht / vnbe-tracht / vnbesonnen / das gründlich vorderben / jnn gemein landen vnd leuten" (S. 75). Dagegen wäre es recht und billig, daß viele tausend durch die Gottesgabe "nach erbarer land handelung reich sein" (S. 75).

⁷¹ Schefold, B.: a.a.O.[FN 64], S. 5-38.

Es erübrigt sich, die weiteren Angriffe gegen den Großhandel zusammenzufassen. Der Autor spricht schließlich, nachdem er schon des öfteren die Bauern gelobt hat, seine Sympathie auch für das Kleingewerbe aus. Seinen Gegner hofft er nicht zu belehren, aber urteilsfähige Dritte: "Antwort dem narren ... vmb der andern willen" (S. 79). Als Protestant verbindet er das Zitat aus den Sprüchen Salomos mit dem Hinweis darauf, daß auch er in der Heiligen Schrift gelesen habe. Keiner darf schließen, ohne sich in seinem Glauben bekannt zu haben.

Die dritte Flugschrift, die Antwort des Albertiners, müßte in der ersten Auflage schon 1531 erschienen sein. Da diese als verschollen gilt, erfolgt der Nachdruck nach der Auflage von 1548. Die Existenz mehrerer Drucke zeugt von einer lebendigen Diskussion. Der Albertiner tritt den gegen ihn erhobenen Vorwürfen kräftig entgegen, den Gegner wie einen Bekannten ansprechend. Den Vorwurf des Mißbrauchs des Gottesworts kann er nicht auf sich sitzen lassen. Er gibt zurück, es sei üblich geworden, unter dem Schein des göttlichen Worts anderen das Ihre zu nehmen oder zu behaupten, der oder jener Stand sei "wider Gott" (S. 85). Der andere möge seinen Glauben mit besserer Frucht beweisen - aus katholischer Sicht bewährt sich der Glaube ja in den Werken.

Wichtige neue Argumente kommen nicht ins Spiel, obwohl einzelne kleine von historischem Interesse sind. So entgegnet der Albertiner der Behauptung des Ernestiners, die Fürsten hätten an einer Herabsetzung des Silbergehalts kein überwiegendes eigenes Interesse mit dem Verweis, bei den Verhandlungen in Zeitz sei der Nutzen für die Fürsten nicht verschwiegen worden. Die entscheidende Frage, ob die Vor- oder die Nachteile für die Fürsten überwögen, bleibt freilich unbeantwortet. Auch die Bauern seien für die Beibehaltung der guten Münze eingetreten, hebt er hervor. Die Nachteile einer Senkung der Rentabilität der Bergwerke werde auf viele Leute fallen, auch auf Arbeiter, Bauern und Handwerker. Damit deutet sich an, daß der Albertiner hofft, der Silberexport werde schließlich doch zu einer Verbreiterung der wirtschaftlichen Basis führen. Die zwischen ihm und seinem Widerpart zahlreichen Mißverständnisse über die Inflation löst er teilweise auf, indem er die Argumente des Ernestiners in seiner methodischen Weise einzeln vornimmt. Er warnt vor einer Abwertungsspirale, in der sich die Herabsetzung des Silbergehalts des Geldes und das Steigen des in Geld ausgedrückten Silberpreises immer wieder gegenseitig bedingen.

"Vnd würde also das Silber dodurch also offte / vnd also hoch gesteigert / das zu letzt / die münzte eitel kupffer würde." (S. 105).

Wenn der Ernestiner sich gegen den Luxus wende, solle er eben Luxusgesetze erlassen und nicht deswegen abwerten - auch der Albertiner pflichtet bei in der Ablehnung der "fürwitzigen kleidunge ... vnd der gleiche überflüssigen prachts" (S. 107), während der Leser bei der üppigen Aufzählung der Modeartikel an solchen Luxus in großer Schönheit zur Geltung bringende Holbeinportraits denken mag. Allerdings fällt die albertinische Luxuskritik bedeutend gemäßigter aus - die Menschen seien eben nicht zu ändern.

Auch daß unter der Politik der guten Münze Warenpreise gestiegen seien, wird etwas zögend zugegeben:

"die wörtze eins theils / mag etlicher masse gestigen haben" (S. 109).

Nun aber trägt er seine nicht-monetären Erklärungen der Inflation vor. Die Gewürze hätten sich wegen der Verlagerung der Handelswege nach Portugal verteuert und die Menge der nachgefragten Gewürze zugenommen - Argumente, die nicht ohne weiteres überzeugen, da ja die neuen Handelswege aus Wettbewerbsgründen gesucht wurden und die vergrößerte Menge dank Skalenerträgen im Transport zu niederen Preisen beitragen sollte. Verschwendung wird denunziert:

"wenn der hausman einen rock / Kappe / Pannedt /Hut / Hosen / Wammes / Schuch / ein malh oder vier angeblasen hat / so werffen wirs wegk" (S. 111).

Die Inflation entsteht also in der Wegwerfgesellschaft des 16. Jahrhunderts! Da wird der moderne Leser, beeinflusst von moderner Theorie, vielleicht doch eher auf jene "Übermünzung" schließen, vor der der Ernestiner warnt, auf die der Albertiner jedoch nicht eintritt. Sein bestes Argument ist zu betonen: wenn das Geld sich schon bei guter Prägung so entwertet, wie muß es erst bei schlechter werden! Bei der schlechten sei zu erwägen, daß Silber zwar in der Tat eher im Lande bleiben werde, aber es bliebe bei den Fürsten, nicht beim Volke. Sachsen besitze eben wenig, um es zu exportieren, vom Silber abgesehen. Hier bemerkt der Albertiner nicht, daß für den Ernestiner eben dies gerade das Problem ist, an das er sich, in der drängenden Frage der Industrialisierung allerdings begrifflich durchaus unklar bleibend, herantastet. Die zweite Schrift des Albertiners endet, wie seine erste begonnen hat: mit dem Verweis auf die gute Ordnung und auf die Obrigkeit, die für sie Verantwortung trägt.

Wagen wir, der Gefahren bewußt, die sich ergeben, wenn man von den Schultern der späteren Ökonomen herunter urteilt, zuletzt eine Zusammenfassung in modernen Worten.

Der kühle Albertiner geht von Axiom aus, daß sich die Kaufkraft der Silbermünzen nach ihrem Metallwert richtet. Seine Andeutungen zur Bestimmung von Preisen verweisen summarisch auf Produktionskosten. Dies ist die klassische Position, die später von Smith ausgearbeitet werden wird. Sie bedeutet, daß die Menge des umlaufenden Geldes endogen bestimmt wird. Wer die Preise, die Umlaufgeschwindigkeit und das Transaktionsvolumen gegeben denkt, muß auf eine Anpassung der Geldmenge schließen. Überreichlich geprägte Münzen werden eingeschmolzen; viel des Silbers fließt ins Ausland ab. Dem Albertiner scheint das unbedenklich. Er erweist sich als wirtschaftspolitisch liberal, indem er den Silberabfluß als Warenexport geschehen lassen will, da ihm Importe gegenüberstehen und er von beidem, der Silberproduktion und der Einfuhr, eine dynamische Beschäftigungsentwicklung erhofft. Als Anhänger geordneter wirtschaftlicher Rahmenbedingungen tritt er dafür ein, diesen sonst selbstgeregelten Ablauf durch eine stabile Münzordnung zu sichern.

Der überschwängliche Ernestiner redet altväterlich und als Neuerer zugleich. Die Inflation sieht er einerseits als Folge von Marktmacht, andererseits begründet er sie quantitativstheoretisch. Zwar sagt er nicht, wie später Keynes vom Goldstandard, das Silbergeld sei ein "barbarous relic", aber er will seine Ausgabe verknappen, um einen Zwangskurs zu erreichen, der deutlich über dem Metallwert liegt. Damit verfolgt er mehrere Ziele: ein fiskalisches zugunsten seines Fürsten, ein beschäftigungspolitisches (denn er rechnet mit einer Abwertung gegen außen) und ein moralisches (Luxusimporte werden erschwert). Die Störung der Rechtsverhältnisse zwischen Schuldnern und Gläubigern nimmt er in Kauf, die Beeinträchtigung der Exporte der merkantilistischen Engländer, Franzosen, Niederländer, Italiener, Portugiesen bereitet ihm eine Genugtuung. Der Schlag gegen die Importkaufleute erscheint ihm als Verteidigung protestantischer Werte. Nicht der Aufbau einer eigenen Exportwirtschaft, sondern das langsame, organische Wachsen einer autarken, autochthonen Binnenwirtschaft von Bauern und Handwerkern im beamtengestützten Fürstenstaat strebt er an. Beunruhigt bemerkt der Leser ebensowohl Ansätze zu Staatseingriffen, die, vernünftig gehandhabt, selbstverständlich geworden sind, wie Andeutungen einer Geisteshaltung, welche später die deutsche Entwicklung hemmen oder sogar fehlleiten sollte.

Wer die Münzschriften auch nur mit einiger Aufmerksamkeit im Original liest, wird sich trotz solcher Bedenken des Eindrucks einer ernsten, mit hoher persönlicher Anteilnahme, Verantwortungsbewußtsein, religiösem und patriotischem Eifer geführten Auseinandersetzung nicht

entziehen können. Die Lektüre der Übersetzung kann der Deutung helfen, schwächt diesen Eindruck aber erheblich ab, der sich wesentlich aus dem Ringen um eine neue Sprache zum Verständnis des wirtschaftlichen Geschehens ergibt. Zumal in Verbindung mit den Schriften Peutingers und Fronspergers erkennen wir ein neues Bild von den Anfängen der ökonomischen Theorie in Deutschland, das in den deutschen Lehrbüchern der Dogmengeschichte erst einen sehr schwachen, in den internationalen fast gar keinen Niederschlag gefunden hat. Zugleich vertieft sich das Verständnis für eines der wichtigsten Kapitel der Europäischen Geschichte: das Zeitalter der Reformation.

LA THÉORIE DE LA PRODUCTION DE JEAN-BAPTISTE SAY

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Compte tenu de l'importance que Say accorde à la théorie de la production, ce domaine de l'économie politique mérite que l'on s'y arrête de manière à comprendre l'approche d'un économiste dont les ouvrages se diffusent à l'échelle de l'Europe et des Etats-Unis au cours de la première moitié du XIX^e siècle¹. Par ailleurs, comme ce domaine est étroitement lié aux problèmes posés par la théorie de la valeur et des prix, il faut prendre en compte les modifications que Say introduit dans les différentes éditions de son *Traité*, dans le *Catéchisme d'économie politique* et le *Cours complet d'économie politique pratique*, soit qu'il réponde aux objections de David Ricardo, soit qu'il critique les thèses avancées par ce dernier.

On prendra pour point de départ la troisième édition du *Traité*, datée de 1817, c'est-à-dire la dernière édition que Say publie avant d'être confronté à l'interprétation de Smith proposée par Ricardo dans ses *Principles of Political Economy and Taxation*, publiés cette même année. Il s'agira de mettre au clair la conception que Say présente de la production des richesses, c'est-à-dire de la production d'utilité (§1). Ensuite, on proposera une interprétation des lignes de force selon lesquelles Say présente la défense de sa théorie de la production et des prix, tout en insistant sur les modifications, parfois substantielles, qu'il introduit dans son exposé (§2).

1. LA THÉORIE DE LA PRODUCTION DE SAY EN 1817

Dans ce qui constitue la première partie de son *Traité d'économie politique*, Say développe une approche significative des différences existant entre lui et les économistes britanniques, comme le montre la structure de son argumentation. En effet, Say commence par une série de définition concernant la richesse et la valeur de manière à expliquer « *Ce qu'il faut entendre par PRODUCTION* ». Le lecteur moderne - et sans doute est-ce aussi le cas d'un contemporain comme Ricardo - est quelque peu surpris de constater qu'aucune discussion approfondie des concepts de valeur et de prix n'apparaît avant les trois premiers chapitres de la partie consacrée à la répartition des richesses². Il faut prendre en compte cet aspect de l'ouvrage de Say pour comprendre son économie politique et, ainsi, comprendre ce qu'il fait avant de juger de ce qu'il aurait dû faire selon le "canon" de la théorie moderne ou de la théorie ricardienne.

Dans le premier chapitre du *Traité*, Say rassemble sous le terme de richesse les biens qui ont une valeur, c'est-à-dire qui sont utiles ; la valeur est mesurée par le taux auquel s'échangent les biens³. Toutefois, une courte note placée dès la deuxième page de l'ouvrage indique que l'approfondissement de la notion de valeur est renvoyée à plus tard. S'il n'est pas véritablement

¹ Je remercie Alain Béraud pour ses remarques sur une version antérieure de ce texte.

² Say s'en explique d'ailleurs à cette occasion : « *J'ai longtemps hésité si, dans le plan de cet ouvrage, je développerais ce qui a rapport à la valeur avant ce qui a rapport à la production ; ce qui montre la nature de la qualité produite, avant ce qui développe la manière de la produire. Il m'a semblé que, pour bien connaître les fondements de la valeur, il fallait savoir en quoi peuvent consister les frais de production, et pour cela se former des idées étendues et justes des agents de la production, et des services que l'on peut en attendre* » (1817, II, p. 54n1). Le *Cours complet* ne change pas l'ordre de la présentation de ces deux thèmes, même si les considérations initiales sur la valeur sont plus développées.

³ « *quelle que soit la variété qui se trouve dans les goûts et les besoins des hommes, il se fait entre eux une estimation générale de l'utilité de chaque objet en particulier, estimation dont on peut se faire une idée au moyen de la quantité d'autres objets qu'ils consentent à donner en échange de celui-là* » (Say 1817, I, p. 4). En utilisant les formulations de Léon Walras (1900, §44), l'approche de Say peut être retraduite dans l'équation d'échange de deux marchandises (A, B) selon les rapports de quantités (m, n), soit : $mv_a = nv_b$: la valeur relative (v_a/v_b) est ainsi rapportée à l'utilité, elle-même estimée par un rapport de quantité (n/m).

question de la richesse et de la valeur, de quoi est-il donc question dans ce chapitre? D'une définition de la production. Say prend d'abord ses distances vis-à-vis d'une acception erronée de la production qui rattache celle-ci à la production de matière ou à une matérialité particulière. Le passage suivant est clair sur ce point, même s'il laisse implicite les auteurs qui sont visés, François Quesnay d'un côté, Adam Smith de l'autre⁴:

« Mais on ne crée pas des objets: la masse des matières dont se compose le monde, ne saurait augmenter ni diminuer. Tout ce que nous pouvons faire, c'est de reproduire ces matières sous une autre forme qui les rende propres à un usage quelconque qu'elles n'avaient pas, ou seulement qui augmente l'utilité qu'elles pouvaient avoir. Il y a alors création, non pas de matière, mais d'utilité; il y a production. C'est ainsi qu'il faut entendre le mot production en économie politique, et dans tout le cours de cet ouvrage. La production n'est point une création de matière, mais une création d'utilité » (Say 1817, I, p. 3).

Say termine ce bref chapitre liminaire par un rappel de l'objet de tout le premier livre du *Traité*: *« Il n'y a donc véritablement production de richesse que là où il y a création ou augmentation d'utilité. Sachons comment cette utilité est produite »* (*ibid*, p. 7; je souligne). Puis, il termine son chapitre 3 par un énoncé fort quant au but visé dans *l'ensemble de l'ouvrage*:

« Concluons donc que les richesses, qui consistent dans la valeur que l'industrie humaine, à l'aide des agents naturels, donne aux choses, que les richesses, dis-je, sont susceptibles d'être créées, détruites, d'augmenter, de diminuer, selon la manière dont on s'y prend pour opérer de tels effets. Vérité importante, puisqu'elle met à la portée des hommes les biens dont ils sont avides avec raison, pourvu qu'ils sachent et qu'ils veuillent employer les vrais moyens de les obtenir. Le développement de ces moyens est le but de cet ouvrage » (*ibid*, pp. 21-22, je souligne).

En d'autres termes, Say nous avertit que son ouvrage, et non pas seulement sa première partie, est tout entier consacré à expliciter les moyens grâce auxquels les hommes peuvent produire, en quantité croissante, les biens dont ils ont besoin. Ce sont donc ces moyens vers lesquels il faut se tourner pour suivre la pensée de l'auteur en matière de théorie de la production.

1.1. Industrie humaine, agents naturels et connaissances

Il existe, remarque Say, des biens libres dont *« seule la nature fait les frais »* (*ibid*, p. 8); ils sont utiles et disponibles au-delà de l'usage que l'on en a. L'économie politique est chargée d'étudier les richesses dont on ne bénéficierait pas *« si l'industrie humaine ne provoquait, secondait, achevait les opérations de la nature »* (*ibid*). Ainsi, dans sa définition de l'industrie, Say met l'accent sur la relation existant entre celle-ci et la nature, avant d'en analyser les différentes facettes selon trois directions. Premièrement, la production signifie un usage que les êtres humains font de la nature qui est comme à leur disposition. La production est conçue en termes de recombinaison des matériaux que fournit la nature, recombinaison visant à donner de l'utilité à ces matériaux :

« Personne n'a le don de créer de la matière ; la nature même ne le peut pas. Mais tout homme peut se servir des agents que lui offre la nature pour donner de l'utilité aux choses ; et

⁴ Quesnay est considéré comme ayant développé une théorie dans laquelle la production est un don de la nature, une création matérielle (*ibid*, p. 11); quant à Smith, il est critiqué pour ne pas avoir fait de place à la notion de service immatériel, c'est-à-dire aux richesses qui n'ont pas de support matériel (*ibid*, pp. 117-118).

même toute industrie ne consiste que dans l'usage qu'on fait des agents fournis par la nature »
(*ibid*, p. 10)

L'usage dont il est question peut être direct ou indirect. Say ajoute ainsi un terme intermédiaire entre l'industrie et la nature avec le capital qui représente le stock de produits déjà existant dont l'industrie dispose avant de mettre à contribution la nature⁵. On a donc dès à présent le triptyque définissant les conditions de la production moderne avec l'industrie (ou travail humain), le capital et la nature; ou encore le service productif du travail, du capital et des agents naturels.

Deuxièmement, les avantages que les sociétés peuvent attendre de la nature les conduisent à se l'approprier ; hors le cas où la nature est un bien libre (le vent, la mer, les lois de la nature - *ibid*, p. 34), elle est appropriable grâce à une législation positive qui assure à son possesseur l'usage exclusif, comme c'est le cas du sol. Cette dimension de la relation de la production à la nature est donc de l'ordre de l'organisation sociale : la mise en place de la propriété est indispensable aux yeux de Say pour que les hommes se lancent dans l'activité productrice, mais la forme sociale de la propriété peut être plus ou moins bien organisée. Il y a donc un effort spécifique à accomplir en ce domaine et l'auteur du *Traité* ne manque pas d'y insister puisque l'examen du droit de propriété, des règlements administratifs en matière de production, etc. sont introduits à partir du chapitre XIV en tant que causes accidentelles de la production, c'est-à-dire en tant que causes sociales selon lesquelles la production est améliorée ou entravée⁶.

Troisièmement, selon Say la nature n'est pas seulement une matière inerte que les êtres humains auraient à travailler ou à s'approprier. Elle est un « outil puissant »⁷ dans la mesure où elle constitue la ressource même grâce à laquelle les matériaux offerts peuvent être mis en œuvre. En effet, la production d'utilité fait intervenir la connaissance des lois de la nature, lois qui sont autant de moyens de mettre la nature au service de la société. Cette dimension de la relation à la nature est mise en relief lorsque Say définit le service productif des agents naturels :

« Cette expression, agents naturels, est prise ici dans un sens fort étendu, car elle comprend non-seulement les corps inanimés dont l'action travaille à créer des valeurs, mais encore les lois du monde physique, comme la gravitation qui fait descendre le poids d'une horloge, le magnétisme qui dirige l'aiguille d'une boussole, la pesanteur de l'atmosphère, la chaleur qui se dégage par la combustion, etc. » (*ibid*, p. 29)

La connaissance vient s'ajouter aux fonds qui constituent l'industrie humaine et elle permet une meilleure utilisation des matériaux au profit des êtres humains. La connaissance joue le rôle d'une *appropriation collective* de la nature qui est comme le pendant de la propriété privée du sol⁸.

⁵ « Il a fallu que l'homme industrieux possédât en outre des produits déjà existant, sans lesquels son industrie, quelque habile qu'on la suppose, serait toujours demeurée dans l'inaction » (*ibid*, p. 23). On notera du même coup que la définition du capital par Say se trouve ainsi dans le prolongement de la notion physiocratique d'avances - d'ailleurs, dans le *Traité*, le terme d'avance est encore souvent employé en lieu et place de celui de capital - et elle rencontre l'acceptation de ce concept tel qu'il est mis en œuvre par les Classiques, Karl Marx compris.

⁶ La fin du chapitre XIII explique : « Jusqu'ici, nous nous sommes occupés des agents essentiels de la production, des agents sans lesquels l'homme n'aurait d'autres moyens d'exister et de jouir que ceux que lui offre spontanément la nature et qui sont bien rares et bien peu variés (...) Nous allons examiner maintenant les causes accidentelles et étrangères à la production, qui favorisent ou contrarient l'action des agents productifs » (*ibid*, p. 132). Cette idée est aussi centrale dans l'appréciation que Say porte de la situation économique anglaise après son voyage en Angleterre et en Écosse fin 1814 (Say 1815, pp. 54-63).

⁷ « Le laboureur, en semant un grain de blé, en fait germer vingt autres ; il ne les tire pas du néant : il se sert d'un outil puissant qui est la terre, et il dirige une opération par laquelle différentes substances, auparavant répandues dans le sol, dans l'eau, dans l'air, se changent en grain de blé » (*ibid*, p. 10; je souligne).

⁸ Il est vrai que cette appropriation collective de la nature est le fait d'une classe sociale spécifique (les savants), toutefois, Say insiste beaucoup sur le fait que les membres de cette classe diffusent largement les connaissances acquises dans leurs livres ou leurs leçons publiques pour en retirer le prestige qui y est associé. En conséquence, le profit des savants est faible d'un point de vue économique (*ibid*, II, pp. 80). Il existe cependant une forme d'appropriation individuelle de ces connaissances lorsque Say caractérise le talent acquis des travailleurs qualifiés au moyen de ce que l'on appelle maintenant le capital humain (*ibid*, pp. 121-123).

Say attache une très grande importance à cette dimension de l'industrie humaine et il est amené à poser la thèse générale suivante :

« la latitude indéfinie laissée à l'industrie de s'emparer de tous les autres agents naturels [c'est-à-dire de ceux qui ne peuvent pas être appropriés privativement], lui permet d'étendre indéfiniment son action et ses produits. Ce n'est pas la nature qui borne le pouvoir productif de l'industrie, c'est l'ignorance des producteurs et la mauvaise administration » (ibid, p. 35).

La relation des êtres humains à la nature peut donc être de trois ordres, avec l'usage des matériaux présents sur ou dans le globe terrestre, l'appropriation de certains d'entre eux et la connaissance des lois qui président aux phénomènes naturels. Ces dimensions de la relation production-nature ont pour support les classes intervenant dans la production. Le savant réalise l'appropriation collective de la nature en fournissant les connaissances qui permettent de maîtriser « l'outil puissant » qu'est la nature; l'ouvrier exécute le travail immédiat destiné à transformer la nature ; finalement, l'entrepreneur d'industrie joue un rôle d'intermédiaire essentiel en louant les services productifs des deux précédentes catégories auxquelles viennent s'ajouter les services des capitaux loués aux capitalistes, ceux de la terre loués aux propriétaires fonciers. Ce travail de coordination économique comporte d'ailleurs une dimension sociale, car l'œuvre de l'entrepreneur fait partie de l'administration dont il a été question lorsque Say expliquait que l'ignorance et la mauvaise administration sont deux causes susceptibles de diminuer la quantité de richesses produite.

Pour terminer sur cette définition des conditions de la production, on notera que Say généralise son approche lorsqu'il souligne la similitude entre l'industrie humaine, le capital et l'œuvre de la nature : tous trois sont redevables de la notion de *travail*⁹. Le chapitre VII du *Traité* explique que l'industrie humaine - celle du savant, de l'entrepreneur ou de l'ouvrier - est un travail entendu comme une « *action suivie à laquelle on se livre pour exécuter une des opérations de l'industrie* » (ibid, p. 52). Say homogénéise les différentes formes d'industries qui concourent à la production, mais, plus surprenant, il étend cette notion de travail aux deux autres services producteurs, la terre et le capital :

« Ce travail des agents naturels et ce travail des produits auxquels nous avons donné le nom de capital, ont entre eux la plus grande analogie, et sont perpétuellement confondus; car les outils et les machines qui font partie d'un capital ne sont en général que des moyens plus ou moins ingénieux de tirer parti alternativement des forces de la nature. La machine à vapeur, qu'on appelle vulgairement pompe à feu, n'est qu'un moyen compliqué de tirer parti alternativement de l'élasticité de l'eau vaporisée et de la pesanteur de l'atmosphère; de façon qu'on obtient réellement d'une pompe à feu plus que le service du capital nécessaire pour l'établir, puisqu'elle est un moyen d'obtenir le service de plusieurs agents naturels dont l'emploi gratuit peut excéder beaucoup en valeur l'intérêt du capital que représente la machine » (ibid, p. 53)¹⁰.

L'homogénéisation des différents services producteurs sous le registre du travail ne conduit pas Say vers une théorie de la valeur-travail ou une théorie de la mesure de la valeur par le travail - au contraire, il reproche à Smith de s'être fourvoyé sur ce point (ibid; cf. aussi Say in H. Hashimoto 1980, p. 67). Say procède d'une autre manière pour envisager les services producteurs des capitaux

⁹ Sur ce point, il faut se référer à l'ouvrage de François Vatin (1993) ainsi qu'à sa contribution publié dans le présent volume. Ce qui suit est nourri des discussions que nous avons eues avec lui sur ce sujet.

¹⁰ Lapidairement, l'*Épître* dit : « *MACHINES. Elles sont, entre les mains de l'industrie, des moyens de tirer un parti plus avantageux des forces de la nature* » (ibid, II, p. 458).

et de la terre comme des machines mise en œuvre par le travail humain de manière à obtenir le concours des agents naturels :

« Cela nous indique sous quel point de vue nous devons considérer toutes les machines, depuis le plus simple outil jusqu'au plus compliqué; depuis une lime jusqu'au plus vaste appareil ; car les outils ne sont que des machines simples, et les machines ne sont que des outils compliqués que nous ajoutons au bout de nos doigts pour en augmenter la puissance ; et les uns et les autres ne sont, à beaucoup d'égards, que des moyens d'obtenir le concours des agents naturels. On peut, en généralisant davantage, se représenter, si l'on veut, une terre comme une grande machine au moyen de laquelle nous fabriquons du blé, machine que nous remontons en la cultivant. On peut encore se représenter un troupeau comme une machine à faire de la viande ou de la laine. Leur résultat est évidemment de donner moins de travail [humain] pour obtenir les mêmes produits ou, ce qui revient exactement au même, d'obtenir plus de produits pour le même travail humain. C'est le comble de l'industrie » (ibid, p. 53-54).

De ce fait, dès le début de la Restauration, Say a réuni les éléments permettant de définir une forme originale de société, inconnue jusqu'alors. C'est ce que Henri Saint-Simon et son secrétaire Auguste Comte théoriseront plus tard sous le nom de société industrielle, société dans laquelle la relation de pouvoir de l'homme sur l'homme s'efface devant la maîtrise de la nature par l'homme (Saint-Simon 1819, pp. 77-87). Cette perspective amène Say à se démarquer vigoureusement de la position défendue par son Smith, lorsqu'il s'agit de caractériser la société moderne et d'isoler les causes de la richesse des nations.

1.2. Division du travail, machinisme et formes de la croissance

Une comparaison attentive du « Discours préliminaire » des deux premières éditions du *Traité* montre qu'à partir de 1814, Say critique vigoureusement la *Wealth of Nations* (Steiner 1998b). La théorie de la production exposée par Smith n'échappe pas à ce sort puisque la division du travail qui en constitue un élément central, est soumise à la critique.

Certes, Say reprend à son tour la célèbre description de la fabrique d'épingles, mais il s'emploie à en déplacer le point d'application et, surtout, à en limiter l'importance au regard d'un phénomène que Smith ne connaissait pas ou a ignoré. Premièrement, Say met l'accent sur l'importance de la division des travaux au sein du monde savant, c'est-à-dire parmi ceux qui étudient la nature pour que la société puissent s'appropriier collectivement les ressources offertes par les agents naturels. Bref, la division du travail intellectuel est un élément important que Say introduit avec le service productif du savant parmi les éléments constitutifs de l'industrie¹¹. Deuxièmement, Say reproche à Smith de n'avoir pas perçu la suprématie de la machine sur la division du travail lorsqu'il s'agit de rendre compte de l'accroissement de la richesse des nations :

« Smith ne se faisait donc pas une idée complète du grand phénomène de la production ; ce qui l'égare dans quelques fausses conséquences comme lorsqu'il attribue une influence gigantesque à la division du travail, ou plutôt à la séparation des occupations ; non que cette influence soit nulle, ni même médiocre, mais les plus grandes merveilles en ce genre ne sont pas dues à la nature du travail ; on les doit à l'usage qu'on fait des forces de la nature. Ce

¹¹ Say ne fait rien d'autre qu'étendre l'analyse de Smith sur un domaine qui n'avait pas été considéré par ce dernier; Say ne propose donc pas un nouveau principe concernant la division du travail, ainsi que Charles Babbage sera amené à le faire en considérant la division du travail intellectuel mise au point par les mathématiciens français lorsqu'il a fallu procéder à de longs calculs pour établir des tables logarithmiques et trigonométriques en accord avec le système décimal (Babbage 1835, chap. 20).

principe méconnu l'empêche d'établir la vraie théorie des machines par rapport à la production des richesses » (*ibid*, pp. xlix-l).

Plus que la division du travail, ce sont les machines qui permettent de comprendre comment les sociétés ont pu accroître si considérablement les quantités de richesses produites; cela emporte d'ailleurs sa conviction au point que lorsque les deux phénomènes sont intimement liés, il accorde encore la suprématie à la machine¹². Par machine, nous l'avons vu, Say comprend tous les moyens que l'industrie peut employer pour faire usage des forces non appropriées de la nature grâce à la maîtrise des lois de la nature par la science. L'inflexion est donc considérable par rapport à Smith: on peut s'en assurer en indiquant deux conséquences importantes que Say tire de ce changement de perspective.

Lorsqu'il introduit la monnaie, Say suit Smith en expliquant que des individus spécialisés dans une tâche ne peuvent produire tout ce dont ils ont besoin et qu'en conséquence les échanges se multiplient. Toutefois, Say ne retient pas l'appellation de *commercial society* proposée par Smith pour caractériser ce genre de société. La raison en est simple, mais profonde: ce ne sont pas les échanges qui sont au cœur de la société, mais c'est la production, ou encore les échanges entre les hommes et la nature, médiatisés par l'usage des machines, par l'usage plus éclairé des différentes machines, la terre et les animaux domestiques inclus :

« Depuis une centaine d'années, les progrès de l'industrie, dus aux progrès de l'intelligence humaine, et surtout à une connaissance plus exacte de la nature, ont procuré aux hommes d'immenses économies dans l'art de produire ; mais en même temps les hommes ont été trop retardés dans les sciences morales et politiques, et surtout dans l'art de l'organisation des sociétés, pour tirer parti, à leur profit, de ces découvertes » (*ibid*, II, p. 35n1).

De ce point de vue, il ne faut pas se méprendre quant à la signification d'une formule que Say emploie à de nombreuses reprises dans le *Traité*, lorsqu'il considère la production comme un échange¹³. Il ne s'agit pas de voir là une "anticipation" de la démarche walrasienne exposée dans les *Éléments d'économie politique pure* avec la séquence qui part de l'échange (2, puis *m* marchandises entre elles), pour étendre le modèle de base à la production, puis à la capitalisation. Au contraire, avec Say, la production est au cœur de l'économie politique et l'échange dont il est question, c'est celui que les hommes font avec la nature pour obtenir d'elle la plus grande utilité, au moyen des ressources qu'elles met à leur disposition du moment qu'ils font l'effort de la maîtriser intellectuellement par le développement de la science¹⁴. La définition synthétique du concept de frais de production fournie dans l'*Épîtôme* est tout à fait explicite sur ce point:

*« la production étant un échange où l'on donne les frais de production pour recevoir l'utilité produite, il résulte que plus l'utilité produite est considérable par rapport aux frais de production, et plus l'échange est avantageux. Un meilleur emploi des agens naturels procure plus d'utilité produite, relativement aux frais de production, et rend par conséquent plus avantageux l'échange où l'homme reçoit les valeurs créées contre les frais de production »*¹⁵.
Les fléaux naturels, comme la grêle, la gelée, et les fléaux humains, tels que la guerre, les

¹² « Mais si on doit à la séparation des travaux plusieurs découvertes importantes dans les arts, on ne lui doit pas les produits qui ont résulté, et qui résulteront à tout jamais de ces découvertes. On doit la multiplication de ces produits à la puissance productive des agens naturels, quelle que soit l'occasion par où on est venu à savoir les employer » (*ibid*, II, p. 64n1).

¹³ « La production peut être considérée comme un échange dans lequel nous donnons le service productif de nos fonds, et dans lequel nous recevons les produits qui en résultent » (*ibid*, II, p. 5; voir aussi l'*Épîtôme*, pp. 452-453, 465).

¹⁴ « Le comble de l'habileté est de tirer le parti le plus avantageux des forces de la nature, et le comble de la démenche est de lutter contre elles ; car c'est employer nos peines à détruire une partie des forces que la nature voudrait nous prêter » (*ibid*, I, p. 168).

¹⁵ En note, Say n'oublie pas de faire intervenir les machines pour expliciter le phénomène qu'il a en tête (*ibid*, p. 452n1; voir aussi I, p. 168).

déprédations, les impôts, en ravissant une partie des valeurs produites, rendent l'échange moins avantageux » (ibid, II, 452-453).

En termes de théorie économique, les conséquences sont importantes. Au lieu de la question smithienne selon laquelle il s'agit de mettre au jour les règles que les hommes suivent naturellement dans l'échange (Smith 1776, I, p. 44), la question sayenne concerne les règles que les hommes suivent socialement dans l'échange avec la nature pour produire de l'utilité. Ces règles dépendent de l'état social puisque elles dépendent de la maîtrise que les hommes ont des lois de la nature, mais elles dépendent aussi des règles selon lesquelles les hommes s'organisent socialement. En effet, Say n'oublie jamais de mentionner les « fléaux humains » ou le manque de développement des « sciences morales et politiques » parmi les phénomènes qui entravent la production¹⁶. D'ailleurs, comme on le sait, l'entrepreneur est au centre de son approche précisément parce qu'il est le médiateur essentiel grâce auquel cette relation Société-Nature prend place.

Ces réflexions sur la nature de la production chez Say conduisent à voir dans son *Traité* deux formes possibles de la croissance économique. Dans les deux cas, cette dernière est déterminée par la quantité de capital à la disposition des entrepreneurs ou, plus généralement, de la société ; cette thèse, Say l'adopte à la suite de Smith et, croit-il, en opposition aux Physiocrates, ou du moins de tous ceux qui affirmeraient que la croissance repose sur le secteur agricole. Dans une première forme, le capital sert à étendre le principe de la division du travail, en ce sens qu'une masse plus importante de capital permet d'approfondir la séparation des tâches dans les manufactures (à technique constante, c'est-à-dire à niveau de maîtrise cognitive de la nature constant). Cette forme de croissance peut être qualifiée de *croissance extensive*, puisqu'elle ne fait qu'étendre les procédés déjà connus, grâce à la disposition d'une quantité accrue de capital. Toutefois, Say met l'accent sur une deuxième forme de croissance économique, basée sur l'emploi de machines plus perfectionnées¹⁷. Cette *croissance intensive* met alors au cœur de l'activité productrice d'une part les connaissances scientifiques nouvelles et, d'autres part, l'entrepreneur ayant su utiliser ces connaissances nouvelles pour améliorer les termes de l'échange entre la société et la nature. En d'autres termes, la croissance intensive est celle où la masse de capital productif n'est plus qu'un indicateur de la capacité des hommes à faire concourir la nature à la production :

« C'est ainsi que la nature est presque toujours en communauté de travail avec l'homme; et, dans cette communauté nous gagnons d'autant plus, que nous réussissons mieux à épargner notre travail et celui de nos capitaux, qui est nécessairement coûteux, et que nous parvenons à faire exécuter à la nature une plus grande part des produits. Smith s'est donné beaucoup de peine pour expliquer l'abondance des produits dont jouissent les peuples civilisés, comparée avec la pénurie des nations grossières, et nonobstant la multitude de désœuvrés et de travailleurs improductifs dont fourmillent nos sociétés. Il a cherché dans la division du travail la source de cette abondance; et il n'y a pas de doute que la séparation des des occupations, ainsi que nous le verrons d'après lui, n'ajoute beaucoup à la puissance productive du travail ; mais elle ne suffit pas à expliquer ce phénomène, qui n'a plus rien de surprenant quand on considère le pouvoir des agents naturels que la civilisation et l'industrie font travailler à notre profit » (ibid, I, pp. 30-31).

¹⁶ Un exemple clair de cette relation est fourni lorsque Say explicite les bienfaits que l'on peut attendre de l'emploi de nouvelles machines utilisant mieux les ressources fournies par les forces gratuites de la nature. En effet, la baisse des frais de production ne se traduit positivement pour le consommateur que si la société a su s'organiser selon le principe de la concurrence (*ibid*, I, p. 57; II, p. 34) et s'épargner le fléau de l'impôt (*ibid*, II, p. 453).

¹⁷ On notera que, hors la référence à la division du travail, l'approche de Say est ici proche de celle de Ricardo, lorsque ce dernier distingue une croissance obtenue par accroissement de la quantité de capital et une croissance obtenue par une hausse de la productivité du travail à quantité de capital constante (Ricardo 1817, p. 278); ce rapprochement est d'autant plus fort que la hausse de la productivité du travail est systématiquement rapportée par Ricardo à l'usage d'une « *improved piece of machinery* ».

La croissance intensive repose donc sur ce que Say appelle le « comble de l'industrie » ; la société moderne n'est pas la *commercial society* de Smith, mais c'est la *société industrielle* que lui-même, Henri Saint-Simon et les rédacteurs du *Censeur Européen* - Charles Dunoyer et Charles Comte¹⁸ -, Charles Dupin¹⁹, ou le second successeur de Say à la chaire d'économie politique du Collège de France, Michel Chevalier²⁰, développent dans la première moitié du XIX^e siècle. Lorsque Say instille dans ses ouvrages d'économie politique des remarques pointant vers une utopie, c'est l'utopie d'une « société parfaitement industrielle » qui est mise en avant. Il s'agit d'une utopie moins relevée que celle du poète rapportée par Aristote (*La politique*, 1253b35) où les instruments se meuvent d'eux-mêmes pour se rendre à l'assemblée des Dieux puisqu'il s'agit d'une société dans laquelle :

« les hommes, sans être moins nombreux, seraient tous employés à des actes qui réclament impérieusement une certaine dose d'intelligence, et où tout ce qui est action purement machinale serait exécuté par des animaux ou par des machines. Une pareille nation aurait tous les produits, jouirait de toutes les utilités qu'il est possible de se procurer » (1828-29, I, p. 190).

1.3. L'entrepreneur dans la théorie de la production

Dans le chapitre 4 du *Catéchisme d'économie politique*, l'entrepreneur est celui qui entreprend la fabrication d'un produit (Say 1821, p. 15), ceci suppose trois choses qui seront ensuite reprises et développées dans le *Cours complet* : l'entrepreneur doit acquérir les connaissances à la base de l'art qu'il veut exercer²¹, il doit rassembler les moyens d'exécution et diriger cette dernière, il doit décider si cette production vaut la peine d'être menée à bien²².

Premièrement, Say distingue la science et son application. Le savant suit la logique propre à la science, à savoir l'investigation de la nature alors que l'entrepreneur suit une logique économique et il n'introduit les découvertes du savant que dans la mesure où celles-ci permettent d'obtenir un produit nouveau ou de mettre en œuvre une technique nouvelle qui soient profitables. Dans le *Cours complet*, Say illustre cette idée en faisant un parallèle entre l'expérience de Volta, apparemment sans aucune destination industrielle, et l'application qui en est faite en France pour la conservation des plaques de cuivre doublant les coques des navires (1828-29, I, p. 93). La fonction de l'entrepreneur en ressort d'autant mieux :

« Vous voyez que la production se compose non-seulement de la science ou des notions, mais en outre de l'application de ces notions aux besoins des hommes (...) Cette application exige une certaine combinaison intellectuelle; car il s'agit d'apprécier, non-seulement les besoins physiques de l'homme, mais sa constitution morale, c'est-à-dire, ses mœurs, ses habitudes, ses goûts, le degré de civilisation dont il jouit, la religion qu'il professe; car toutes

¹⁸ On peut se reporter aux écrits de ces auteurs, mais aussi à l'échange polémique entre eux parus dans la *Revue Encyclopédique* (1827, vol. 33 et 34) sur leurs conceptions respectives de l'industrialisme.

¹⁹ En effet, au cœur du travail de Dupin, se trouve la suprématie de la machine et des connaissances humaines qui la rendent possible. C'est la leçon qui ressort de ses enseignements donnés au Conservatoire (Dupin 1825), alors qu'il est collègue de Say, mais aussi de son grand ouvrage - *Les forces productives de la France* (Dupin 1827).

²⁰ L'accession de Chevalier à ce poste est l'occasion de voir se déployer dans la personne de ce polytechnicien la filiation existant entre l'économie à la Say et le mouvement de pensée saint-simonien. De ce point de vue, on peut relever la place importante conférée aux considérations techniques et technologiques dans les premières années de ses enseignements et, surtout, la suprématie affirmée que Chevalier donne à la production sur toute question de répartition (Steiner 1998c).

²¹ « Il doit connaître la nature des choses sur lesquelles il doit agir, ou qu'il doit employer comme instruments, et les lois naturelles dont il peut s'aider » (*ibid*, p. 15).

²² « Il doit calculer les frais qu'occasionnera la confection du produit, en comparer le montant avec la valeur présumée qu'il aura étant terminé ; il ne doit en entreprendre la fabrication, ou la continuer, s'il l'a déjà entreprise, que lorsqu'il peut raisonnablement espérer que sa valeur sera suffisante pour rembourser tous les frais de sa production » (*ibid*, pp. 17-18).

ces choses influent sur ses besoins, et par conséquent sur les sacrifices auxquels il se résoudra pour les satisfaire. Or, cet art de l'application, qui forme une partie si essentielle de la production, est l'occupation d'une classe d'hommes que nous appelons entrepreneurs d'industrie » (ibid, p. 94).

Pour employer le vocabulaire de Joseph Schumpeter (1911), il y a une dissociation entre l'invention (scientifique) et l'innovation (économique) alors même que Say insiste sur les connaissances scientifiques que doit posséder l'entrepreneur²³. Aux yeux de Say, cette dissociation est factuellement justifiée par le fait que si les découvertes scientifiques circulent facilement entre les individus et entre les nations (1817, I, p. 45) - ce qui explique d'ailleurs la modicité des revenus monétaires que les savants en retirent (*ibid*, II, p. 80) - il n'en va pas de même de la capacité à appliquer les découvertes à la production de choses utiles. C'est ainsi que Say explique la supériorité anglaise:

« Il n'en est pas ainsi de l'art d'appliquer les connaissances de l'homme à ses besoins, et du talent de l'exécution. Ces qualités ne profitent qu'à ceux qui les ont; aussi un pays où il y a beaucoup de négociants, de manufacturiers et d'agriculteurs habiles, a plus de moyens de prospérité que celui qui se distingue principalement par la culture des arts et des lettres (...) L'Angleterre, de nos jours, doit ses immenses richesses moins aux lumières de ses savants, quoiqu'elle en possède de très recommandables, qu'au talent de ses entrepreneurs pour les applications utiles (...) » (ibid, I, p. 45-46, je souligne ; voir aussi 1828-29, I, p. 98).

Le phénomène est renforcé par le fait que les connaissances dont doit disposer l'entrepreneur ne sont pas seulement des connaissances théoriques, mais aussi des connaissances pratiques, ce que Say appelle « *la science de [son] état* » (*ibid*, p. 47) qui peuvent découler de ses expérimentations personnelles²⁴. Cet aspect met donc en relief la nature de capital des connaissances privées de l'entrepreneur ou de la firme ainsi que la réputation dont ils jouissent: « *Le nouvel entrepreneur a son éducation à faire sur chacun de ces points et nulle éducation n'est gratuite. Une clientèle toute formée, une expérience acquise, sont des avantages si précieux en manufacture, qu'ils équivalent à un capital considérable* » (1828-29, I, p. 297).

Deuxièmement, Say prolonge cette réflexion sur le rôle de l'entrepreneur en examinant sa fonction de prise de décision dans un cadre industriel. Cette dimension a déjà fait l'objet d'un examen approfondi dans les travaux qui se sont intéressés à la filiation entre Say et Frank Knight (Steiner 1997, 1998a; Fontaine 1999). Dans le cadre de sa théorie de la répartition, Say caractérise l'entrepreneur par l'incertitude marchande puisque lui seul a un revenu incertain car lié aux résultats futurs sur les marchés où s'écoulent les produits qu'il vend. Dans la théorie de la production, le pendant de cette situation réside dans l'impératif de maîtrise intellectuelle des incertitudes liées à ce futur; l'entrepreneur doit calculer en fonction des prix des services certains et du prix (incertain) des biens produits :

« Les entrepreneurs d'industrie ne sont, pour ainsi dire, que les intermédiaires qui réclament les services productifs nécessaires pour tel produit en proportion de la demande qu'on fait de ce produit. Le cultivateur, le manufacturier ou le négociant, comparent perpétuellement le prix que le consommateur veut et peut mettre à telle ou telle marchandise,

²³ La science dont il s'agit concerne aussi la connaissance du monde social, et donc de l'économie politique. Say connaît le milieu des entrepreneurs et leurs « intérêts sinistres » (1817, I, pp. 195, 199) qui les poussent à demander des protections douanières, etc. Cela explique la diatribe violente qu'il leur adresse dans les premiers alinéas du fameux chapitre sur la loi des débouchés (*ibid*, pp. 141-144).

²⁴ « *Il y a dans les arts une certaine perfection qui naît de l'expérience et de plusieurs essais faits successivement dont les uns ont échoué et les autres réussis. Les sciences ne suffisent donc pas à l'avancement des arts, il faut de plus des expériences plus ou moins hasardeuses dont le succès ne dédommage pas toujours de ce qu'elles ont coûté* » (*ibid*, pp. 47-48). Le coût et l'importance sociale de ces tentatives font que Say juge favorablement le système des brevets d'invention.

avec les frais qui seront nécessaires pour qu'elle soit produite: s'il en décide la production, il établit une demande de tous les services productifs qui devront y concourir, et fournit ainsi une base de la valeur de ces services » (1817, II, pp. 53-54).

Cette tâche est loin d'être simple. En effet, l'entrepreneur doit maîtriser un large ensemble de données dont les grandeurs ne peuvent pas être déterminées d'une manière assurée, ou bien même de grandeurs qui ne peuvent être qu'estimées subjectivement au sens de l'incertitude radicale de Knight; pour ce faire, Say attend visiblement beaucoup d'une capacité spécifique qu'il dénomme le *jugement*²⁵. C'est le cas lorsqu'il s'agit de prévoir les besoins, c'est-à-dire, finalement, la demande qui sera faite d'un produit²⁶. C'est aussi le cas lorsque l'incertitude réside dans des décisions publiques modifiant l'environnement de l'entrepreneur, par exemple lorsque le gouvernement se lance dans la production d'un bien ou bien lorsqu'il modifie la valeur de la monnaie (*ibid*, pp. 267, 339).

Troisièmement, Say souligne le rôle de l'entrepreneur en termes de contrôle du processus de production. Le passage suivant, aussi succinct qu'il paraisse contient néanmoins une vision précise du travail de supervision continu que l'entrepreneur doit accomplir pour obtenir de ses subordonnés ce qu'il attend d'eux :

« Il faut souvent supposer la fraude et ne jamais le laisser apercevoir; faire coïncider l'intérêt de ses agents avec le sien propre ; rendre impossible leurs infidélités ; les exposer à une inspection inattendue ; ne point confondre le travail de l'un avec le travail de l'autre, afin que l'approbation arrive à qui elle appartient ; les intéresser à une surveillance mutuelle sans encourager l'espionnage, qui fait mépriser ceux qui l'emploient » (1828-29, I, p. 300).

Selon Say, le travail de supervision passe essentiellement par deux canaux : la connaissance du métier, la supervision comptable. Selon Say, l'entrepreneur doit connaître les techniques d'exécution, car *« celui qui ne connaît pas toutes les difficultés d'exécution, commande mal et mal à propos » (ibid)*. Sans doute faut-il voir là un écho des conditions industrielles de l'époque dans laquelle la distance entre les dirigeants et les exécutants est encore faible²⁷, ne serait-ce que parce l'essentiel de la production se fait toujours dans de petits ateliers et non dans de grandes manufactures (*ibid*, p. 268). La supervision comptable est introduite dans le cadre des leçons données au Conservatoire, puis dans le *Cours complet* (VIIIème partie, chapitre 18); à cette occasion, Say explique qu'un entrepreneur peut surplomber le fonctionnement de son entreprise grâce à des livres de compte pour peu que l'on ait fait l'effort d'apprendre la comptabilité et d'être capable d'en tirer les fruits²⁸.

²⁵ Ce point lui paraît crucial au point qu'il éclipse l'impératif de connaissance scientifique - ce qui n'est pas commun chez Say - et la relation directe au travail d'exécution : *« Personnellement, [l'entrepreneur] peut se passer de science, en faisant un emploi judicieux de celle des autres ; il peut éviter de mettre la main à l'œuvre en se servant des mains d'autrui ; mais il ne saurait se passer de jugement ; car alors il pourrait faire à grands frais ce qui n'aurait aucune valeur » (1828-29, I, pp. 97-98)*. Plus loin, la formation du jugement est présentée par Say comme le but de toute éducation industrielle (*ibid*, p. 299).

²⁶ *« Si l'on insiste, et si l'on dit que le cultivateur ne connaît que le prix courant du marché, et ne saurait prévoir, comme l'administration, les besoins futurs du peuple, on peut répondre que l'un des talents des producteurs, talent que leur intérêt les oblige de cultiver avec soin, est non-seulement de connaître, mais de prévoir les besoins » (1817, I, p. 167)*. Dans le *Cours complet*, la difficulté à prévoir la demande est rapportée à la complexité des motifs humains (1828-29, I, p. 296).

²⁷ Say a d'ailleurs commencé sa propre carrière industrielle en s'inscrivant à l'école de filature ouverte au Conservatoire des arts et métiers en l'an XIII (Archives du Musée du Conservatoire, pièce 11°95). Il parle donc de son expérience propre, mais, au-delà, la difficulté qu'il soulève est réelle puisque c'est une de celles que Frederic W. Taylor met au centre de l'organisation scientifique du travail.

²⁸ *« Si quelqu'un d'entre vous, messieurs, se proposant de suivre, non la comptabilité de son entreprise, mais seulement les procédés de son art, croyait en conséquence n'avoir pas besoin de connaître la comptabilité commerciale, je prendrais la liberté de lui représenter qu'il lui convient toujours d'en connaître la marche générale et l'esprit, ne fût-ce que pour être à portée de juger sainement de la capacité des hommes chargés de cette partie » (1828-29, II, p. 467)*.

2. LA THÉORIE DE LA PRODUCTION ET LES CRITIQUES DE RICARDO

Il s'agit maintenant de tirer parti de cet examen de la théorie sayenne de la production pour éclairer certaines prises de position en matière de théorie de la valeur et des prix, notamment lorsque Say est confronté aux critiques que lui adresse Ricardo. Les relations personnelles entre les deux hommes s'échelonnent sur la période 1814-1822, soit peu de temps avant la mort prématurée de l'économiste anglais en septembre 1823. D'un point de vue intellectuel, les relations portent sur une période plus vaste. Il est possible, voire probable, que Say ait pu pris connaissance des écrits de Ricardo sur le prix du lingot, traduits dans le *Moniteur universel* (an X, vol.2) au moment où Say explique à plusieurs correspondants qu'il est en train de refondre son *Traité*, en attendant des jours meilleurs pour publier la seconde édition²⁹. Il est certain qu'une partie des modifications introduites dans la cinquième édition du *Traité* ainsi que nombre de développements du *Cours complet* sont une suite du dialogue avec l'économiste anglais³⁰.

2.1. L'économie politique: les lois de la production ou les lois de la répartition?

Une première différence apparaît lorsqu'il s'agit de définir l'objet principal de l'économie politique. Dans l'introduction à ses *Principles*, Ricardo indique que son attention porte sur la répartition du produit:

« The produce of the earth - all that is derived from its surface by the united application of labour, machinery, and capital, is divided among three classes of the community; namely, the proprietor of land, the owner of the stock or capital necessary to its cultivation, and the labourers by whose industry it is cultivated. (...) To determine the laws which regulate this distribution, is the principal problem in political economy » (Ricardo 1817, p. 5)

La production intervient chez Ricardo au travers d'une théorie de la valeur basée sur la difficulté de production ; le problème smithien quant aux règles suivies dans l'échange est rapporté aux conditions définissant l'offre des biens (Kurz & Salvadori 1994, p. 16) et il est premier dans la mesure où il sert à clarifier la théorie de la répartition. Or, on l'a vu, Say ne procède pas de cette manière là : il a placé la production au premier rang et a repoussé à plus tard la réflexion sur la valeur; de même, il ne recherche pas une grande précision en matière de théorie de la répartition parce que celle-ci dépend de rapports de force économique (i.e. les rapports entre l'offre et la demande pour tel ou tel service producteur dans un système de marchés qui, selon Say, n'est pas caractérisé par une parfaite mobilité des facteurs), dont la nature est d'être extrêmement variable (Steiner 1998a, tables 5.1 et 5.2). Au point qu'il considère comme hors de son propos la question de la détermination précise des contributions des différents facteurs à la production. D'ailleurs, il ne creuse pas le problème théorique lié à la théorie de l'imputation, alors qu'il en expose à plusieurs reprises le principe fondamental, renvoyant l'affaire à ce que John Stuart Mill appellera plus tard le *« higgling of the market »*³¹.

²⁹ C'est ce qu'il déclare en février 1807 à Jean Charles Léonard Sismondi ou encore janvier 1809 à Benjamin Frossard, un prêtre de ses amis (Steiner 1998b).

³⁰ Un élément parmi d'autres permet de justifier précisément cette affirmation. A la fin d'un chapitre destiné à la présentation des différents fonds et services productifs, Say place la note suivante : *« J'ai senti la nécessité de dresser ce tableau, à la suite des discussions très longues qui se sont élevées entre David Ricardo et moi, soit de vive voix, soit par lettres, après que, dans ses Principes de l'économie politique et de l'impôt, il eut blâmé la définition que je donnais du mot valeur. Ces mêmes discussions en m'obligeant à travailler de nouveau ces premiers principes, m'ont fourni les moyens de les présenter avec plus de clarté peut-être qu'on ne l'a jamais fait »* (1828-29, I, p. 113).

³¹ *« Souvent la faculté productive des capitaux s'allie si intimement avec la faculté productive des agents naturels, qu'il est difficile et même impossible d'assigner exactement la part de chacun de ces agents prend à la production »* (Say 1817, I, p. 29). Et en note, il rajoute: *« C'est au propriétaire du fonds, c'est au propriétaire du capital, lorsqu'ils sont distincts l'un de l'autre, à débattre la valeur et l'influence de chacun de ces agents dans la production. Il nous suffit, à nous, de comprendre, sans être obligés de la mesurer, la part que chacun de ces agents »*

Un peu plus tard, alors qu'il est question des *Lettres à Malthus* de Say, Ricardo donne son appréciation sur ce qui fait la différence entre lui et Malthus:

« Political economy you think is an enquiry into the nature and the causes of wealth - I think it should rather be called an enquiry into the laws which determine the division of the produce of industry among the classes that concur to its formation. No law can be laid down respecting quantity, but a tolerably one can be laid down respecting proportions. Every day I am more satisfied that the former inquiry is vain and delusive, and the latter only the true objects of the science (...) You say demand and supply regulates value – this, I think is saying nothing, and for the reasons I have given in the beginning of this letter - it is supply which regulates value - and supply is itself controlled by comparative cost of production » (Ricardo à Malthus, 9 octobre 1820, in Ricardo 1952, VIII, pp. 278-279).

Cette lettre écrite à Malthus après une lecture dont on sait qu'elle fut très attentive des *Principles of Political Economy* (Ricardo 1820), aurait pu être adressée aussi bien à Say, notamment lorsqu'il est question de la théorie de la valeur. En effet, il faut être attentif au fait que lorsqu'il est question de la détermination des prix par l'offre et de la demande, Ricardo renvoie à un passage du début de sa lettre, passage dans lequel il critique l'approche de Say fondée sur l'utilité:

« He [Say] certainly has not a correct notion of what is meant by value, when he contends that a commodity is valuable in proportion to its utility. This would be true if buyers only regulated the value of commodities; then indeed we might expect that all men would be willing to give a price for things in proportion to the estimation in which they held them, but the fact appears to me to be that the buyers have the least in the world to do in regulating price - it is all done by the competition of the sellers, and however the buyers might be really willing to give more for iron, than for gold, they could not, because the supply would be regulated by the cost of production » (*ibid*, pp. 276-277).

Ainsi, malgré les différences existant entre Say et Malthus sur la question du fonctionnement du système de marchés, malgré l'accord entre Say et Ricardo sur la question des crises, il existe une opposition profonde entre Ricardo et Say-Malthus lorsqu'il s'agit de l'objet de l'économie politique d'une part, du rôle respectif des forces de marché et des contraintes de la production d'autre part. Pour les deux derniers, les lois de la production de la richesse sont décisives, bien plus que celles concernant la répartition de la richesse produite. Bien sûr, il serait faux de croire que Ricardo ne dit rien sur la production car la 'dynamique grandiose' qui se dégage de ses écrits concerne bien la production : aussi est-il plus exact de dire que dans le bouclage répartition-production, c'est la répartition qui a la primauté chez Ricardo. L'inverse est caractéristique de la position de Say que nous suggérons d'interpréter ici comme privilégiant la théorie de la production et ne considérant la répartition que comme un ensemble de phénomènes dont il s'agit qu'elle ne se trouve pas contredire les potentialités de la production. On peut ainsi s'expliquer que Say se satisfasse de propositions superficielles en matière de ce qui s'appellera plus tard la théorie de l'imputation, ainsi qu'on l'a vu plus haut.

Le deuxième point de différence profonde entre Say et Ricardo-Malthus concerne le rôle central que Say attribue à l'entrepreneur dans la théorie de la production et, plus généralement, dans la compréhension du fonctionnement d'un système de marchés. Il est intéressant de revenir sur un passage de la lettre déjà mentionnée de Ricardo à Malthus. En effet, continuant à critiquer la manière dont Say défend ce que nous appelons maintenant la "loi de Say", Ricardo explique sa façon de voir les choses:

prend à la production des richesses » (*ibid*, je souligne). Ce passage est maintenu par la suite (Say 1826, I, p. 35) ; dans ses annotations sur le *Cours* de Henri Storch, Say explique qu'il serait utile, pour la pratique, de savoir faire une telle distinction (Say 1823, p. 304).

« *The difficulty of finding employment of capital in the countries you mention proceeds from the prejudices and obstinacy with which men persevere in their old employments, - they expect daily a change for the better, and therefore continue to produce commodities for which there is no adequate demand. With abundance of capital and a low price of labour there cannot fail to be some employments which would yield good profits, and if a superior genius had the arrangement of the capital of the country under his control, he might, in a very little time, make trade as active as ever. Men err in their productions, there is no deficiency of demand* » (*ibid*, p. 277; je souligne).

Say ne pourrait bien sûr pas souscrire à une telle interprétation de sa loi des débouchés, précisément parce qu'elle passe sous silence celui qui lui paraît être le personnage central de la pièce, à savoir l'entrepreneur confronté à l'incertitude marchande, confronté au problème pratique d'anticiper la demande dans une situation où, justement, il n'existe pas de « superior genius » capable de planifier la production parce qu'il aurait été capable de connaître à l'avance les demandes qui se feront dans les différents marchés des biens et services consommables. Aussi, faut-il prendre au sérieux, théoriquement parlant, la réponse que Say fournit en 1825 lorsqu'il réécrit sa correspondance à Ricardo. En réponse aux critiques que Ricardo lui après lecture de la première édition du *Catéchisme d'économie politique*, Say ne faisait pas intervenir l'entrepreneur en 1815, ce n'est plus le cas en 1825:

« *je vous confesse que ma façon d'envisager les profits, soit d'un capital, soit d'un fonds de terre, rend très difficile pour moi la tâche de débrouiller cette question. Je ne peux m'empêcher de faire entrer pour beaucoup, dans l'appréciation des profits, le talent, la capacité industrielle de celui qui fait valoir un terrain ou un capital; et je regarde comme comparativement peu important le profit propre, le profit inhérent à ces deux instruments* » (Say, in Ricardo 1952, VI, p. 274)³².

En remettant l'entrepreneur au centre de son approche, Say marque d'une manière correcte une différence importante entre Ricardo et lui. Contrairement à l'énoncé de Ricardo pour qui la demande ne fait pas problème et pour qui seules les erreurs des producteurs persistant dans des productions inadaptées sont à l'origine des désajustements sur les marchés, ou des crises partielles, Say considère que le problème est celui du mutuel ajustement de l'offre et de la demande en tant que processus distincts au plan temporel, processus que, précisément, l'entrepreneur a en charge de coordonner. C'est parce que les évolutions de la demande sont incertaines que les entrepreneurs peuvent errer, c'est aussi parce que le monde économique est « visqueux » que ces entrepreneurs peuvent, pour un temps, espérer que le maintien de l'activité dans une phase de dépression est rationnelle. Pour reprendre une formulation de Philippe Fontaine (1999), l'approche de Say met l'accent sur l'incertitude qui caractérise le producteur en face des biens à produire, en termes de qualité comme en termes de volume; Say adopte une position qui est plus proche de la théorie de la firme conçue comme une organisation, c'est-à-dire comme un lieu caractérisé par une rationalité procédurale plutôt que par une rationalité substantive, par une approche de phénomènes marchands où la fluidité n'est pas parfaite, même lorsqu'on se situe au niveau des ajustements financiers (Say 1818, p. 466).

³² Ce point se trouve aussi dans une note sur Storch (Say 1823, p. 304), et à l'occasion d'une remarque de méthode introduite dans la cinquième édition du *Traité* : « *Si l'on rejette dans les exceptions les avantages qu'un producteur retire de la supériorité de son jugement, de son talent ou bien des circonstances plus ou moins favorables dans lesquelles agissent ses terres et ses capitaux, alors les exceptions l'emporteront sur la règle; celle-ci se trouvera contredite tantôt sur un point, tantôt dans un autre; ses hypothèses ne représenteront jamais un fait réel; elle ne sera jamais applicable; elle n'aura aucune utilité* » (Say 1826, III, p. 173).

2.2. Les réponses analytiques de Say en matière de théorie de la valeur

Probablement esquissé dès leur première rencontre en décembre 1814, le débat entre Ricardo et Say sur la théorie de la valeur commence dès le mois d'août 1815. À Say qui vient de lui envoyer une copie de la première édition du *Catéchisme d'économie politique*, Ricardo répond immédiatement en soulevant deux objections:

« *You have I perceive a little modified the definition of the word value as far as it is dependent on utility, but with great diffidence, I observe, that I do not think you have mastered the difficulties which attach to the explanation of that difficult word. Utility is certainly the foundation of value, but the degree of utility can never be the measure by which to estimate value. A commodity difficult of production will always be more valuable than one is easily produced although all men should agree that the latter is more useful than the former. A commodity must be useful to have value but the difficulty of its production is the true measure of its value* » (Ricardo 1952, VI, pp. 247-248; lettre du 18 août 1815).

Say répond en affirmant sa conviction en faveur d'une approche, qualifiée par la suite de « symétrique » de la valeur, selon laquelle l'utilité et le coût de production interviennent tous deux:

« *l'utilité n'est pas l'unique, mais la première cause de la valeur; car enfin une chose qui ne serait pas demandée, on n'y mettrait pas le prix, elle n'aurait point de valeur. Mais il faut que le prix, que son utilité détermine les gens à y mettre, suffise pour payer ses frais de production (what you call the difficulty of its production) et c'est ce qui fait que son prix ne peut pas tomber en dessous de ce taux* » (*ibid.*, p. 271)³³.

Avec des variantes, Say campera désormais sur cette définition 'symétrique' de la valeur. Remarquons pour l'instant qu'il ne semble pas avoir immédiatement pris la mesure de la différence entre lui et Ricardo: en effet, à l'exception de la formulation condensée donnée dans l'*Epitôme* (1817, II, p. 485), la troisième édition du *Traité* ne fait pas apparaître de manière claire cette approche symétrique de la valeur, si ce n'est au travers d'une partition de la relation marchande avec, d'abord, le débat contradictoire entre le vendeur et l'acheteur pour fixer le prix courant, puis la concurrence entre les producteurs pour abaisser les prix au niveau des frais de production (*ibid.*, pp. 7-8)³⁴. Sans que cela signifie un accord entre les deux auteurs, ou un ralliement de Say à Ricardo, Say conclut alors par une formulation proche de la formulation ricardienne: « En d'autres termes, plus rigoureux, les produits tendent toujours à prendre une valeur proportionnée aux frais de production qui sont nécessaires pour les établir » (*ibid.*, pp. 8-9).

La parution des notes sur les *Principles*, puis de la quatrième édition du *Traité* montre que si Say emploie des formulations ambiguës, notamment lorsqu'il s'exprime de la manière suivante: « *Lorsque j'échange 15 kilogrammes de froment contre un kilogramme de café, j'échange les services productifs qui ont formé 15 kil. de froment, contre ceux qui ont formé un kil. de café* » (1819, II, p. 7)³⁵. Ces formulations peuvent expliquer que, momentanément, Ricardo déclare qu'il

³³ Dans un texte publié peu de temps après, Say revient sur cette question en opposant Smith et Ricardo sur la théorie de la valeur et en marquant son souhait de rendre compatible les deux approches: « *Sur ce sujet assez délicat [la valeur], il n'est pas impossible d'accorder Adam Smith, qui pense que les prix sont, pour chaque marchandise, le résultat du rapport entre l'offre et la demande, et M. David Ricardo qui soutient que l'offre et la demande n'y influent en rien, et que les prix des choses ne sont réglés que par les frais de production* » (Say 1823, p. 290).

³⁴ Dans les notes sur Ricardo, la symétrie apparaît au travers de l'idée selon laquelle l'utilité détermine la demande et les frais de production, la rareté (Say 1818, p. 456).

³⁵ Ce passage est supprimé dans la cinquième édition du *Traité* (Say 1826, III, p. 159); on n'en retrouve l'idée que très fortement nuancée par une critique explicite de la thèse de Ricardo (*ibid.*, pp. 171-172) et flanquée d'une idée nouvelle concernant la hausse de valeur des frais de production en fonction de la hausse de la demande du produit final, c'est-à-dire d'une hypothèse de coût de production croissant (*ibid.*, p. 172)..

« *almost fully agree [with] your doctrine of productive services* » (Ricardo à Say, in Ricardo 1952, VIII, p. 379; lettre du 8 mai 1821); ce que laisse aussi entendre un passage des *Principles*, la théorie de la rente étant mise de côté (Ricardo 1817, pp. 283-284). Néanmoins, contrairement à l'interprétation suggérée par Samuel Hollander (1985), il ne semble pas possible de souscrire à une quelconque similitude entre les deux auteurs sur le fond. A partir de 1823, puis dans les années 1825-1829, sous l'influence de Ricardo, même après la mort de ce dernier, Say radicalise sa réflexion en accentuant le côté demande de son analyse et en s'efforçant d'explicitier aussi clairement que possible les relations entre besoins, utilité, demande, revenus et prix. La lecture de la cinquième édition du *Traité* et du *Cours complet* le montre très clairement: en effet, la notion de classement des biens en fonction d'une hiérarchie des besoins et la référence à la richesse, deux éléments introduits ou réintroduits en 1819, font l'objet d'une réflexion plus serrée de la part de Say.

Say déclare que les agents classent leurs besoins et cette hiérarchie, qu'elle qu'en soit l'origine, est « *une chose de fait et d'observation* » (1826, III, p. 161); ensuite, il rattache cette hiérarchie aux choix effectués entre les différents biens sous contrainte de revenu³⁶. Quel que soit le motif de la préférence, l'agent choisit en fonction de ses préférences d'une part et du prix relatif d'autre part; Say a donc atteint un niveau relativement élevé de clarté dans cette voie nouvelle de sa réflexion:

« *De là naît pour chaque produit une certaine quantité recherchée et demandée en chaque lieu, quantité qui est modifiée par le prix auquel il peut être fourni; car plus il revient cher au producteur en raison des frais de production dont il est le résultat, et plus, dans la classification qu'en font les consommateurs, il est reculé et se voit préférer tous les produits capables de procurer une satisfaction plus grande pour le même prix* » (*ibid*, p. 162).

Par ailleurs, Say associe désormais à sa réflexion sur le prix, une idée exprimée dès la première édition du *Traité* à propos de la répartition de la richesse dans la société, répartition qui prend, selon lui, la forme d'une pyramide. La demande est ainsi liée à la richesse, tant au niveau individuel qu'au niveau de l'ensemble des demandeurs:

« *Il en résulte encore que le même produit ou plusieurs produits, sans que leur utilité intrinsèque soit devenue plus grande, sont plus demandés à mesure qu'ils sont à plus bas prix, parce qu'alors ils se répandent dans une région où la pyramide des fortunes est plus large, et qu'ils se trouvent à la portée d'un plus grand nombre de consommateurs. Les classes qui demandent sont au contraire d'autant moins nombreuses, que la valeur du produit va en s'élevant* » (*ibid*, p. 162-163).

Le *Cours complet* accentue cette approche avec un graphique illustrant comment, sur la base du classement hiérarchique des besoins, la richesse et les frais de production entrent en contact par l'intermédiaire de la demande (1828-29, I, pp. 357-359). Au final, Say a précisé sa théorie du prix fondée sur la valeur utilité et le rôle de la demande et maintient son interprétation « symétrique » de la valeur, notamment lorsqu'il réitère sa proposition sur l'effet des variations de la demande sur le prix des services producteurs, en l'absence de l'hypothèse de substituabilité parfaite, hypothèse que Say rejette:

« *David Ricardo soutient que le prix courant des produits est toujours déterminé par les frais de production; et il a raison. Mais il en tire la conséquence que l'étendue de la demande n'influe pas sur ce résultat; et je crois qu'il a tort; car l'étendue de la demande fait monter le*

³⁶ « Or, il est de fait que chaque homme, soit en vertu d'un plan arrêté d'avance, soit pour obéir aux habitudes prises, ou aux impulsions du moment, au moyen du revenu dont il dispose et quelle qu'en soit la source, fait telle dépense préférentiellement à telle autre; et lorsqu'il est arrivé aux bornes de ses facultés, il s'arrête et ne dépense plus rien » (*ibid*, p. 161).

prix courant des services nécessaires pour l'espèce du produit, et le produit devient plus cher, quoiqu'il n'excède pas les frais de production. Pour que la conclusion de Ricardo fût soutenable, il faudrait que tous les services productifs fussent également propres à tous les produits » (ibid, pp. 361-362)³⁷.

Il est exact que la réflexion de Say apparaît incomplète par rapport à ce que développera Alfred Marshall parce que Say ne fait jamais intervenir une distinction en termes de périodes, le court terme pour les force de marché, le long terme pour les coûts de production. Néanmoins, la remarque de Say concernant les effets d'une hausse de la demande des biens sur les marchés des services producteurs est pertinente.

Toutefois, ceci ne concerne qu'une partie de la polémique avec Ricardo. Dès le départ de la polémique, ce dernier a élevé une critique concernant le lien entre valeur et richesse qui met plus directement en jeu la question de la production:

« A commodity must be useful to have value but the difficulty of its production is the true measure of its value. For this reason Iron though more useful is of less value than gold. Riches are valuable only as they can procure us enjoyments. That man is most rich, and has most valuables, who can procure in exchange for his commodities, not those things which he himself or the world generally consider as most desirable, because they may possibly be procured at little cost, but those things which are of difficult production, which is always the foundation of great value » (Ricardo à Say, in Ricardo 1952, VI, pp. 247-248; lettre du 18 août 1815).

De la part de Ricardo, il y a une distinction importante, mais somme toute élémentaire, à faire entre richesse et valeur. La richesse renvoie à l'utilité, à la jouissance alors que la valeur renvoie à la difficulté de production et à la quantité de travail nécessaire à la surmonter; cette distinction fait l'objet d'un chapitre des *Principles*, chapitre dans lequel Say est pris à partie (Ricardo 1817, pp. 279-288). Il est vrai que le débat est affecté par le manque d'une terminologie adéquate, puisque l'utilité renvoie à la fois à l'utilité socialement déterminée, celle qui permet de classer les biens en utiles ou nuisibles, et à l'utilité subjective qui fait qu'un bien nuisible peut satisfaire un besoin (ce que Vilfredo Pareto désignera plus tard par le terme d'ophélimité). La difficulté est d'autant plus grande que Say n'a pas une position intangible quant à la nature de l'utilité considérée, puisque il est progressivement amené à clarifier le fait qu'il considère l'utilité subjective et non pas l'utilité objective, socialement déterminée. En outre, comme le montrent les manuscrits de cette période, Say cherche longuement une solution au problème posé en termes d'une différence entre richesse individuelle et richesse de la nation; c'est-à-dire qu'il admet alors *de facto* la pertinence de la critique de Ricardo³⁸. Ces points qui, indubitablement, affaiblissent la position de Say ne doivent pas masquer la réponse fournie; cela d'autant plus que la théorie de la production est directement mobilisée à cet effet.

Reprenons le fil de la controverse. Dans une première réponse, Say ne saisit sans doute pas la portée de la critique de Ricardo, critique d'ailleurs formulée d'une manière embrouillée en faisant intervenir la restriction des besoins, ce qui est hors propos. Aussi dans sa réponse de septembre 1815, Say se contente-t-il de réitérer l'idée, à laquelle Ricardo souscrit, que le « comble de la richesse » serait atteint si tous les biens étaient des biens libres ou peu s'en faut (Say in Ricardo

³⁷ La même idée est exposée avec vigueur dans les notes sur Storch : « *Les frais de production déterminent, il est vrai, le prix auquel on peut fournir une certaine quantité d'une certaine denrée ; mais ces frais eux-mêmes varient selon la demande. En effet, de quoi se composent les frais de production ? Des profits des différents producteurs, du salaire des travailleurs notamment. Quand la demande d'un produit augmente, le salaire des travaux propres à le créer augmente; et comme ce salaire compose en partie les frais de cette production, il est également vrai que le prix est monté par suite de la demande, et que le prix est toujours égal aux frais de production* » (1823, p. 291).

³⁸ Par exemple: « *Une chose utile n'est une richesse que lorsqu'on est obligé de l'acheter soit par des services productifs, soit par des produits (qui ne sont qu'un service productif sous un autre nom). Si vous ne possédez pas cette chose, vous êtes d'autant plus riche qu'elle est meilleur marché. Si vous la possédez vous êtes d'autant plus riche qu'elle est chère* » (Say, *Mss* daté d'octobre 1821, in Tiran 1995, p. 135).

1952, VI, p. 271). Dans ses notes sur les *Principles*, Say (1818, pp. 478-479) s'appuie sur la distinction entre richesse naturelle et richesse sociale, distinction commune chez lui. La discussion reprend ensuite en juillet 1821 dans une correspondance dans laquelle Say fait usage de la réponse introduite dans la note 18 de la deuxième édition du *Catéchisme* (1821, pp. 216-220) qui paraît à la fin de cette année³⁹. L'argument de Say est alors directement basé sur sa théorie de la production, c'est-à-dire sur la nature de la relation Société-Nature par l'intermédiaire de la machine. Le fait que l'on échange une livre d'or contre 2.000 livres de fer signifie-t-il, demande Ricardo, que l'or est 2.000 fois plus utile que le fer? Non, répond Say qui propose l'argument suivant:

« en supposant pour un moment, qu'une livre de fer et une livre d'or rendent à l'homme autant de service l'une que l'autre, malgré l'inégalité de leur valeur, je dis qu'il y a dans une livre de fer : 1.999 degrés d'utilité naturelle, faisant partie des richesses que la nature ne nous fait pas payer, comme la lumière du soleil. Plus 1 degré d'utilité créé par l'industrie, que l'industrie nous fait payer parce qu'elle le paye elle-même en frais de production; c'est ce degré d'utilité qui est la seule valeur qui fasse partie des richesses sociales, unique objet de l'économie politique. 2.000 degrés d'utilité en tout. Tandis que, dans une livre d'or, il y a 2.000 degrés d'utilité, créés par l'industrie, faisant partie des richesses sociales, et, par conséquent, entrant dans la sphère de l'économie politique » (1821, p. 219).

La réponse de Say vaut la peine d'être considérée avec quelque attention. En premier lieu, elle actualise l'idée développée dans le cadre de la théorie de la production, lorsque Say fait valoir les mérites de la croissance intensive, dans laquelle la machine permet aux producteurs d'obtenir plus de produits grâce à une meilleure maîtrise des forces gratuites offertes par le savant. En effet, si au lieu de comparer l'or et le fer on compare deux états successifs de la production d'un même bien, on comprend que, selon lui, l'utilité du bien ne change pas, alors que le prix diminue en raison de l'emploi de la machine, du remplacement de services producteurs par des forces naturelles gratuites; c'est d'ailleurs ainsi qu'il présente les choses dans le chapitre du *Traité* consacré aux variations réelles et relatives des prix :

« Que si on me demandait où se puise cette augmentation de jouissances et de richesses qui ne coûte rien à personne, je répondrai que c'est une conquête faite par l'intelligence de l'homme sur les facultés productrices et gratuites de la nature (...) Un négociant qui, avec le même capital trouve le moyen de multiplier ses affaires, ressemble à l'ingénieur qui simplifie une machine ou la rend plus productive » (Say 1819, II, p. 35; 1826, II, p. 178)⁴⁰.

L'approche de Say sert à expliquer comment un bien dont la quantité disponible s'accroît peut procurer une plus grande jouissance aux individus vivant en société, donc fournir une plus grande utilité alors qu'en même temps, chaque unité du bien coûte moins cher à produire, a une valeur marchande moindre. En effet, grâce à l'usage des forces naturelles gratuites mises en œuvre par une machine mieux pensée, l'utilité naturelle est en proportion plus grande que l'utilité sociale résultant de l'industrie. L'utilité sociale diminue alors que l'utilité totale (naturelle et sociale) demeure la même pour celui qui possède le bien. Le prix diminue puisque l'utilité sociale a diminué ; l'individu est pourtant plus riche en termes d'utilité naturelle, même s'il l'est moins en termes des d'autres marchandises qu'il peut se procurer en échange. On est donc en face d'un développement similaire à celui fondée sur la différence entre utilité totale et utilité marginale ; l'approche de Say est donc

³⁹ Les documents publiés par André Tiran (1995, pp. 131-153) montrent que Say consacre encore beaucoup de temps à cette question entre août et octobre 1821.

⁴⁰ Cela explique aussi les passages dans lesquels Say affirme que l'on obtient d'une machine bien conçue *plus* que le service du capital nécessaire à la produire : le plus, ici, renvoie au fait que la machine permet d'obtenir le concours de forces gratuites, de telle manière que l'utilité totale se compose d'une proportion plus grande d'utilité naturelle (Say 1817, I, p. 53). Elle est donc au fondement de la croissance intensive, ainsi que la reformulation de la cinquième édition du *Traité* le fait apparaître (1826, I, pp. 64-65).

ici similaire à celle de Jules Dupuit lorsque ce dernier distingue l'utilité totale et l'utilité relative et qu'il mesure cette dernière par la différence entre l'utilité totale et le prix d'achat ou coût⁴¹. Selon Say, la richesse plus grande dont on bénéficie lorsque les frais de production unitaires diminuent désigne le surplus du consommateur, c'est-à-dire la différence entre ce que l'on aurait été prêt à payer pour jouir du bien (somme des utilités naturelle et sociale) et ce que l'on paye réellement (l'utilité sociale). À ce jour, il semble que Seul George J. Stigler ait relevé la réponse fournie par Say, même s'il l'écarte parce qu'elle lui paraît métaphysique au regard de la théorie de l'utilité marginale que Say ne pouvait connaître (Stigler 1950, p. 77). Couplée à la répartition des richesses - la pyramide du *Cours complet* - la production de biens utiles en quantité croissante et à un prix plus faible (grâce à l'emploi des forces gratuites de la nature qui diminuent la part de l'utilité sociale dans l'utilité totale) permet d'améliorer la situation de la population⁴², un objectif toujours essentiel aux yeux de Say, une raison supplémentaire de la primauté accordée à la théorie de la production.

Conclusion

Say appartient au groupe des 'industrialistes' pour lesquels la production est, plus que tout autre segment de la réalité économique, le phénomène central au point de qualifier la société qui se met en place au XIX^e siècle. On comprend ainsi l'intérêt que Say accorde à la machine en tant que moyen de tirer de la nature des procédés de production d'autant plus économiques qu'il sauront mettre en œuvre les forces gratuites de la nature. Par ailleurs, cet accent mis sur la production permet d'expliquer sa position vis-à-vis de Ricardo. Ce dernier est à l'origine de l'effort analytique que Say fournit entre 1819 et 1829 pour élucider les relations entre besoins, demande et prix. A cet égard, et bien que Say n'ait pas formulé une loi de demande ou une loi du débit, il faut lui accorder le mérite d'une réflexion originale et solide, même si elle passe par des formulations changeantes, inachevées au regard de ce qui sera développé ultérieurement, ne répondant pas aux problèmes soulevés par Ricardo. Pour le meilleur comme pour le moins bon, la théorie de la production est le centre à partir duquel l'approche économique de Say mérite d'être considérée.

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⁴¹ « L'utilité que nous venons de considérer et de mesurer, est l'utilité absolue de tout ce qui satisfait nos besoins, de ce que la nature fournit gratuitement comme de ce qui s'achète par le travail le plus pénible. Si en consommant un produit, quelqu'un dit, je ne m'en priverais que pour 30 fr., il y a réellement pour lui 30 fr. d'utilité dans ce produit, soit qu'il n'ait eu que la peine de le ramasser, soit qu'il l'ait acheté 20 fr. Mais l'utilité relative sera très différente dans les deux cas pour le consommateur. Dans le premier elle sera bien de 30 fr. d'utilité absolue, mais dans le second elle ne sera plus que de 10 fr., différence entre l'utilité absolue et le prix d'achat » (Dupuit 1844, p. 40, je souligne ; 1853, p. 178).

⁴² Les manuscrits de la période août-octobre 1821, en donnent de très nombreuses preuves; par exemple : « mais voici le grand avantage qu'une nation trouve à changer une partie de ses richesses sociales en richesses naturelles; c'est que les richesses sociales ne sont à la portée que de ceux qui ont de quoi les acheter; tandis que les richesses naturelles sont à la portée de tous » (Say in Tiran 1995, p. 145).

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THE DEMISE OF THE QUANTITY THEORY OF MONEY

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1. During the Sixties a dramatic change occurred in the field of monetary theory: the approach which held that the price level is determined by aggregate demand and aggregate supply whereas the supply of liquid resources, together with the schedule of liquidity preference, determine the interest rate was successfully challenged. The opposite and traditional view prevailed once again: the Quantity Theory of money regained the consensus of the profession, the media and the political world.

It thus appears that the alternative approach to the Quantity Theory had a very short spell in the history of economic thought; although there was a stream of opponents to the Quantity Theory running from the early mercantilists throughout the XIX century, it was only with the General Theory that a true alternative to the Quantity Theory reasoning was set out.

The Neoclassical synthesis incorporated the income-expenditure adjustment mechanism and the liquidity preference approach within its framework, but it was a weak defense against the assault of monetarism and the New Classical macroeconomics.

In the standard macro textbook of so-called Neo-Keynesian orientation, an increase in the quantity of money, through its effect on spending and output, causes an increase in output and in prices. However, this is only a short-run effect; any increase in output beyond the natural or NAIRU level, brought about by expansionary policies which entails an increase in the nominal stock of money, keeps pushing wages and prices up until the "real" quantity of money is back to its initial level. In the words of Dornbusch-Fisher :

"In the long run, once wages and prices have had time to adjust fully, the model has the same predictions as the classical case [...] The difference is only in the adjustment process. In the classical case a monetary expansion leads immediately to an equiproportionate rise in prices with no real expansion. Here, both output and prices rise in the short and medium term, and only in the long run do we reach the classical case. [...] In the short run the prediction of [the] model more closely resemble the Keynesian case [...], and the more slowly that wages adjust to changes in employment, the greater the resemblance". (Dornbusch-Fisher 1990: 495)

In the end, rather than an alternative approach to the Quantity Theory, the Keynesian approach to monetary theory appears as a complement to it, valid to explain short-term fluctuations in output and prices.

Of course this is not what Keynes must have meant when he wrote in the Preface to the French edition of the General Theory, dated February 1939:

"The following analysis registers my final escape from the confusions of the Quantity Theory, which once entangled me. I regard the price level as a whole as being determined in precisely the same way as individual prices; that is to say, under the influence of supply and demand....The quantity of money determines the supply of liquid resources, and hence the rate of interest..." (Keynes 1973 : xxxiv-xxxv).

In fact, the demise of the Quantity Theory of money took Keynes a long way from his previous views. In what follows an attempt is made to trace the development of this transition to an alternative theory.

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2. According to Kahn "Keynes' long struggle over a period of six years to produce a version of the Treatise worthy of publication was directed partly to an escape from the stranglehold of the Quantity Theory of Money in its crude form. In the end Keynes was able to write that 'The forms of the Quantity Theory [...] on which we have all been brought up [...] are but ill adapted for this purpose' of exhibiting 'the causal process by which the price level is determined, and the method of transition from one position to another' "... (Keynes 1971:120).

"Nevertheless" -Kahn continues- "Keynes seems to have been so much under the spell of the Quantity Theory that he could write about his Fundamental Equations as though they were 'versions' of the Quantity Theory." (Kahn 1984: 56).

In the Treatise the logic of the Quantity Theory is questioned on two grounds: 1) the slowness of the adjustment required to bring about the final equilibrium position renders it almost irrelevant as an explanation of actual processes; 2) since "a change in the total quantity of money [...] is algebraically consistent for a time with more than one set of consequences" (Keynes 1971: 243) the Quantity Theory of money cannot be interpreted as exhibiting a causal process.

The Treatise offers only the destruens pars of the criticism of the Quantity Theory, and Keynes was able to provide the alternative approach only when he "succeeded in getting his theory of money, his theory of wages and Kahn's multiplier into a coherent system" (Robinson 1966: viii). Moggridge dates Keynes's first formulation of an alternative explanation of determination of the level of output in the early 1933², but Kahn claims that at the time Keynes had not yet have a clear picture of the alternative approach³.

In fact, an argument similar to that presented in the Treatise is adopted by Keynes in a letter to Dennis Robertson of May 3, 1933, to reject the Quantity Theory:

"In my present state of mind [...] I doubt that either version of the Cambridge equation is of any serious utility, and I can't remember that I have ever come across a case of anyone ever using either of them for practical purposes of interpretation [...] One can of course write down quite a number of equations of this type, stating the de facto relationship of some one thing to some other. But are they of any use for causal interpretation? All the versions of the Quantity Theory, which make no distinction between swops and intermediate transactions and genuine production-consumption transactions, seem to me to tell one nothing". (Keynes 1979: 18).

We have then evidence that Keynes associated the theory of liquidity preference with his earlier discussion in the Treatise⁴, that the output adjustment mechanism was discovered at beginning of 1933 and that by Summer 1934 the main lines of the General Theory had become clear (Marcuzzo 2002). In the steps which led to an alternative to the Quantity Theory, I will argue, Richard Kahn and Joan Robinson had an important role.

3⁵. Keynes attributed the crucial element in the transition from the Treatise to the General Theory - adoption of the theory of aggregate demand and aggregate supply to determine the short period level of prices-

to the approach taken by Kahn in his "multiplier article":

"[...] It was Mr. Kahn who first attacked the relation of the general level of prices to wages in the same way as that in which that of particular prices has always been handled, namely as a problem of

² "... by early 1933 at the latest the basic output-adjustment framework of the General Theory was in place, as were the theory of liquidity preference and the notion of the marginal efficiency of capital" (Moggridge 1992: 564-5).

³ "By March 1934 clarity had been far from reached over the fundamental definitions" (Kahn 1984: 114).

⁴ Some commentators stressed the continuity between the Treatise and the General Theory as far as the theory of the liquidity preference is concerned. Patinkin points to the instances in the General Theory where mention is explicitly made of the link with the bull-bear discussion in the Treatise of the relationship between the three motives in the demand for money (transactive, precautionary, speculative) in the General Theory and the income-deposits, business deposits and savings deposits of the Treatise (Patinkin 1993: 650). Trevithick maintains that "many of the characteristic features of the theory of liquidity preference had been formulated in A Treatise on Money." (Trevithick 1994: 82).

⁵ This section is mainly drawn from Marcuzzo (1996a).

demand and supply in the short period rather than as a result to be derived from monetary factors." (Keynes 1973, Appendix: 400n)⁶

In his "multiplier" article, Kahn maintained that the determination of the level of price and output of consumption goods cannot but be derived from the theory of demand and supply. The aggregate supply curve of consumption goods, just like the supply curve of a single commodity, indicates the price necessary for each level of demand for consumption goods for that quantity to be produced, the demand for consumption goods being a function of total employment. Thus, the aggregate supply curve of the consumption goods sector represents "all the situations in which the price level is such as to confirm production and employment plans made by the firms in this sector." (Dardi 1990: 8).

Following a change in employment (brought about by the building of roads financed by the Government) we can study its effects on the prices and output of consumption goods, in other words the increase in production beyond the increase in investment, by observing the shape of the supply curve of consumption goods.

Kahn's construction of the aggregate supply curve is meant to solve two problems: a) what the price must be in order that a given quantity of consumption goods be produced; b) how much employment is generated by the increase in the quantity of consumption goods which it is profitable to produce.

The answer to (a) depends on the assumed pattern of costs, the value and pattern of the elasticity of demand, and the behavior pattern assumed to be followed by firms (profit maximization), while the answer to (b) depends on hypotheses about labour productivity and money wages.

Once hypotheses are made on a) and b), we can calculate the increase in price, output and employment, for any given increase in the primary employment, which is of course the multiplier.

The multiplier article can be seen then as the first step towards a theory based on aggregate supply and demand curves, although its application is limited here to the consumption goods sector. Extension of this analysis to output as a whole is accomplished in the discussion of the aggregate supply function as we find it in the lectures given by Kahn in Michaelmas Term 1932, as recorded in the notes taken by Lorie Tarshis (Tarshis (1979)).⁷

The starting point for the construction of the aggregate supply curve is the same as in the multiplier article. The difference is that on the vertical axis we now have the expected proceeds necessary to induce entrepreneurs to produce a given output, while in the horizontal axis we have the level of output so that the question - what the price must be - is substituted by what the proceeds must be, in order that a given quantity be produced.

To derive the aggregate supply curve, we start from determination of the supply curve of each level of output for a single firm. The supply price answers the question: given marginal and average costs, associated with a given level of output, O_i , what the price must be in order that the firm that maximizes its profits be willing to produce precisely that level of output?

The level of output, O_i , will be produced only if profits are at a maximum; that is to say, only if in O_i marginal revenue equals marginal cost.⁸ Thus, on the basis of the well known relationship between price and marginal revenue, for a given elasticity of demand measured at O_i , the supply price, p_i , is:

$$p_i = \left(\frac{k}{k-1}\right) MC_i$$

⁶ The claim is substantiated by Kahn himself. In a letter to Patinkin of March 1974 he described one of the main important results of the 1931 article as "Finally disposing of the idea that the price level is determined by the quantity of money" (Patinkin-Leith 1977 :147).

⁷ An outline of Kahn's lecture notes can be found in Kahn's papers, King's College Cambridge (henceforth RFK, followed by the catalogue number), RFK 4/15/4-14.

⁸ In addition the price must be at least as high as the variable unit cost, otherwise the entrepreneur would earn more (or, in this instance, lose less) by suspending production.

where k = elasticity of demand and MC_i = marginal costs at O_i .

The supply curve is then given by:

$$Z(O_i) = p_i O_i = \left(\frac{k}{k-1}\right) MC_i O_i$$

It is worth noting that the above is a general formulation, which does not require special assumptions about market form or the shape of the marginal cost curve. Specific assumptions are reflected in the shape of the supply curve and in the value of its elasticity.

The aggregation problem is "solved" by assuming that, for any given level of output, the distribution among firms of their individual share is known. The aggregate level of output, \underline{Q} , is then:

$$\sum_{k=1}^m \underline{Q}^k$$

m = number of firms; \underline{Q}^k = output produced by the k th firm.

The total output of the economy is measured by a production index; to avoid double counting, intermediate products are of course subtracted from the total production, so that a measure in terms of value added is obtained.

The importance of the aggregate supply curve, drawn in the expected proceeds-aggregate output space, is that derivation from it of the "level of prices" is straightforward: for each level of output, it is given by the ratio of expected proceeds to output. This means that the level of price can be determined by the same forces as the level of output and not by the Quantity of Money.

What Kahn had achieved turned out to be an important step in the development of Keynesian ideas, as Joan Robinson reminded us years later: "A short period supply curve relating the level of money prices to the level of activity (at given money-wages rates) led straight from Marshall to the General Theory." (Robinson 1969: 582).

The point can not have been fully understood even by the closest among Keynes' associates, if in October 1934, Kahn felt the need to explain it to Harrod:

"To my mind it is the most complete nonsense to suppose that the ideal behaviour of banks can be framed in terms of any propositions involving level of prices. How prices behave depends on how wage behave, and that in turn depends on how Trade Unions behave [...] In short, I do not think in terms of money and prices. In the view of Keynes and his followers the Theory of Money has ceased to exist. Though of course that is an exaggeration (it is the quantity of money which determines the rate of interest), but the exaggeration is a pardonable one."⁹

4. The question also arises of the role Joan Robinson played in facilitating Keynes's progress towards the new formulation, bearing in mind course her close friendship and collaboration with Richard Kahn. (Marcuzzo 2001)

Kahn left for America in December 1932. The correspondence with Keynes is particularly interesting where Kahn gives his opinion on the dominant influence of the quantity theory of money in the United States. For instance he wrote to Keynes: "I am thinking that the only way to save humanity is to lead a campaign against the Quantity Theory" (JMK L/K: 36)¹⁰. And in a paper he read to the Political Economy Club when he came back after four months, he added: "the scourge which goes by the name of the Quantity Theory of money has swept the country" (RFK/3/18/3:15); "my visit to the United States inclines me to ascribe most of the ills of the world to the Quantity Theory of Money" (RFK/3/18/3:16).

⁹ Letter of Oct 22, 1934, quoted in Besomi 1999:46.

¹⁰ JMK stands for J.M. Keynes papers, King's College, Cambridge.

The issues addressed in correspondence with Joan Robinson in the following were mainly raised by their joint proof reading of the Economics of Imperfect Competition (Marcuzzo (1996a), but the questions debated in the previous year in the "Circus" also were discussed. Early in January 1933, Joan Robinson read Kahn's draft of his book on the Economics of the Short Period and naturally she was looking into Kahn's and Keynes' works, with those questions in mind. She wrote to Kahn on January 31st, 1933:

"I am beginning to have doubt about Maynard's long period equilibrium with underemployment. Wouldn't it lead to a fall in money wages? i.e. it isn't really equilibrium. For it can't be said to be in equilibrium with the price level tending towards O." (RFK 13/90/1/85).

On March 2, 1933, he replied to her:

"Naturally, you cannot raise the point, but if Maynard hints that he would like you to look at his stuff, I do wish you would. I must confess that I am a bit appalled at the prospect of having the sole responsibility thrust on to me after my return" (RFK 13/90/1/163)¹¹.

Joan Robinson's contribution to the transition from the argument of the Treatise to that of the General Theory is contained in an article -The Theory of Money and the Analysis of Output published in the first issue of the "Review of Economic Studies" in 1933- where she gives an outline of Keynes' theory "as far as it had got in 1933" (Robinson 1951: viii). She later described it as a "kind of interim report, which clears the ground for the new theory but does not supply it" (Robinson 1966: viii).

The paper must have been written when Kahn was in America as we gather from his reaction in a letter to her of 20 March 1933:

"Gifford also showed me your thing on the Theory of Money. I do think it ought to be published, but I suppose it can't be. It would be awfully illuminating to all those who live in darkness, and it is well done". (RFK 13/90/1/200)¹²

The point of the article is to show that the aggregate supply and aggregate demand apparatus can be employed to determine the equilibrium level of output. Only if the supply of goods is perfectly inelastic will an increase in the quantity of money result in an increase in prices. But if over a certain range the supply of goods is perfectly elastic " a rise or fall in demand for goods [...] will be met by an increase or decrease in output without any changes in prices" (Robinson 1951: 56).

Joan Robinson goes as far as arguing that in fact the theory set out in the Treatise is concerned with determination of the level of output rather than the level of prices, and that Keynes failed in that book "to realize the nature of the revolution that he was carrying through" (Robinson 1951: 55).

The article contains an attack on the Quantity Theory of money described as a tautology, "devoid of causal significance" (Robinson 1951: 55). The point is illustrated by what Joan Robinson refers to as Kahn's "Quantity Equation for hairpins."¹³ It is worth quoting the relevant passage in full:

"Let P be the proportion of women with long hair, and T the total number of women. Let $\frac{1}{V}$ be the daily loss of hairpins by each woman with long hair, and M the daily output of hairpins. Then

¹¹ A year and half later, when the building blocks of the General Theory were firmly laid out, Joan Robinson was so confident in her role that she could write to Kahn: "[...] of course I am absolutely full of views about the Treatise. Would Maynard like me to write him a Preface for the new work showing in what respects his ideas have altered?" (letter of Sept. 5, 1934; RFK 13/90/2/95). In fact, it was during that Summer that a change occurred in the personal relationship between Keynes and Joan Robinson. She wrote to Kahn on August 15, 1934: "[...] "I see Maynard signed 'yours faithfully' in type and crossed it out in ink so I can't really complain." (RFK 13/90/2/40).

¹² Charles Gifford was the student who used the marginal revenue curve in one of his essay for Austin Robinson, thus arousing the interest of Joan Robinson and Richard Kahn who then started their joint work on imperfect competition. See Marcuzzo 1994 and 2001.

¹³ Among Kahn's papers a handwritten document, containing the notes of the lecture which Kahn gave to Graduate Club in Chicago in January 1933, has been found where the Quantity Equation for hairpins is set out. See RFK papers, File 4/17. Also Dardi (1994: 91) agrees that the "Quantity theory for hairpins" testifies "to Kahn's resolution in waving the anti-quantity theory flag at the time when Keynes and the 'Circus' were still groping for a way out of monetary orthodoxy".

$M = \frac{PT}{V}$ and $MV = PT$. Now suppose that the Pope, regarding bobbed hair as contrary to goods morals, wishes to increase the proportion of long-haired women in the population, and asks a student of economics what he has best do. The student sets out Mr. Kahn's equation, and explains it to the Pope. 'All you need do', he says, 'is to increase M , the daily output of hairpins (for instance, you might give a subsidy to the factories) and the number of long-haired women is bound to increase'. The Pope is not quite convinced. 'Or, of course', the student adds, 'if you could persuade the long-haired women to be less careless, V would increase, and the effect would be the same as though the output of hairpins had increased'".

The parable reiterates the criticism of the Quantity Theory of money according to the argument set out in the Treatise, but hints at an alternative explanation where the direction of cause and effect between money and prices is reversed¹⁴. What of course the article does not provide is the framework in which the different elements of the new theory - the liquidity preference, the output-adjustment mechanism and the wage theory - fit logically together. For this we have to turn to the *General Theory*.

5. In chapter 21 of the General Theory Keynes presents his theory of the determinants of the price level and shows how it stands in relation to the Quantity Theory.

The price level for output as a whole is determined, as in the case of a single industry, by marginal cost and the scale of output. However, in the case of aggregate output, a new element must be taken into account, namely the effect of changes in aggregate demand both on costs and on volume (Keynes 1973: 294).

In the aggregate if the rates of remuneration of the different factors of production, which enter into the marginal costs, change in the same proportion as the wage-unit, then the level of price depends partly on the wage unit and partly on the volume of employment.

Keynes then proceeds to discuss the conditions under which the result of the strict Quantity Theory - a proportional increase in prices as consequence of an increase in the quantity of money - actually hold.

First, we have to consider the effect of a change in the quantity of money on effective demand, and then how the change in effective demand spends itself in increasing output and prices. In other words the elasticity of changes in prices with respect to a change in the quantity of money (e) is given by the elasticity of changes in effective demand with respect to changes in the quantity of money (e_d) times the elasticity of changes in prices with respect to changes in effective demand (e_p).

Formally, we have that:

$$e \left(= \frac{M}{P} \frac{dP}{dM} \right) = e_p e_d .$$

It is immediately evident that if effective demand increases in the same proportion as the quantity of money, that is to say if we assume a constant ratio between effective demand and the quantity of money, namely if $e_d \left(= \frac{M}{D} \frac{dD}{dM} \right) = 1$, prices will increase in the same proportion as the increase in effective demand, whenever $e_p \left(= \frac{D}{P} \frac{dP}{dD} \right) = 1$, where D is effective demand and P is the level of prices.

¹⁴ Kahn gave a clear statement of the reversed causality between money and prices as early as 1932 in a paper "Public Works and Inflation" he presented to the American Statistical Association of Cincinnati, where he wrote "the quantity of money is an effect, not a cause". (Kahn 1972 : 30).

Since $e_p = 1 - e_o(1 - e_w)$ ¹⁵, where $e_o (= \frac{D}{O} \frac{dO}{dD})$ is the elasticity of output in response to changes in effective demand and $e_w (= \frac{D}{W} \frac{dW}{dD})$ is the elasticity of money-wages in response to changes in effective demand, the condition of equiproportional increase in price following an increase in effective demand, is satisfied if $e_o = 0$ or $e_w = 1$.

However, this is not the only case. In fact, since $e_p = 1 - e_e e_o (1 - e_w)$, where $e_e (= \frac{D}{N} \frac{dN}{dD})$ is the elasticity of change in employment in response to a change in effective demand, we can write:

$$\begin{aligned} \frac{M}{P} \frac{dP}{dM} &= e_d [1 - e_e e_o (1 - e_w)] \\ &= e_d (1 - e_e e_o + e_e e_o e_w) \end{aligned}$$

The above expression, according to Keynes, "can be regarded as a generalized statement of the Quantity Theory of money" (Keynes 1973: 305).

Thus the quantitative result is made dependent upon the values of four critical elasticities:

e_d = liquidity factors, which determine the demand for money in each situation;

e_w = labour factors, which determine the extent to which money-wages are raised as employment increases;

e_e, e_o = physical factors, which determine the rate of decreasing returns as more employment is applied to the existing equipment.

Thus, if the public hold a constant proportion of their income in money, $e_d = 1$; if money wages are fixed, $e_w = 0$; if constant returns prevail, $e_e e_o = 1$; if there is full employment either of labour or equipment, $e_e e_o = 0$. (Keynes 1973: 306).

In fact, there are many conditions under which $\frac{M}{P} \frac{dP}{dM}$ is equal to 1; for instance, as we have seen, if $e_d = 1$ and $e_w = 1$, but also:

either

if $e_d = 1, e_w = 0$ and $e_e e_o = 0$;

or

if $e_d = 1$ and $e_o = 0$

and of course a variety of other combinations.

However, "on plausible assumptions relating to the real world", according to Keynes, it is very unlikely that the elasticity of the price level with respect to a change in the quantity of money will turn out to be equal to one, and therefore it is "safe to make the generalization [that] as a rule [is] less than unity". [Keynes 1973: 306].

The really important result achieved by Keynes is not, of course, to have claimed what any defender of the Quantity Theory of money would readily concede, but to have provided us with description of a transmission mechanism in which behavioural relationships are ordered according to a clear chain of causes and effects. As Kahn later put it, the novelty of the approach is the view of "the monetary and credit mechanism as a matter of straightforward cause and effect, expressed in terms of physical realities" (Kahn 1972:145).

¹⁵ The derivation of the result is given in Keynes 1973: 285n.

6. Keynes' generalization of the Quantity Theory of money follows a line of reasoning similar to that employed in the theory of income determination: the Quantity Theory of money results apply under very special conditions: far from being a general proposition it can be applied in very special circumstances, which rarely occur in the real world.

It could be argued that the attempted reconciliation with the tradition, as in many other instances of Keynes's tactics against the orthodox view¹⁶, ended up as serving its rehabilitation. Rather than stressing that the Quantity Theory of money results apply under very special conditions, the Neoclassical synthesis first, and the so-called Neo-Keynesian models later, swept those very special assumptions under the carpet so that the very point Keynes was making against the Quantity Theory of money was completely missed.

The generalized statement of the Quantity Theory of money presents a transmission mechanism from monetary to real factors that can be broken down into a series of steps, which may lead to very different outcomes.

For instance, an increase in the quantity of money may not generate a proportional increase in effective demand; the increase in effective demand may not give rise to a predictable rise in wages, and the rise in output and employment and prices may occur in various combinations so that there is not only one possible outcome.

Moreover, changes in the supply of money bring about changes in the interest rate only if the schedule of the liquidity preference is represented as a well-defined curve or a stable relationship. Kahn, in his Liquidity Preference article, stressed "the unsuitability of thinking of a schedule of liquidity preference as though it could be represented by a well-defined curve or by a functional relationship expressed in mathematical terms or subject to econometric processes" and held Keynes responsible for giving way "to the temptation to picture the state of liquidity preference as a fairly stable relationship". (Kahn 1972: 90)¹⁷.

To sum up, costs conditions and the degree of competition set the increase in prices necessary for an increase in production to take place, if constant returns do not prevail, so that firms maximize their profit, but it is the level of expected demand which sets the level of production, and an increase in the level of expected demand is not synonymous with increase in the quantity of money.

The chain of causes and effects is misrepresented in the so called AD/AS model which became popular in the 1990s. An increase in the quantity of money always, shifts the AD curve up and to the right, except in liquidity trap, since a higher money supply in real terms makes the interest rate fall and investment and income increase. Then, in order to see what happens to the price level the aggregate supply curve is brought in. The AS curve is presented, in the long run, as perfectly inelastic at the "natural rate of unemployment" or at the NAIRU level, whereas in the short run it is presented as upward sloping, because of fixed nominal wages and/or misperceptions of price changes by workers and firms. It follows that how the increase in the quantity of money spend itself on prices and output is made dependent on the elasticity of the aggregate supply curve.

However, the shape of the AS curve reflects conditions in the labour market rather than the structure of costs in the economy. Any increase in prices, associated with changes in income and employment is mainly accounted for by an increase in money wages, more or less proportionally, according to the assumptions made on the behaviour of labour productivity and mark up. It is thus apparent that the AS curve is nothing more than a travesty of the empirical regularity known as the Phillips curve. (Marcuzzo 1996b).

On the contrary, we saw that the aggregate supply function (ASF) devised by Kahn -and adopted by Keynes in relation to employment levels¹⁸ - is a relationship between different levels of output

¹⁶ Harcourt-Sardoni (1994) rightly argue that part of Keynes's strategy to gain acceptance for his new ideas was to accept as many assumptions of the classical theory as possible, then deriving conclusions at variance with it.

¹⁷ Dardi rightly argue that "hints may be found, especially in Kahn's later writings, which point to long-standing differences between him and Keynes on the very foundations of monetary theory and on the most appropriate ways of dealing with the influence of monetary theory on the rate of interest." (Dardi 1994: 91).

¹⁸ If average labour costs are constant and marginal labour costs are a constant fraction of marginal costs, then the supply functions against output and employment have the same characteristics. See Tarshis (1979: 377).

and those expectations of proceeds that would induce entrepreneurs to make them available. Its position and shape is determined by the marginal costs of the various firms that make up the economy and the elasticities of the demands for the products of these various firms, whereas Keynes's aggregate demand function (ADF) shows the level of proceeds the firms expect to realize from the sale of their outputs. Their intersection gives the equilibrium level of output at which profits are maximized. Once the equilibrium level of output is determined by the level of effective demand, then we can find out the price level corresponding to it on the basis of the assumptions made in relation to the costs functions and the degree of competition.¹⁹

The demise of the Quantity Theory approach implies the acknowledgment that it is the level of effective demand which sets the level of production while cost conditions and the degree of competition determine the prices at which that output can be sold. Thus prices are seen as the outcome of the profitability conditions prevailing in the economy and not of the level of the quantity of money.

¹⁹ In the case of the supply curve in relation to aggregate output (AFS-O), we have seen that it is given by the slope of the straight line joining the corresponding point on the ASF-O to the origin. In the case of the supply curve in relation to aggregate employment, (ASF-N) the slope of the line from any point on the function to the origin represents the ratio of value added to the level of employment. (Tarshis 1979: 380).

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WICKSELL'S THEORY OF MONEY, INTEREST AND PRICES, IN THE NINETEENTH CENTURY AND THE TWENTY-FIRST

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Sir John Hicks has spoken of the re-switching of economic ideas. Theories which illuminate 'the right things at one time may illuminate the wrong things at another' after which, when circumstances change, they sometimes once again focus on what is of central importance. ([1975]1981, pp.230-2) Knut Wicksell's theory of money, interest and prices is an example.

In his seminal Geldzins und Güterpreise of 1898, which R.F. Kahn translated into English as Interest and Prices in 1936, Wicksell was especially concerned to produce a theory which could explain the falling price trend in the last quarter of the nineteenth century. More than 100 years later, his theory has the potential to illuminate several developments which are otherwise puzzling.

1. In all the leading developed economies central banks are being asked to control inflation within an extremely narrow range, and they are achieving this with apparent effectiveness entirely through their control over short-term interest rates. Wicksell believed that the interest rate at which companies obtained short-term finance was sufficiently powerful to achieve the objective of price stability, but in much of the twentieth century few regarded this as a sufficient tool to achieve that purpose.
2. The commercial banks of many countries now hold what would have been regarded, in much of the nineteenth and twentieth centuries, as astonishingly low ratios of liquid assets, and whether their rate of deposit creation rises or falls is not a consequence of previous movements in their liquid reserves. They lend what they find it profitable to lend and they can easily acquire whatever liquid assets they believe they need at the same time as they expand their advances. In Wicksell's credit expansion model, the rate of growth or decline of bank deposits was virtually independent of the level of liquid reserves.
3. Many find the contrast between the apparent robustness of growth in the US economy and the decade-long stagnation of the Japanese economy puzzling. According to Wicksell's theory, if the real rate of return on capital is 7 per cent in the US and 1 per cent in Japan, expansionary forces will predominate at any US real interest rate of up to 3 or 4 per cent, while the Japanese economy will suffer a falling trend in prices at any positive real rate of interest whatsoever. If Japanese profits are actually as weak as this it is hardly surprising that even nominal interest rates of less than 0.5 per cent have failed to produce any significant expansion of economic activity.
4. The world's central banks are finding it increasingly helpful to cooperate through extensive exchanges of information and occasional co-ordination of their interest rate decisions to produce a sustainable structure of world interest and exchange rates. Wicksell regarded central bank cooperation as an essential element in the achievement of world-wide price stability. That, in his view, was the limit to the favourable contribution which monetary policy could make, since:

Those who expect monetary measures to perform miracles might well remind themselves of the well-known fact that coins do not give birth to offspring, and that even if they did, precious metal would constitute neither sustenance nor clothing. ([1898]1936, p.196)

Hence, even when money is ideally managed, the most it can offer to the world is price stability in every leading economy.

In this paper Wicksell's theory of money, interest and prices will be outlined. After that some of its implications for economic theory will be discussed. Milton Friedman acknowledged a direct debt

to Wicksell in his definition of the 'natural rate of unemployment' in 1968, in what Sir Alan Budd has described as 'the most important contribution to the employment debate in the post-war period. Almost everything about unemployment or inflation that has been published since then can be seen as an attempt to develop the ideas that were developed in that paper.' (1996, p.128) There are remarkable parallels between the process of accelerating inflation in Friedman when unemployment falls below the 'natural' rate, and in Wicksell when the market rate of interest falls below his 'natural' rate. Finally some of the implications of Wicksell's argument for the robustness of the US economy, the weakness of the Japanese economy, and for international monetary coordination will be outlined.

WICKSELL'S THEORY OF MONEY, INTEREST AND PRICES

During the nineteenth century there were extensive developments in banking throughout the world. By 1898, when Wicksell published Geldzins und Güterpreise, most business purchases in countries such as Sweden, were paid for with cheques drawn on bank accounts, and these could be cleared between a country's banks through what Wicksell described as a Giro system. This created extensive economies in a country's need for cash.

To bring out the fundamental implications of these developments, Wicksell set out two limiting cases, one where all financial transactions were made in cash, and another in which he set out his entirely original conception of a cashless economy:

We intend therefore, as a basis for the following discussion, to imagine a state of affairs in which money does not circulate at all, neither in the form of coin (except perhaps as small change) nor in the form of notes, but where all domestic payments are effected by means of the Giro system and bookkeeping transfers. A thorough analysis of this purely imaginary case seems to me to be worth while, for it provides a precise antithesis to the equally imaginary case of a pure cash system, in which credit plays no part whatever. The monetary systems actually employed in various countries can then be regarded as combinations of these two extreme types. (p. 70)

In this 'credit economy':

the whole monetary system of a country is in the hands of a single credit institution provided with an adequate number of branches, at which each independent economic individual keeps an account on which he can draw cheques. (p.71)

Provided that all payments are made by cheque, and that the proceeds from all cheques received are banked, virtually no cash need change hands, and there is no "circulation of money". 'The cheques regularly return after a day or two to the Bank (or rather to one of the banks, and so to the bankers' clearing house).' (p.87) The Bank (or system of banks) needs to maintain gold reserves to cover the balance of foreign transactions, but 'When the foreign balance of trade or balance of payments is such that the bank has to give up part of its cash to foreign countries, it finds itself with an equal excess of domestic claims.' (p.71) The cashless economy functions through a continual extension of credit from producers to the purchasers of commodities:

The actual exchange of commodities proceeds very simply. The buyer draws a cheque on his balance (or on his credit) for the appropriate sum, and the seller cashes the cheque, the sum being thus credited to him by the bank. But within a short space of time goods must be paid for by goods. It follows that the sum of the amounts debited must be equal to the sum

of the amounts credited...

A certain interval will, however, elapse between the sale of one lot of goods and the purchase of another equivalent lot. During this time, the sellers are in reality extending credit to the buyers to the amount of the sum in question (or a part of it), although on the surface the payment has the appearance of being immediate. This is brought about as a result of the facilities and guarantees provided by the Bank. (p.72)

The Bank (or system of banks) will offer facilities to businesses to the extent that production appears to be potentially profitable, and this will depend on the relationship between the rate of return that businesses are able to earn from production and the cost of finance. Wicksell defines the rate of return earned from production as the 'natural' rate of interest, while finance is extended at a market rate of interest which may differ from the natural rate over extended periods, with consequences of fundamental significance, which he went on to set out in an entirely original manner. His definition of the natural rate of interest derives from the theory of capital which Böhm-Bawerk had done much to clarify:

There is a certain rate of interest on loans which is neutral in respect to commodity prices, and tends neither to raise nor to lower them. This is necessarily the same as the rate of interest which would be determined by supply and demand if no use were made of money and all lending were effected in the form of real capital goods. It comes to much the same thing to describe it as the current value of the natural rate of interest on capital (p.102)

In his 1936 Introduction to Kahn's translation, Bertil Ohlin succinctly expresses Wicksell's definition of the natural rate as, 'governed by the marginal productivity of capital, i.e. of the roundabout methods of production which would exist if money were not used' (p.viii). The natural rate of interest will include the competitively determined return to entrepreneurship and thus take into account the reward for risk which entrepreneurs require. Wicksell believed that this would generally be quite small, since 'unavoidable risks cancel out in the course of a long succession of economic periods, and the entrepreneur's own profit is confined to the amount which corresponds to the actual mental effort of the entrepreneur' and special considerations such as 'business secrets'. (p.104) He also states that:

The entrepreneurs' profit as such, constantly tends towards zero under the influence of competition among entrepreneurs; or at least it tends towards a certain small amount which is not very different from zero. (p.135)

The financial rate of interest at which producers borrow is determined within the banking system and it can differ markedly over prolonged periods from the productivity-of-capital-determined natural rate. To demonstrate the effect of a market rate below the natural rate, after a previous period in which the two rates were equal, Wicksell first constructed a highly artificial example. The period of production of all producers is one calendar year, and they borrow in advance of production. During the twelve month production period they incur wage, material and rental costs. Previously, when the two interest rates were equal, they sold their year's production in advance for an amount which was just sufficient to repay their loans, and to provide them with the competitively determined return for entrepreneurship which included whatever allowance was appropriate for risk. Prices are originally stable, the level of output is stable, there is neither net saving nor investment, and the rate of interest at which entrepreneurs borrow corresponds to the natural rate that their year's production yields.¹

¹ Wicksell presented a general account of his theory in Chapters 7 and 8, and a rigorous account with these initial assumptions entitled, 'Systematic Exposition of the Theory' in Chapter 9. His most pertinent descriptive passages sometimes appear in one account and sometimes in the other, and they are to a degree conflated. David Laidler (1991)

Wicksell then supposed that the market rate of interest fell by one percentage point, so that it became 1 per cent lower than the productivity-determined natural rate. Because the discount entrepreneurs receive for selling their products a year in advance will then become 1 percentage point less, entrepreneurs will receive a price for the advanced sale of their products which is up to 1 per cent higher. They will then be able to pay more for labour and raw materials, and because the economy is initially at full employment equilibrium, competition will tend to raise the prices they obtain. The producer has to pay more for, wages, raw materials, rents, etc., but he receives correspondingly better prices for his own products.'(p.95)

The economic equilibrium of the system is ipso facto disturbed. If prices remain unchanged, entrepreneurs will in the first instance obtain a surplus profit (at the cost of the capitalists [rentiers and business intermediaries]) over and above their real entrepreneur profit or wage. This will continue to accrue so long as the rate of interest remains in the same relative position. They will inevitably be induced to extend their businesses in order to exploit to the maximum extent the favourable turn of events. And the number of people becoming entrepreneurs will be abnormally increased. As a consequence, the demand for services, raw materials, and goods in general will be increased, and the prices of commodities must rise. (pp. 105-6)

There are two elements in Wicksell's argument that a rate of interest which falls below the natural rate will raise prices: first the lower rate at which entrepreneurs borrow immediately enables them to obtain higher prices for the forward sale of their products, and therefore to pay higher wages and higher prices for raw materials. When the assumption of a uniform one year period of production is relaxed, it emerges that this effect will be more powerful the longer the life of capital, and Wicksell even suggests that, in the case of houses with indefinitely long lives, a fall in the rate of interest from 4 to 3 per cent will allow builders to obtain prices which are up to 33 per cent higher. In general, the impact of a lower rate of interest will be larger the greater the roundaboutness of production.

In all the years in which the advantage of a rate of interest below the natural rate persists, and it is his belief that 'a fairly constant difference between the two rates of interest could be maintained for a long time' (p.104), entrepreneurs will seek to expand their level of activity. Wicksell attaches great significance to long-term continuing effects. He admits that, in the initial year of a rate of interest below the natural rate, this could even lead to lower instead of to higher prices. This would arise in what he regards as the unusual case of pricing through cost-plus contracts where 'goods are produced to order' and lower interest rates reduce the cost of capital inputs. (p.98) But this effect will be greatly outweighed in subsequent years by the tendency for lower interest rates to increase the level of entrepreneurial activity. Even if there were an initial fall in prices:

it would, so far as I can see occur only once for all, and it would thus be put completely in the shade by the cumulative effect on prices that is to be ascribed to a difference between the two rates of interest. If entrepreneurs continue, year after year perhaps, to realise some surplus profit ... the result can only be to set up a tendency for an expansion of their activities.' (pp. 142-3)

If the economy is initially at full employment, a desire by entrepreneurs to expand cannot actually lead to a higher level of production:

It is impossible to endorse the widespread view that under suitable conditions a country's output can be expanded almost indefinitely, by "arousing the spirit of enterprise" and the

sets out a lucid exposition of Wicksell's theory on pp.120-46.

like. This fallacious view is derived by concentrating attention on one single branch of production, provided perhaps with an excess of fixed capital (buildings, machines, etc.) In such a single branch of production it would be possible to increase output immediately, but only at the expense of the other branches of production from which labour and liquid capital have to be drawn. The impossibility under normal conditions of a general expansion of production is, I think, demonstrated by the figures of unemployment at different periods, recently collected in various countries. The average number of unoccupied workers is relatively small, about 1 per cent. A general expansion of production would thus be possible only as a result of longer hours - which are neither desirable nor feasible over any length of time - or as a result of further technical progress. (p. 143)

But, despite the full employment of resources in the aggregate, it is feasible for entrepreneurs in cooperation with the banks to achieve expansion which takes the form of a lengthening of the period of production, an increase in 'roundaboutness', which will be encouraged by a lower rate of interest. In 'almost every enterprise', this would 'increase the efficiency of the factors of production'. (p.133) The money lent in this way 'immediately flows back to the banks' or else 'the sums withdrawn by means of cheques returns in the form of deposits'. (p.155) If new investment took this form, net saving would be required, because the increasing roundaboutness of production would reduce present consumption and raise future consumption. Here Wicksell makes a statement which is remarkably ahead of his time:

The real saving which is necessary for the period of investment to be increased is in fact enforced - at exactly the right moment - on consumers as a whole; for a smaller quantity than usual of consumption goods is available (p.156)

In due course, consumers will benefit from the longer period of production, and 'receive some reward for their abstinence'.

The economic consequences which follow a reduction in the market rate of interest below the natural rate, whether these take the form of increases in entrepreneurial activity, or a lengthening of the period of production with the possible consequence of forced saving, will combine to create an inflationary process. Entrepreneurs will find that they can raise prices, afford the higher accompanying level of costs, and emerge with surplus profits. As the process develops:

The upward movement of prices will in some measure "create its own draught". When prices have been rising steadily for some time, entrepreneurs will begin to reckon on the basis not merely of the prices already attained, but of a further rise in prices. (p. 96)

Wicksell envisages a continuing process where each rise in costs and prices provides the foundation for the next, until the anticipation of these developments produces their acceleration:

price movements take place very much more rapidly than we have been assuming. For once a higher level of prices has been established, it may, after only a few months, weeks, or even days, become the basis for new contracts, wage agreements, and rent agreements. (p.146)

Conversely, where the market rate of interest rises above the productivity-determined natural rate, entrepreneurs will find that their sales revenues are insufficient for the recovery of their wage, material and rental costs, so their demand for factors of production will fall, the supply of entrepreneurs will decline, prices will begin to decline, at a rate which will accelerate as it comes to be anticipated. Where the rate of interest exceeds the natural rate, some of the impact of lower real demand will fall upon the level of employment:

when the lending rate of interest remains permanently above the natural rate. Not only will the entrepreneurs now fail to obtain any surplus profit, but they will suffer losses, which they will cover in the first place out of their [own] wages or out of the income derived from their own fortunes. To prevent this, they will desire to confine their activities to the more profitable channels, and there will be a corresponding contraction in their demand for labour and land. But workers and landlords will respond by scaling down their demands for wages and rents, and on the whole activity will be maintained at the former level. (It is not, however, to be denied that there may be a more or less permanent, though not progressive, loss of employment by some of the workers - the industrial reserve.) (p.149)

There is thus an asymmetry between the unemployment which may arise when the market rate of interest exceeds the natural rate, and the failure of output and employment to rise significantly in the inflationary conditions which arise when the natural rate of interest exceeds the actual rate. In the deflationary conditions, where the actual rate of interest exceeds the natural rate, there will be both falling prices and a long-term loss of employment.

Where the natural rate of interest exceeds the actual rate over a significant period, so that a rising and indeed an accelerating trend in prices develops, the banking system will be under particular pressure. The general and probably accelerating price increases will need to be financed by the banking system, quite largely through Wicksell's credit-creation model, where the banks lend unlimited sums and find that whatever they lend comes back to banks somewhere in the system. It will be evident that in much of the exposition of his theory of inflation, his credit-creation model appears to come close to being his standard case:

The banks need not worry whether the dates on which their deposits become due correspond with the periods over which their loans have been granted. From our assumption that every withdrawal of a deposit must directly entail the deposit of an equal sum elsewhere or the repayment of an equal loan, it follows that the banks, or rather the aggregate of banks taken as a whole, can within limits ... lend any desired amount of money for any desired period of time at any desired rate of interest, no matter how low, without affecting their solvency, even though their deposits may be falling due all the time. It follows that if the rest of our theory is correct the banks can raise the general level of prices to any desired height. (pp. 110-11)

Wicksell indeed insisted in 1898 that money is 'elastic in amount. Its quantity can to some extent be accommodated - and in a completely developed credit system the accommodation is complete - to any position that the demand may assume.' (p. 135)

But he made it entirely clear that this process of unlimited credit expansion is only feasible at a global level. A single bank acting alone which lent at interest rates below those of others would rapidly bring about 'its own insolvency', whilst if the banks of a single country sought to meet an unlimited domestic demand for credit, then inevitably that country's 'precious metal flows away', but 'If, on the other hand, taking an international point of view, we suppose that the same movement is undertaken, consciously or unconsciously, by every bank in the world, or at any rate in the gold-standard countries, the matter assumes an entirely different appearance.' (pp.111-13)

The extent of global bank lending is not limited by the adequacy of liquid reserves because, Wicksell insisted, the lower prudent limit to these 'has never actually been reached' while at the same time 'the banks' reserves are unnecessarily large and could be diminished without endangering their solvency.' (pp.114-15)

It was therefore the general upward and downward movements in world prices which Wicksell claimed to explain, with world prices trending upwards when international interest rates were below the natural rate, and trending downwards when world interest rates mainly exceeded the natural rate as in the quarter century before he published Geldzins und Güterpreise.

In its logically rigorous form, Wicksell's theory with these far-reaching implications rests on a series of highly abstract assumptions, but he insisted that he had made these 'purely for the sake of simplicity and clarity' and that 'not a single one of them is essential to the validity of the general conclusion' that the sustained trends in world-wide inflation or deflation depended on the relationship between the actual and the natural rates of interest. (p.136)

For expositional reasons he presented his theory with the assumption of initial price stability, but he maintained that his theory would be applicable whatever the starting point:

If for any reason whatever, the average rate of interest is set and maintained below this normal [i.e. natural] level, no matter how small the gap, prices will rise and will go on rising; or if they were already in process of falling, they will fall more slowly and eventually begin to rise. (p. 120)

Hence the theory will operate in real world situations, whatever the initial rate of inflation. But there will be influences upon inflation other than the relationship between the actual and the natural rates of interest. Wicksell claimed none the less that:

though the facts are essentially in complete agreement with theory, they often present a somewhat different appearance. The reason is that a movement of prices, which is here being treated as an isolated phenomenon, is in practice superimposed on some other and independent movement of wages, etc., dissimilar and possibly opposite in nature. (p. 150)

Hence the consequences for inflation of a discrepancy between the actual rate of interest and the natural rate are superimposed upon the other potential influences which operate. But Wicksell insisted that the impact of a discrepancy between the two interest rates would be 'sufficiently great to provide a perfectly natural explanation of all such variations in prices as occur in actual practice.' (p. 146)

David Laidler (1991) demonstrates that so long as Wicksell holds to the assumptions of a uniform one-year period of production and an initial stationary state with price stability, his argument is actually immune from the difficulties involved in the aggregation of capital and the identification of its marginal product with a 'natural' rate of interest. (p.130) Wicksell in his various subtle and sophisticated contributions to capital theory came close to uncovering some of the difficulties which lay at the heart of the capital theory debates of the 1970s. It is probably no accident that he set out the rigorous version of his argument on pp.122-56 with assumptions which might almost have satisfied Joan Robinson in 1953-54 and in 1956 when, as 'the messenger who brought the bad news', she launched this debate.

But, at the same time, Wicksell insisted that his discovery of the extent of the economic influence which a discrepancy between the actual and the natural rates of interest could be expected to exert meant that his theory could explain 'all such variations in prices as occur in actual practice.'

Directly after his claim for the comprehensive relevance of his theory to real world conditions, where none of his precise assumptions would actually prevail, Wicksell returned to the logical precision of 'our hypothetical world'. He thus insisted, both that he had presented his theory with complete rigour, and at the same time, that it explained all the significant facts of real world price fluctuations.

Wicksell followed his book of 1898 with two volumes of Lectures of which the second was concerned with Money. These were published in German in 1906 and in English translation as Lectures on Political Economy in 1935. In 1906 he presented an article length version of his theory to the Economic Section of the British Association. This was published in the Economic Journal in June 1907. These later versions differ relatively little from his brilliant initial presentation in his book of 1898. The main departure is his admission during the opening decade of the twentieth century that, in a gold standard world, changes in the supply of gold (this had increased

significantly since 1898, while world prices were beginning to rise) would influence price movements additionally to the inflation or deflation produced by discrepancies between his two interest rates. Hence, in his Economic Journal article of 1907, his bold assertion of the over-riding influence of the relationship between the actual and the natural rates of interest merely became:

the influence of credit or the rate of interest is only one of the factors acting on prices; the other is the volume of metallic money itself, especially, in our times, the supply of gold, and so long as the gold itself remains the standard of value, this factor evidently will take the lead in the long run. (p. 218)

In 1971 gold was disassociated from the dollar, which was the last of the world's leading currencies which still maintained a gold-link. This finally removed the qualification to his theory which he had been obliged to make in 1906-7.

Wicksell's radically new theory of 1898 proved to be more readily accommodatable within the macroeconomic innovations of Milton Friedman, with which there is an intimate interrelationship, than it has with those of Keynes. In the period in which Keynesian interpretations of inflation and deflation predominated, Wicksell disappeared from the principal macroeconomic textbooks outside Sweden and Austria through failures of interpretation which Axel Leijonhufvud explored and documented in 1981. These occurred despite the detailed knowledge of Wicksell by Kahn, Keynes's principal collaborator, and at the same time, the translator of Geldzins und Güterpreise.

The final sections of this paper will outline some of the theoretical interrelationships between Wicksell's argument, and that of Keynes and Friedman, and set out a few of the implications of his theory for the world economy of the twenty-first century. An explanation of the 'reswitching of ideas' which may begin to restore his theory towards the centre of attention will also be attempted.

WICKSELL, KEYNES AND FRIEDMAN

Keynes wrote warmly of Wicksell's theory in A Treatise on Money. He described Geldzins und Güterpreise as 'an outstanding attempt at a systematic treatment' of the influence of interest rates upon prices, and declared that the book 'deserves more fame and much more attention than it has received from English-speaking economists'. (p.i.167) He suggested that saving and investment should be brought into Wicksell's definition of the natural rate of interest:

if we define Wicksell's natural rate of interest as the rate at which saving and the value of investment are in equilibrium [measured and defined as in the Treatise], then it is true that, so long as the money rate of interest is held at such a level that the value of investment exceeds saving, there will be a rise in the price level of output as a whole above its cost of production, which in turn will stimulate entrepreneurs to bid up earnings above their previous level, and this upward tendency will continue indefinitely so long as the supply of money continues to be such as to enable the money rate to be held below the natural rate as thus defined. (p.i.177)

Keynes added that, although Wicksell does not bring this out, this process will involve 'a continual rise in money earnings, but one which is never quite sufficient to wipe out profits'. (p.i.176) In the Treatise, Keynes defined investment as 'the incomes earned from the production of investment goods' while saving, as in the General Theory, is that part of incomes which is not consumed. With these definitions, investment exceeds saving when inventories are being run down, and the equilibrium between saving and investment, which Keynes suggests as the further condition which should be inserted into Wicksell's definition of the natural rate of interest, is equivalent to the

Swedish assumption that ex-ante investment equals the level of ex-ante saving at full employment equilibrium.

With this suggestion of Keynes's, when the market rate of interest falls below the natural rate, planned investment will exceed full employment saving, with the inevitable consequences of over-full employment and rising prices and wages, precisely as in Wicksell's own accounts of the influence of a rate of interest which falls below the natural rate. Wicksell's forced saving can easily arise in this condition of sustained over-full employment.

Later commentators have followed Keynes of the Treatise by inserting the condition that investment equals the full employment equilibrium level of savings into Wicksell's definition of the natural rate of interest. But none of this analysis found its way into The General Theory where the sole reference to Wicksell is the footnoted statement that his definition of the natural rate of interest differs both from Böhm-Bawerk's definition, and 'contemporary economists' definitions of a 'neutral' rate. (p. 183)

In The General Theory there is a continual tendency towards equality between the marginal efficiency of capital (virtually equivalent to Wicksell's natural rate of interest) and the rate of interest, and nothing is made of any prolonged adjustment process where they differ. As Leijonhufvud has emphasised, any discrepancy between the two rates of interest disappears entirely in IS/LM and the various formulations of the neoclassical synthesis, where there is invariably a single rate of interest which is compatible with equilibrium in both the monetary and the real economy. Hence Wicksell's insight that there are two rates of interest; one entailed by equilibrium in the real economy, and the other by the banking system, and that there is a potential for powerful disequilibrium processes where they differ, was thrown away.

In 1968 Friedman opened his celebrated article by condemning Keynes for the belief that interest rate policy would be ineffective 'in times of heavy unemployment' because the liquidity trap would set a limit to the extent to which they could be lowered, while Keynes's disciples had come to believe that interest rates would have little impact on investment and consumption, even when they could be lowered, with the consequence that monetary policy was 'twice damned'. Friedman added that:

The wide acceptance of these views in the economics profession meant that for some two decades monetary policy was believed by all but a few reactionary souls to have been rendered obsolete by new economic knowledge. Money did not matter. Its only role was the minor one of keeping interest rates low, in order to hold down interest payments in the government budget, contribute to the "euthanasia of the rentier," and maybe stimulate investment a bit to assist government spending in maintaining a high level of aggregate demand. (p. 2)

As a consequence of this new economic orthodoxy in the English speaking world, nominal interest rates had been kept down in both the UK and the US from 1945 to 1968, inflation had been far higher than in previous historical periods, and real interest rates in the so-called golden age were mainly negative. The actual rate of interest will have been far below the natural rate in both the US and the UK during most of the golden age.

Friedman observed that a country with low interest rates which he singled out, Switzerland, also had low inflation and slow growth in its money supply. It was achieving this low inflation rate because 'its monetary policy has been tight - in the sense that the quantity of money has grown slowly'. In contrast Brazil and Chile and 'the United States in recent years' had high and rising interest rates, high inflation and rapid monetary growth. These indicated that in these countries, in the past, 'monetary policy has been easy - in the sense that the quantity of money has grown rapidly'. (p. 7 [Friedman's emphases]) In Switzerland, in the language of Wicksell, interest rates had previously been held above the natural rate which had produced slow monetary growth and falling inflation. In the United States, and far more so in Brazil and Chile, interest rates had been held

below the natural rate which had led to escalating monetary growth that had sent inflation upwards.

Friedman then actually set out a specifically Wicksellian explanation of these phenomena. He paid Wicksell the supreme accolade of placing him at the heart of his argument without feeling any need to include him in his bibliographic references:

Thanks to Wicksell, we are all acquainted with the concept of a "natural" rate of interest and the possibility of a discrepancy between the "natural" and the "market" rate. The preceding analysis of interest rates can be translated fairly directly into Wicksellian terms. The monetary authority can make the market rate less than the natural rate only by inflation. It can make the market rate higher than the natural rate only by deflation. We have added only one wrinkle to Wicksell - the Irving Fisher distinction between the nominal and the real rate of interest. Let the monetary authority keep the nominal market rate for a time below the natural rate by inflation. That in turn will raise the nominal natural rate itself, once anticipations of inflation become widespread, thus requiring still more inflation to hold down the market rate. Similarly, because of the Fisher effect, it will require not merely deflation but more and more rapid deflation to hold the market rate above the initial "natural" rate. (pp. 7-8)

Wicksell's natural rate of interest is of course already defined as a real rate, because it is the rate of interest which would be determined by supply and demand 'if no use were made of money' and lending took the form of 'real capital goods'. ([1898] 1936, p.102) So the sole 'wrinkle' to Wicksell which Friedman introduces is that the market rate of interest with which the natural rate is compared should also be regarded as a real rate. Wicksell had seen price stability as the central rate around which inflation fluctuated. In a gold standard world, price movements over the centuries will be considerably influenced by whether the cost of gold mining has a falling trend in comparison with production in general, in which case world prices will have an upward tendency, or whether the relative cost of gold rises to produce a falling secular trend in prices measured in gold. Either is possible, and price stability which was also Wicksell's preferred policy choice is the obvious reference point between these alternatives. In the late twentieth century, with national currencies largely divorced from gold, there has been no such reference point, which is one reason why Friedman may have been drawn to regard a steady rate of inflation rather than a zero rate as the starting point for his argument.²

Friedman immediately went on to suggest that Wicksell's discovery of the significance of the 'natural' rate of interest had a precise counterpart in the labour market, a 'natural' rate of unemployment at which the labour market was in microeconomic equilibrium, and around which any departure would produce a rising or a falling trend in money wages, with a tendency, as in Wicksell, towards acceleration:

The analysis has its close counterpart in the employment market. At any moment of time, there is some level of unemployment which has the property that it is consistent with equilibrium in the structure of real wage rates. At that level of unemployment, real wages are tending on the average to rise at a "normal" secular rate, i.e. at a rate that can be indefinitely maintained so long as capital formation, technological improvements, etc., remain on their long-run trends. A lower level of unemployment is an indication that there is an excess demand for labour that will produce upward pressure on real wage rates. A higher

² A few years later, Friedman made a similar observation when he stated that modern monetary theory had achieved only two significant advances over David Hume: knowledge that an economy could be in long-term monetary equilibrium with prices rising (or falling) at a constant rate, when for Hume, equilibrium always meant price stability; and awareness that the time required for a change in the money supply to have a proportional impact on prices is two years. (1975, p.177) A steady state with a constant rate of inflation is indeed one of his central concepts.

level of unemployment is an indication that there is an excess supply of labour that will produce downward pressure on real wage rates. The "natural rate of unemployment," in other words, is the level that would be ground out by the Walrasian system of general equilibrium equations, provided there is embedded in them the actual structural characteristics of the labour and commodity markets, including market imperfections, stochastic variability in demands and supplies, the cost of gathering information about job vacancies and labour availabilities, the costs of mobility, and so on. (p. 8)

A market rate of interest below the natural rate will produce a Wicksellian monetary expansion, and this will at the same time entail that there is excess demand for labour so that unemployment will fall below its natural rate (which, in Wicksell takes the form of rising overtime). Hence a Wicksellian monetary expansion will, at the same time, produce a Friedmanite fall in unemployment below its natural rate and accelerating wage inflation. If the starting point of an accelerating-inflationary process is a Friedmanite fall in unemployment below its natural rate, and it was faster entrepreneurial expansion which induced the accelerating growth in output (originally due perhaps to a new and favourable development in technology), this would be described by Wicksell as a consequence of a rise in the natural rate of interest. An unchanging market rate of interest would now be below the new and higher natural rate to produce a monetary expansion alongside Friedman's falling unemployment and accelerating wage inflation. If Friedman's reduction in unemployment below the natural rate was due to a fiscal boost without any accompanying change in technical conditions of production, interest rates would have to be lowered at the same time to permit accelerating monetary expansion which paralleled the fiscal expansion. If monetary policy failed to accommodate the fiscal expansion, this would stall and the interconnected expansionary process which Wicksell and Friedman both describe would fail to gather momentum, until, in due course, unemployment reverted to the natural rate.

If Wicksell's actual rate of interest or Friedman's actual rate of unemployment fall below their natural rates, wages and prices soon come to rise at accelerating rates, but there are differences in the manner in which the two movements are described. Wicksell's lower interest rates may only begin to induce wage inflation after a lag of a year or more, while Friedman would expect wages to react directly to the labour shortages associated with an unemployment rate below the natural rate. The process which Friedman describes specifically entails an accelerating rise in real wages (in relation to their trend), while in Wicksell's inflationary process price increases may well precede wage increases, which will especially be the case if monetary expansion is initiated by higher investment which is eventually financed by forced saving. One reason why prices may rise ahead of wages, to produce Wicksell's short-term diminution in real wages rather than Friedman's increase, is that wage rates which are based on negotiation are generally adjusted at discrete intervals, and, in a situation where there is microeconomic disequilibrium in the labour market, they may never quite catch up. Friedman's excess demand for labour when unemployment falls below the natural rate may therefore mainly produce growing areas of labour scarcity rather than the faster increases in real wages which he predicts.

When microeconomic markets depart from equilibrium and an inflationary process becomes one of the consequences all kinds of lags arise, and these may have the consequence that wages will rise ahead of prices, as in Friedman's presentation of the argument, or prices ahead of wages, as will often arise in Wicksell's version. But the processes which Wicksell and Friedman set out with such precision will rapidly become indistinguishable, and a common process with characteristics of both will develop.

In 1930, Keynes appreciated that Wicksell's argument was close to what he was saying at that time, and like Friedman, he noticed how a fall in interest rates below Wicksell's natural rate would produce rising money wages; but in 1936 in The General Theory he largely abandoned process analysis for comparative statics. This left no room for detailed accounts of what occurred during departures from equilibrium, and it is these which are analysed so powerfully by Wicksell and

Friedman.

What is interesting is how, in 1898, Wicksell produced a theory which overlaps considerably with the one which Friedman rediscovered and developed in 1968 (with full acknowledgement to his predecessor) and which went on to have the remarkable influence on policy makers which Budd has remarked upon.³ So why did Wicksell's theory fall away from the centre of attention in at least the UK and the US for many decades and return in Friedman's powerful modified form?

It will be argued in the final section of this paper that several developments in banking in the late twentieth century have brought Wicksell's limiting case of a credit-based economy closer to the underlying realities on which economic theory should be based. Wicksell quite significantly anticipated the manner in which world banking would develop, with the consequence that his theoretical insights have become more relevant in the twenty-first century than they appeared to be in much of the twentieth.

WICKSELL IN THE NINETEENTH CENTURY AND THE TWENTY-FIRST

Throughout Wicksell's account of the determinants of monetary expansion an individual country's banks were constrained by international considerations. In the gold standard world of 1898, if one economy over-expanded its bank deposits in relation to other leading economies gold flowed away from it, and even if its domestic monetary arrangements were largely based on credit, this will have drained away the reserves of its banking system. Wicksell's proposition was therefore that the world's leading banks could only expand the global money supply at the rate they desired when they acted similarly.

But the idea that the world's banks would act similarly was not far-fetched in the late nineteenth century. With the gold-standard's fixed exchange rates, short-term interest rates were close to each other in the world's larger economies. Since London was by far the largest monetary centre, the Bank of England often set the lead, and world interest rates frequently moved closely with those established in London. The Bank of England set a rate which might be above or below the British natural rate of interest, and with extremely competitive world capital markets with few barriers to international investment, there will have been strong tendencies towards convergence between the natural rates of interest in Britain and in other leading economies. The degree of correspondence between the world's natural rates of interest will have been far weaker than that between short-term market rates where there will have been near-equality.

There may have been prolonged periods where there was a world-wide tendency for natural rates of interest to exceed actual rates, and others where actual rates exceeded natural rates. Wicksell believed that, where natural interest rates were greater, banks throughout the world would collectively expand their lending with the consequence that world money supplies trended upwards, and rising prices predominated. Conversely, where market rates of interest were higher than natural rates the world's banks will have expanded their lending at quite modest rates, or even contracted the world money supply, and prices will have trended downwards. In Wicksell's historical accounts of which of these were relevant in each historical period (in, for instance [1898]1936, pp.168-77) conditions in Great Britain are prominent, perhaps because it was his perception that London mainly set the lead in the determination of world interest rates. His proposition that the direction of long-term price movements depended on the relationship between the actual rate of interest and the natural rate was highly original, and it may provide a broad-brush explanation of the nineteenth

³ Milton Friedman's recollection (in a letter to the author in September 2001) was that, 'I believe that the only role Wicksell really played in my 1968 article was to provide a name for the concept. It is very hard to be sure about such things at such long intervals of time, but yet I am reasonably sure that it was only after I had developed the ideas that I recognized that they had a great similarity to Wicksell's and that his terminology was the appropriate terminology for me to use as well.'

century's principal price trends which still deserves serious attention.

But, since the principal developments to credit including the establishment of giro systems for the settlement of inter-bank debts occurred late in the century, his explanation of what had actually occurred to prices cannot have relied significantly on his pure credit model in its extreme form.

The First World War and the Great Depression devastated the world economy, and they had a crucial impact on several of Wicksell's assumptions. Most leading economies left the gold standard during the First World War, and only rejoined it briefly in the inter-war years. This in some respects strengthened the potential relevance of Wicksell's theory. In 1906-7 he had had to concede that credit was 'only one of the influences' which acted upon prices, and that 'the volume of metallic money' could sometimes be of comparable significance. Outside the gold standard metallic money became irrelevant, and with few economies actually on the gold standard, this lost its relevance. The removal of the gold standard link meant that each country's interest rates acquired a degree of freedom. In the nineteenth century his theory required that the world's banks respond similarly to a world-wide discrepancy between the actual and the natural rates of interest to produce world-wide rises or falls in prices. After 1918 most of the leading economies became free to establish their own interest rates, with the consequence that whether their prices had rising or falling trends came to depend upon the relationship between the actual and the natural rates of interest within their own borders. Wicksell's theory thus ceased to be a world economy theory and it became potentially applicable to each individual economy.

It does not appear implausible that the United Kingdom had an actual rate of interest above its natural rate during most of the 1920s when deflationary conditions predominated, and an actual rate below the natural rate after 1932 when bank rate was established at 2 per cent soon after the departure from the gold standard. The British natural rate of interest will plausibly have been far higher than that after 1932, which will have been one influence behind Britain's extraordinary growth from 1932 to 1937, when unemployment fell by more than 1¼ million, and employment rose by 2¾ million.

The banking failures which followed the stock market crash were a further fundamental departure from the nineteenth century conditions which strongly influenced Wicksell's assumptions. Banks collapsed in the United States, Germany and Austria, on a scale which rendered grotesque his assumption that they generally had more than sufficient reserves to finance whatever rate of credit creation they desired. Banks did not collapse in Britain where the Bank of England successfully acted as lender of last resort. In contrast, in the United States where the Federal Reserve declined to play any such role, 6,000 banks were allowed to fail.

It may be that banks never enjoyed the freedom which Wicksell assumed, but the world-wide banking collapses of the 1930s certainly required significant modification to his theory of credit creation. To rescue this element in his theory, we need the additional assumption that a country's central bank will always act as lender of last resort, in the manner that the Bank of England demonstrated in most of the nineteenth century, and even more crucially, in the banking crises of the inter-war years. If a country's central bank has the power, the means and the intent to act as lender of last resort, Wicksell's hypothesis that a country's banks can themselves determine the overall rate of credit creation comes into its own. If the central bank is ready to convert a fraction of banks' illiquid assets into liquid reserve assets whenever the banks request, a shortage of reserve assets will never constrain the rate of growth of bank lending.

By the 1980s and the 1990s, the catastrophic losses of liquidity which followed the banking collapses of the 1930s actually persuaded the world's governments and its leading central banks to come to the aid of virtually all banks which risked failure. They came to the assistance of banks in difficulty, not merely when they lacked short-term liquidity, but in addition, when they faced bankruptcy in consequence of significant misjudgements and a plethora of unperforming loans. In the 1980s the US government took over the under-performing assets of the Thrift and Loans to the extent of around 9 per cent of GDP. In 2001 Japanese banks have loans judged to be at risk totalling

up to 40 per cent of GDP,⁴ and no one believes that any but the weakest will be allowed to fail. The universal willingness to rescue banks which have made horrendous errors, despite the consequential moral hazard, underlines how readily the banks of any country can now obtain the liquid assets they require.

Charles Goodhart (2001) shows how, in the 1990s, reserve ratios nowhere influenced the rate of monetary expansion, which was actually determined in all leading economies by the rate of interest, precisely as in Wicksell's theory. At the start of the twenty-first century the world's central banks use only one policy tool, their power to determine short-term interest rates, and everywhere this is regarded as sufficient to retard or accelerate the rate of growth of monetary expansion. As Goodhart emphasises, this over-riding influence of the rate of interest upon the rate of growth of bank lending is underpinned by knowledge on the part of banks that they can rely upon their central bank as a lender of last resort.

Goodhart quotes Victoria Chick, who wrote in 1992 that reserves have virtually disappeared 'as a constraint on bank behaviour'. She observed that British banks could meet any reasonable rise in the demand for loans and make good any shortfall of reserves through the Bank of England, with the consequence that this could even be referred to as the 'lender of first resort'. (1992, p.197)

Goodhart's account of the relationship between the rate of interest and the rate of growth of bank lending is, first that the central bank determines the short-term rate of interest, second, that the private sector then decides how much it wishes to borrow at that rate of interest, third, that the commercial banks adjust their asset structure so that they can lend this amount, turning if necessary to their central bank for any additional reserve assets they may require. Hence the interest rate which the central bank establishes is decisive in the determination of the quantity of bank lending and the rate of growth of the broadly defined money supply.

At the same time, the reserve ratios which banks are required to maintain are ceasing to be ratios of liquid assets to deposits, which can readily be attained through the assistance of central banks in the manner which Chick and Goodhart describe. The former required ratios of liquid assets to deposits are being superseded by minimum ratios of shareholders' capital to deposits, the so called Basel Rules. It can be assumed that successful and profitable lending expands shareholders' capital in the manner that the Basel Rules require. These have not yet acted to constrain the growth in deposits in a manner which central banks (even Japan's) cannot overcome if they choose to.

With these new approaches to central banking which have become universal in the twenty-first century, the conditions which underpinned Wicksell's theory are again in place. The growth of the money supply again depends entirely upon how much the private sector wishes to borrow at whatever rate of interest the banking system establishes.

Wicksell believed that in the conditions he assumed, which appear to have returned, the control of inflation would be simple and straightforward. Banks, and the governments which could readily control them if they wished, could stabilise the general price level through a simple iterative process, because a persistent tendency for the price level to rise implied that a country's interest rates (or the world's) were below the natural rate, while a falling price trend implied that interest rates were above the natural rate. He declared that it would be 'impracticable' and also 'quite unnecessary' for banks actually to 'ascertain the natural rate before fixing their own rates'. Instead they could follow a procedure which would ensure price stability. He stated this entirely in italics to emphasise the significance he attached to this passage:

So long as prices remain unaltered the banks' rate of interest is to remain unaltered. If prices rise, the rate of interest is to be raised; and if prices fall, the rate of interest is to be lowered; and the rate of interest is henceforth to be maintained at its new level until a further

⁴ A Goldman Sachs report released in July 2001 found that 'the level of loans to companies that have a high risk of bankruptcy' totals 40 per cent of GDP. The Japanese Financial Services Agency regards the total of 'potentially risky loans' as around 30 per cent of GDP. (*Financial Times*, 20 July 2001).

movement of prices calls for a further change in one direction or the other. ([1898] 1936, p.189)

That is precisely how monetary policy is conducted by the Bank of England and the European Central Bank in the twenty-first century, except that their inflation targets are not quite the zero which Wicksell regarded as ideal, and they attempt to anticipate future inflation instead of merely reacting to it after the event in the manner that he advised in 1898. Whenever the Bank of England or the European Central Bank judge that inflation will exceed the target range which they have been asked to sustain they raise interest rates, and they reduce them where inflation is expected to fall below the target range. The United States Federal Reserve and the Bank of Japan act similarly except that their target inflation rates are less clearly defined.

One reason why governments expect the world's leading central banks to control inflation entirely through the variation of short-term interest rates is the extraordinary influence of Friedman's 1968 article and the research that followed it, which indicated that the rate of inflation had no long-term influence upon the rate of unemployment. Most governments therefore now believe that there will be no long-term sacrifice of employment if they give their central banks the over-riding objective of using the rate of interest to control inflation. That it was this article of Friedman's which underpinned the establishment of a Wicksellian analysis of inflation control again underlines the extraordinary complementary between his theoretical innovations of 1968 and Wicksell's theory of 1898.

Perhaps the most original element in Wicksell's analysis of money and banking was his concept of a wholly credit-based economy where banks could expand their lending and consequently a nation's aggregate bank deposits at whatever rate they regarded as profitable. While this pure-credit economy was merely a limiting case in 1898, some of the developments he described are beginning to appear increasingly familiar in the management of financial transactions in the twenty-first century. This may be another reason why his theory, which was so widely overlooked in the US and the UK in much of the twentieth century, illuminates real world developments in the twenty-first.

One striking implication of the new Wicksellian world is the contrast between the natural rates of interest in the world's two largest economies. Figure 1 indicates that in the US the real rate of return on capital has exceeded 7 per cent since the mid-1990s. This may explain that economy's extraordinary strength. Wicksell's natural rate of interest is the prospective marginal rate of return on capital, while what Figure 1 estimates is the average rate of return. There may moreover be a cyclical element in the 7 per cent real rate of return in the second half of the 1990s (although inflation scarcely accelerated). The US's 7 per cent average real rate of return on capital will therefore exceed Wicksell's natural rate of interest, but perhaps not by a great margin. These data suggest that US nominal interest rates could rise far higher than the Federal Reserve will conceivably contemplate, and still leave extensive opportunities for further additions to the number of businesses in the US, which Wicksell always emphasised, and to the capital stock of existing businesses, financed if need be through credit expansion. In these circumstances US recessions will be brief, and if they arise because of over-investment in certain kinds of Information Technology equipment, this will be worked off within two years, because the service life of most IT hardware and software is no more than twenty-four months.

The US has been able to achieve this very high real rate of return on capital because it led the IT revolution. More than 40 per cent of its business investment has been in information technology and its many applications, and the real quality-adjusted cost of IT hardware and software has been falling at a compound rate of 20 per cent per annum. To be able to exploit a 20 per cent per annum rate of capital-augmenting technical progress in up to two-fifths of all business investment will have greatly reduced the average cost of capital equipment, and massively boosted the natural rate of interest in the manner that Figure 1 illustrates.⁵

⁵ The evidence on the extent of IT investment in the United States and the rate of capital-augmenting technical progress which is being achieved, and its influence, is summarised in Eltis (2000), pp.131-47.

FIGURE 1



FIGURE 2



FIGURE 3

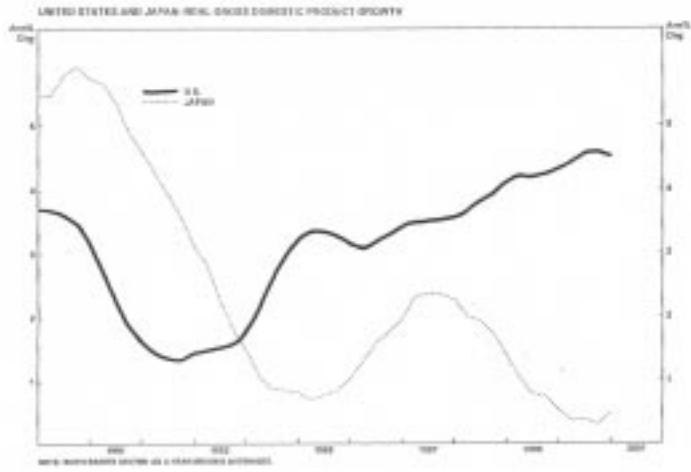
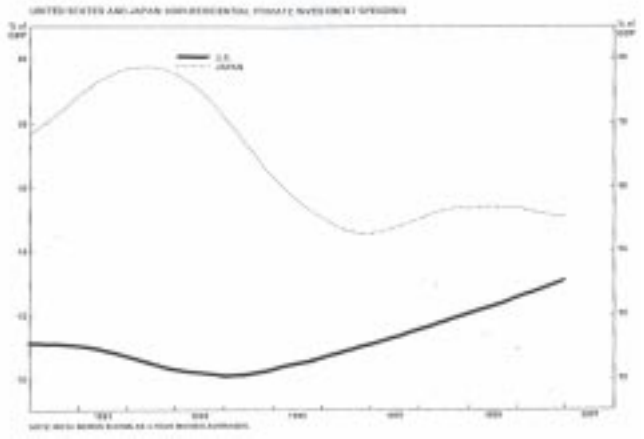


FIGURE 4



Conditions have been very different in Japan, the world's second largest economy. Data for the real rate of return on capital in Japan are unavailable but a good deal can be inferred from the information in Figures 2, 3 and 4. Figure 2 indicates that in the second half of the 1990s Japanese profits were at around three-seventh of the US level expressed as a percentage of sales. Figures 3 and 4 suggest that in the second half of the 1990s the US rate of growth of real GDP was about 2½ times that of Japan, while US private-sector investment, expressed as a ratio of GDP, was about four-fifths as great. Japan has therefore invested more than three times as much for each percentage point of growth. With profits about three-sevenths as great as a ratio of GDP, and capital requirements for each per cent of growth more than three times as great, Japan's real rate of return on capital will have been about one-seventh that of the US.⁶ This Japanese handicap may include a cyclical element (although few now envisage a return to the sustained Japanese growth of previous decades); but the discrepancy between the apparent 7 per cent real rate of return in the US and the 1 per cent real rate in Japan is so great that a huge underlying gap is likely to remain.

Fundamentally, in addition to its great advantage in the creation of new IT technologies, the US has benefited from a degree of competition between companies and within companies (where perceived underperformance is rarely tolerated), while Japan has a culture of cross-subsidisation of the inefficient by the efficient, both between companies and within companies. No one is allowed to fail and excessive costs are carried in a variety of ways. Company overheads rose by 17 per cent of GDP during the 1990s, and the various escalations of cost have combined to produce the miniscule overall profitability which the data implies.

If Wicksell's natural real rate of interest has actually been as high as 5 to 7 per cent in the United States and as low as 1 to 3 per cent in Japan, this would explain why Japan has had a falling general price level during 1999 and 2000, despite its short-term interest rates of less than 0.5 per cent. Allowing for risk, Japanese companies had to borrow at more than 0.5 per cent, and they will have required a rate of return from new investment of at least 2.5 per cent. With an average real rate of return on capital of as little as 1 per cent, there has been little desire to expand borrowing, and the creation of new businesses will have been unattractive. Hence bank lending and the growth of bank advances was bound to be sluggish in the manner that Wicksell's theory predicted, while Japanese banks have the extraordinary ratio of underperforming loans made to near-insolvent companies which has been remarked upon.

It is remarkable that a theory more than a century old which attracted little attention during most intervening decades, now has such power to illuminate. The re-switching in its favour occurred because of:

1. The prescience of Wicksell's theory of credit creation, which reads far more convincingly in the twenty-first century than in most of the twentieth.
2. The universal willingness of central banks to act as lenders of last resort has lent credibility to Wicksell's assumption (falsified by events during much of the twentieth century) that reserves are largely irrelevant to prudent banking.
3. The departure of the world's economies from the gold standard has made his theory applicable to each country individually rather than to the world economy considered as a whole.

⁶ The rate of profit on capital, P/K , is identically equal to the share of profits in output, P/Y , divided by the capital-to-output ratio, K/Y . The capital to output ratio will tend towards the investment ratio, I , divided by the rate of growth, g . Hence, P/K tends towards $P/Y \div (I/g)$. If, in the second half of the 1990s, the US had a P/Y which was $7/3$ times Japan's, an I that was $4/5$ as great, and a g which was $2\frac{1}{2}$ times as great, its P/K will have been tending towards $(7/3 \div 8/25) = 7.3$ times Japan's. Ideally comparable US and Japanese data would be available, defined as in the above growth and income distribution formulae. The US government produces this data, while the Japanese government publishes far less. The Bank Credit Analyst's estimates in Figures 2, 3, and 4, whatever their imperfections, indicate a vast discrepancy between real rates of return on capital in the US and Japan.

A consequence has been that the world's monetary policies have come to be managed in the manner which he advocated.

His prescience includes an international dimension which has not yet come to the forefront of attention. He wondered whether 'a policy of co-operation between the banks of the whole world' lay within 'the realm of possibility'. ([1899] 1936, p.190) He believed that:

the difficulties which arise through a highly one-sided balance of payments or through a large difference in the price-levels of two or more countries can be overcome by measures undertaken, not only by the "unfavourably" situated country, but also by the "favourably" situated country or countries. (p. 191)

He believed that co-operation between the central banks of the world's leading economies created the possibility that the world's monetary and exchange rate system could enjoy 'two degrees of freedom' instead of one. In particular, 'relative rates of interest' could be adjusted to influence 'rates of exchange'. (p.192) In the gold standard world of 1898 rates of exchange had only very slight flexibility; the scope for interest rate differentials to influence exchange rates is infinitely greater in the twenty-first century.

Up to now the world's leading central banks have rarely had an agreed agenda for the adjustment of relative exchange rates through agreed changes in relative interest rates: the Plaza accord of 1985 has been a rare exception. Usually at least one leading central bank prefers market forces to any combined attempt to achieve a sustainable non-inflationary structure of world exchange rates. The cataclysm of the 1930s created universal support for the lender of last resort function of central banks, which underpins the resurrection of Wicksell's credit-creation model. It may require a future shock to the world economy to produce the international co-ordination which he predicted.

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WICKSELL AND THE GIBSON PARADOX¹

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It is always very pleasant to discuss a paper devoted to an issue one would have liked to investigate oneself. For someone interested in modern and not so modern monetary theory and its connection with general equilibrium models, Eltis's inquiry into Wicksell early quantity equation modelling and its newly-found relevance for today's world is both exciting and frustrating.

Exciting in a sense that, even if I am always suspicious about ancestor's worshipping, it is always pleasant for an historian of thought to realise that 'wrong ideas of dead men' (Pigou) are not so wrong and not so old after all... Frustrating in a sense that Eltis's paper offers such a sweeping review of some of the trickiest monetary arguments debated since 1898 that the reader is bound to be disappointed. Walter Eltis is putting us on so many hot trails that one would have wished at many places more in-depth discussions and references to the primary and secondary literatures. But let us not quibble, Walter Eltis general argument is very exciting; he is clearly not bothered like Seurat with the shape of the various little dots on the canvas but is painting with the broad brush of someone who, clearly, has been heavily involved in policy making.

My comments on Walter Eltis's paper fall into two parts. First, I intend to examine briefly his broad argument of the relevance of Wicksell's monetary theory for the understanding of modern financial and monetary systems. Second, I select a small number of issues (both in the history of the subject and in the policy part of the paper) I would like to dig into a bit more deeply. I hasten to add that I am not a Wicksell scholar and that my understanding of this subtle theorist is only based on a reading of his two main books way back in the late 1980's.

Walter Eltis's central argument is that Wicksell's approach to monetary management was way ahead of his time; was for different and good reasons set aside during the entire 20th century and that, thanks to a radical change in the working of the banking and financial system, is finding today a new lease of life; or, at least, Eltis is encouraging us to go back to Wicksell to understand the predicaments the Japanese economy has gone through for the past four-five years (and, I add, to understand what the US economy is likely to go through during the next few years). The articulation is as follows:

- Today, Central Banks control inflation through short-term interest rate; Wicksell had a very similar opinion.
- Contrary to what went on during most of the last century, high-powered money reserves play a very small part in modern banks' decisions to lend or not; Wicksell also thought that the rate of growth or of decline of bank deposits was virtually independent of the size of liquid reserves.
- The gap between the real rate of return on capital (however this tricky concept is defined) and nominal interest rate being a good indicator of the growth rate of any economy, a proper understanding of Wicksell's cumulative process could teach us a

¹ This contribution is a comment on Walter Eltis, *Wicksell's Theory of Money, Interest and Prices in the 19th Century and the 21st*, above, p.79.

great deal about the growth rate differentials between Japan and the US during the past decade.

- Finally, Wicksell was apparently keen on Central Banks' co-ordination. Since part of the success in bringing down inflation during the 1990s was according to Eltis linked to such a co-ordination, Wicksell might have yet more to teach us in that respect.

This is a very tall programme indeed to be squeezed into the modest –if not rudimentary Wicksellian cumulative process. Eltis's argument seems somewhat over-enthusiastic. I think that modest and careful Wicksell himself would have been slightly taken aback at the credit granted to him as a precursor of modern monetary theory.

In particular, I am a bit mystified by the summary of the core of the argument (p. 43) 'if Wicksell's natural real rate has actually been as high as 5 to 7 percent in the US and as low as 1 to 3 percent in Japan, this would *explain* why Japan has had a falling price level during 1999 and 2000...'

As a matter of fact, and dare I say, my reading of Wicksell's theory seems to indicate that he was working in term of interest rate **differentials** and not in absolute level. It is because there is a gap (at no particular level) between the real natural rate² and the real market rate (i.e. nominal rate deflated by inflation rate) that the price level is rising or falling. In other words, if Central Banks cannot reduce nominal interest rates below zero they are (at least theoretically) perfectly free to set real market rates of interest as low as they please (providing they do not care about the level of inflation necessary to bring about the desired real market rate). If one wants to apply Wicksell's cumulative process argument to contemporary Japan and United States, one would have to examine the differential between these two 'real' rates: as long as the real market rate (or alternatively the real cost of finance) is below the real natural rate, the price level would tend to rise (and vice-versa). If OECD data are readily available for both Japanese and American real market rates, what proxy should stand for the real natural rate of interest? That is the whole question. Data for real rates of return on capital are not readily available. Hence, I will not dispute Eltis's suggestions on pages 41-42: a range between 5 to 7 percent in the US and between 1 to 3 percent in Japan over the 1996-2000 period. When compared to the relevant average short-term real market rates for the same period (slightly over 0.1 percent for Japan and 2.8 for the US), in both countries, real natural rates are higher than real market rates of interest. In both countries, the Wicksellian differential is in the same direction; thus, it cannot explain *alone* the falling price level witnessed in Japan during 1999 and 2000. Since my comparison uses real magnitudes there is no need to reintroduce here nominal interest rates.

Hence, my question is, either my reading of Wicksell is faulty or Eltis's argument does not explain the whole of the growth differential between the US and Japanese economy? Once again, I do not understand, why a differential in favour of real natural rate could bring about 'falling price level in Japan in 1999 and 2000'. Apart from a reference to Wicksell's intuition, other factors would probably have to be brought in. In particular, the general tenor of the argument seems to me to be couched in pre-*General Theory* terms (excluding notably changes in output) or, if you like, in the typical one-equation model of Friedman's demand for money. Moreover, in Wicksell's model, the real natural rate, not the real market rate, calls the tune.

Let me however, develop this differential issue a bit further. I think it is nothing else but a very old story dating back at least to Thornton, solved by Wicksell (p. 84: he was hardly 'ahead of his time') and resurrected by Keynes under the name of Gibson paradox.

The broad argument³ is that equilibrium in a monetary economy with non-monetary assets exists only when the market rate of interest in the loan market equals the rate of return on capital in the

² What Wicksell calls the real internal rate of return on capital, or, in his quasi-Austrian fashion, the 'marginal productivity of waiting' (*Lectures on Political Economy* (1906), vol. I, London, Routledge & Kegan, 1935, p. 177).

³ The next few paragraphs draw freely on the present author's entry on the 'Gibson Paradox' in *The New Palgrave Dictionary of Money and Finance* (P. Newman, M. Milgate and J. Eatwell, eds), London, Macmillan, 1992, vol. 2, pp. 239-40.

commodity markets. In such a monetary equilibrium (to use Wicksell's terminology), the equality between these two rates also implies that savings equals investment and the constancy of the price level. In particular, if the money rate happens to be lower than the natural rate, agents can take advantage of this to increase their demand for investment goods. Assuming full employment, such an additional demand would immediately generate a rise in the price level fuelled by excess demand on commodity markets, and, sooner or later, this would react on the loan market and trigger a rise in the money rate of interest.

Clearly, the expansion of bank credit can only become effective through a reduction of the money rate (Wicksell favouring like Keynes a rise in the natural rate). This was hardly a novelty: Thornton had already fully realised it in 1802. The theme common to most 19th century writers is that at the same time as the monetary increase pushes interest down it also pushes prices up. Following this argument, one would expect the bank rate and the price level to move in *opposite* directions. But this was only half the story; and monetary theory had to wait until Wicksell demonstrated that *ultimately* the rise in prices has to cause a *reversal* of the former one. It is precisely the second half of this process which Keynes "rediscovered" thanks to Gibson's statistical research.

As a matter of fact, a similar empirical attempt had already been made by a leading critic of Ricardian monetary theory. In his *Currency Principle* ([1844] 1959, pp. 123-124), Tooke had already argued that, in apparent contradiction with the then dominant doctrine, the market rate and the price level are *positively* correlated. For Tooke, the quantity theory of money was thus proved to be wrong. And it is precisely in trying to reconcile Tooke's early version of the Gibson paradox with the quantity theory that Wicksell solved this paradox by means of his cumulative process which provides a detailed explanation of its short run *modus operandi*.

The Gibson paradox is not very difficult to explain when it is realized with Wicksell (and Keynes) that changes in productivity, capital accumulation or technology do alter the rate of return on real capital independently of monetary forces. The bank rate will therefore trail *behind* the real rate. In Keynes's own words :

If the market rate of interest moves in the same direction as the natural rate of interest but always lags behind it, then the movements of the price level will tend, even over longish periods, to be in the same direction as the movements of the rate of interest...The Gibson paradox is explained (*A Treatise on Money, I, The Collected Writings of John Maynard Keynes*, vol. VI, London, Macmillan, 1971, p. 184).

What would be needed to disprove the quantity theory is not a positive correlation between prices and the absolute level of the market rate of interest but a positive correlation between prices and interest *differentials*.

Keynes eventually used this idea of a difference between these two rates or, alternatively, between savings and investment, and its influence on profit, defined as windfall gains, as the basis for his attempt to find precisely the dynamical laws of the disequilibrium process. His fundamental equations are in a way not a substitute for the quantity theory but an analysis based on the solution brought to the Gibson paradox of the dynamics of the price level within a short-run disequilibrium process.

Let us turn much more briefly to four other shorter remarks: two linked to the history of thought and two on the policy part of the paper.

1. On page 81, Eltis discusses in detail what he calls Wicksell's 'credit economy'? The system is framed within a gold standard system; i.e. the system has an anchor; the system is not unstable. At other places, he alludes (sometimes explicitly) to Wicksell's 'pure credit economy': this is quite another system and free bankers have been at it, trying to assert its stability, for quite a while. Which version is in fact behind his

argument? When Nixon severed the link between the dollar and gold, he did *not* introduce a ‘pure credit economy’ à la Wicksell.

2. In his section on Wicksell, Keynes and Friedman, Eltis only mentions Keynes up to the *Treatise*. Of course, we all know the story about the collapse of the quasi-Wicksellian fundamental equations. But doesn't Keynes's 1936 principle of effective demand introduce variations of output as an extra variable that Wicksell cannot obviously handle with his full-employment cumulative process; i.e. changes in money influence nominal prices only, not the level of output?

Friedman's famous quote on p. 90 about ‘natural rate of unemployment...ground out by the Walrasian system’ is for me a clear indication that, Wicksell like Friedman work their respective natural rate of unemployment or natural rate of interest doctrine against the background of an implicitly stable Walrasian general equilibrium model... excluding, by definition income or output as a variable. No wonder the similarities between their two approaches.

Similarly, on pp. 90-91, Eltis criticises Keynes for setting up in the *General Theory* a comparative static model while praising Wicksell and Friedman for their ‘detailed accounts of what occurred during departures from equilibrium’. Given the present sorry state of general equilibrium analysis, and particularly the impossibility of demonstrating its stability (Mantel, Debreu, Sonenschein), if Wicksell can be excused for ignoring it in 1898, Friedman can certainly not have either ignored it or be credited with a detailed account of disequilibrium situations. If I may say so, he is simply, as usual, *assuming* the stability of the system he is explicitly referring to.

3. Referring to Goodhart's paper while discussing the many parallel between Wicksell's vision of how a banking system is supposed to work and the actual working of 21st-century banking system, Eltis uses the ‘too big to fail’ argument’ to demonstrate that, in fact large banks are today semi-public goods and that modern Central Banks are always playing their role of lender of last resort. Hence, commercial banks would have an easier task to determine the rate of credit creation (since they would never be constrained by a shortage of reserve). I agree on both point: on the argument and on his interpretation of Wicksell. But I think he is going slightly too fast. He retracts somewhat on his argument later. Even if banks are largely responsible today to determine on their own the rate of credit creation, the classic distinction between liquidity and solvency crises leaves quite some room for discretionary intervention by the Central Bank. Central Banks are in the business of saving banks not bankers. Banks are after all allowed to fail regularly (vide Baring) for solvency reasons. Moreover, Central Banks are still, dare I say, playing their crucial role of lenders of last resort (in time of liquidity crisis).

4. Switzerland and Friedman's monomaniac explanation in terms of the money variable only (p. 88).

In fact, the story is quite different and much more sophisticated than a simple quantity equation model.

- Traditionally, and at least since 1945 and notwithstanding the part played by foreign deposits in Swiss banks, Switzerland has been saving massively more than it can domestically invest; this characteristic of a highly developed economy with an ageing population is, of course, synonymous with an enormous current account surplus (around 12% of GNP).
- Lower real interest rates and slower growth rates than other European countries are the logical consequences.
- During the same half century, the Swiss economy has also been characterised by extremely low unemployment levels and a religion for balanced budgets – two sounds reasons not to reflate by way of a lax monetary policy

- Switzerland did not escape the consequences of the fixed exchange rate crisis of the late 1960's and early 1970s. The tight monetary policy conducted from 1973 onwards was thus in response to the disastrous consequences brought to the growth of the money supply (and hence to the inflation rate) by the undervalued currency of a small open economy characterised by a large current account surplus (in a fixed exchange rate system).
- Accordingly, if applied to Switzerland, Friedman's sentence "in the language of Wicksell, nominal interest rates had previously been held above the natural rate, which had produced slow monetary growth and falling inflation" must be very seriously qualified. In particular, and with provisos, it could only be applied to a short period linked with the change of monetary regime during the 1970s

WICKSELL AND THE JAPANESE CRISIS: A POST-SCRIPT

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I am grateful for Pascal Bridel's constructive Comment¹. I have one observation with potential significance for the History of Economics. In general, economic interrelationships are complex. Many influences mutually determine the development of economies, and no single consideration can be singled out as a prime determinant without unacceptable oversimplification.

There are none the less occasions where a single influence which can be represented by a rather simple theory is so powerful that it has the potential to dominate. Keynes's belief that lack of effective demand provided the overwhelming explanation of the unprecedented levels of unemployment of the 1930s is an example. Its total influence was questioned at the time and it has been questioned since, but his explanation of mass unemployment is undoubtedly seminal.

Does a Wicksellian interpretation of the implications of a 1-3 per cent real rate of return on capital in Japan have a similar potential to dominate the interpretation of real events? I believe it has, while Bridel believes that 'it cannot alone explain the falling price level witnessed in Japan in 1999 and 2000'. He must be right but it is none the less an extremely powerful influence.

With an average real rate of return on capital as low as 1 per cent, real interest rates would need to be as low as minus 2 per cent, in view of risk and uncertainty, to provide a justification for investment financed through borrowing. Bridel suggests that Central Banks are '(at least theoretically) perfectly free to set real market rates of interest as low as they please (providing they do not care about the rate of inflation necessary to bring about the desired market rate)'. But Japan has a public debt to GDP ratio which is already 130 per cent and it is rising by between 5 and 10 percentage points per annum. If the Bank of Japan succeeded in establishing an expected rate of inflation which at first produced negative real rates of interest of at least 2 per cent, Japan's ratio of debt interest to GDP would escalate and this would further undermine its public finances. The Japanese authorities have hitherto been able to persuade a considerable fraction of the high-saving Japanese population to hold Japanese government bonds which offer a nominal return of 1.6 per cent or less. With significant expected inflation and a falling yen, many would switch to US and European bonds which currently yield 4 or 5 per cent, which would force Japanese interest rates upwards to a level which would devastate its public finances, and restore the real rate of interest to levels which undermined investment.

If inflation offers Japan no way out, Wicksell's argument stands, that a natural rate of interest as low as 1-3 per cent has inescapable deflationary consequence. Paolo Sylos Labini perceptively described profits as 'the gasoline of capitalism' and where these are lacking it cannot function effectively. It is largely because the average real rate of return on capital is so low that the Japanese banking system is replete with unperforming loans. My paper refers to a Goldman-Sachs study which places these potentially at 40 per cent of GDP. With an average real rate of return on capital as low as 1-3 per cent, around half the Japanese economy will be losing money. An article published in the Financial Times on 29 January 2002 actually indicated that 'According to tax statistics, about 70 per cent of Japanese companies lost money last year'. As the Japanese banks participate in a culture where they are expected to support the particular industrial and commercial companies in their mutually interconnected networks of corporations, they will attempt to continue to underwrite the loss-making members of their Keiretsus. But while the Japanese banks will underwrite past losses, they will not be similarly obliged to create new ones with the result that the trend in capital investment must be downwards, as it is.

It is because of these institutional considerations, that Japan's public debt to GDP ratio is already

¹ P. Bridel, Wicksell and the Gibson Paradox, above p. 98

130 per cent and rising, and because of the incestuous promiscuity between Japan's banks and its leading industrial companies, that the impact of a real rate of return on capital as low as 1-3 per cent is so devastating. But given their presence, if one wants a theory which goes to the heart of the Japanese crisis, I suggest that Wicksell's offers unique illumination.

As Bridel reiterates, there is nothing fundamentally new in the belief that there is significance in the relationship between the rate of interest and the rate of return on capital: many before Wicksell drew attention to it. But his particular assumptions gave it a central importance which was new, and he was ready to use it to explain all the inflationary and deflationary trends of the nineteenth century in a few pages, so the explanatory power I attributed to his theory might not have surprised him.

May this be one of the rare cases in the History of Economics where a rather simple theory has exceptional power to illuminate?

THE EPISTEMIC FOUNDATIONS OF SOCIAL ORGANIZATIONS: THE GAME-THEORETICAL APPROACH

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Introduction

It could seem strange at first sight to use game theory to understand structural changes and institutional organizations of economies. Beyond the well-known objectives of a retrospective bias in reading past economic phenomena through a recent intellectual construction, two major criticisms immediately come to mind. First, game theory is supposed to be derived mainly from a strictly individualistic methodology based on a narrow definition of rationality. Second, the line of reasoning is largely dominated by the backward induction, a mental procedure where individual players are assumed to choose their strategy from the beginning to the end of the game. If game theory was actually built in the spirit of pure individualistic rationality and developed in a stable static perspective, we could legitimately question its relevance for studying structural and institutional changes in economy.

The aim of this paper is to show that these assumptions, which are more generally attached to game theory and commonly accepted by scientists, are not correct on the grounds of historical, as well as analytical arguments. Consequently, game theory opens up two interesting ways for understanding institutional changes which will be briefly explored. On one side, a fresh look at such basic notions as "standards of behaviour" and "social orders", which can already be found in T.G.E.B. (Theory of Games and Economic Behavior), gives analytical foundations for identifying various institutional systems through different solution concepts. On the other side, a dynamic approach to interactive systems exists, at least from Volterra's works on modelling animal population struggles. Such a dynamic version of games was reinforced even in 1950 by Nash's suggestions about an alternative dynamic interpretation of his well-known equilibrium-solution concept. Following these directions can definitely improve our knowledge of the processes of economic and social changes.

The analytical part of the paper is devoted to the first perspective.

1. Some Historical Fallacies on Game Theory

Nobody can object that the players of a game in its technical sense are individual decision-makers(1) who choose freely their strategy (or more generally their movements). In addition, they are supposed to be selfish maximizers for the sake of simplicity(2). Are such very broad assumptions sufficient to conclude that the original framework of game theory is no more than an extended and sophisticated (or at variance over simplified, Spohn, 1982) version of the standard individualistic paradigms of neo-classical economics? We do not think so. From the very beginning, and in spite of some misinterpreted statements, the scope of game theory is not to be found in the entities themselves (the decision-makers) with their individual characteristics (preferences, ability to maximize selfish utilities ...), but rather in the content of their relations during the interactive

process, precisely labelled as the "game". Several pieces of historical evidence show that the founders of game theory were aware of this novelty.

1.1 Interactive Decision Processes and Individual Decision-making

Mixed strategies occupy a central place in games of strategy. In his two brief notes concerning what he called "games that involve chance and the skill of the players", Borel already introduced the idea of mixed strategy for solving the three examples of strategic games which he raised (Borel, 1921, 1924). Von Neumann in his 1928 seminal paper suggested a disputable, but very interesting interpretation of the use of this notion for such a purpose. Let us quote Von Neumann who is reasoning, like Borel, in the restricted format of a two-person, zero-sum game:

"At the beginning of the game, S1 (the player) is not asked to choose one of the numbers 1, 2, ... $\Sigma 1$, he has only to specify $\Sigma 1$ probabilities" (Von Neumann [1928], 1959, p.231).

Thus, he specifies the intuition behind the *raison d'être* of such an artifice in the following terms:

"If S really wants to get a particular strategy X, he can specify $P(x_1)=1$, $P(x_2)=0$ (for $x_1 \neq x_2$). On the other hand, he is protected against his adversary "finding him out"; for, if e.g. $P(x_1) = P(x_2) = \frac{1}{2}$ nobody (not even himself) can predict whether he is going to choose 1 or 2!" (ibid, p.23).

And he concludes on this point:

"In specifying the rules of behaviour for the players it becomes imperative to reconsider the element of 'hazard'. The dependence on chance (the 'statistical element') in such an intrinsic part of the game itself (if not of the world) that there is no need to introduce it artificially by way of the rules of the game itself (if not of the world): Even if the formal rules contain no trace of it, it still will assert itself" (ibid, p.26).

What does Von Neumann's interpretation of choosing mixed strategy really mean? Beyond the explicit rules of the game, game theory proposes rules of behaviour for the players. Such rules of behaviour are much more complex than simple individual maximization. Von Neumann suggests that the purpose of each player could be to avoid being "found out" by the other. According to this purpose, "hazard" is transformed into behaviour for the two players. If both accept these rules, the problem raised by their interaction in several game situations has a solution. This is the final justification for their common acceptance of the prescriptions. Therefore, hazard must be understood more as an implicit institution of what Von Neumann called at that time "games of strategy".

Let us note that Von Neumann's strategic interpretation of hazard was not shared by Borel, for whom nobody can mimic hazard (Borel, 1939). However, this does not refute our view on the real foundations of game theory. Borel does not dispute the necessity of rules of behaviour for the players of a strategic game. He only contests that such rules can be derived from hazard. One can even say, in retrospect, that he was partially right on this point. Indeed, when we extend the domain of the game from zero-sum to non zero-sum, hazard no longer justifies the mixed strategies corresponding to its solution. But it does not follow, however, that this set of mixed strategies cannot be understood as rules of behaviour derived from a social solution.

Fifteen years later, the social characterization of interactive decisions are specified and their consequences, both on the content and on the foundations of game theory, are developed in

T.G.E.B. Such an insistence on underlining the economic specificity of the interactive processes is probably due to Morgenstern and must be connected to his original position in the Austrian intellectual configuration (Schmidt, 2001). Anyway, from the very beginning of the book, a comparison is developed between a "Robinson Crusoe economy" and a "social exchange economy" in order to delimit the difference between the individual and the inter-individual approaches to economic phenomena (T.G.E.B., p.9-12).

Three main features emerged from this comparison which are summarized by the following table:

	<u>Robinson Crusoe Economy</u>	<u>Social Exchange Economy</u>
<u>The problem:</u>	Robinson Crusoe economy faces an ordinary Maximum problem	No player faces a Maximum problem but a peculiar and disconcerting mixture of several conflicting problems due to other players (T.G.E.B.)
<u>The system</u>	Robinson Crusoe operates in a world whose variables are either under his control (tastes, preferences ...), or completely out of his control (the occurrence of independent states...)	Each player co-operates in a world where almost all the variables are only partially controlled by himself (states of the game, and their associated outcomes).
<u>The expectations</u>	Robinson Crusoe makes expectations on the difference "states" of the world.	Each player makes expectations on the other players' actions (and through the reflexivity property, other players do the same on his action).

Table 1

Several interesting consequences are to be derived from Table 1. The difference in the two systems leads to a quite separate treatment of expectations in the two cases. As the players' world is only derived from the interactions of all the participants, there is no hypothesis corresponding to the rational assumption of an equi-probability of the states of the world in game situations. Therefore, a *statistical modus operandi* for the decision-maker does not exist in a social exchange economy and must be replaced by a *social modus operandi* of a totally different type. So, as the players of a game make expectations on others, they must make expectations on other expectations ... and so on. The core of a game situation is to be viewed as an intricate system of embedded mutual expectations, and, thus, of interdependent beliefs. Such a social dimension cannot be reduced to individual decision-makers, even if the states of the game are the final result of the free will of individuals(3).

A careful reading of T.G.E.B. reveals that Von Neumann and Morgenstern were perfectly aware that the analysis of such interactive economic and social processes is not a simple extension of individual decision-making plus additional technical difficulties. Their conclusion does not leave any doubt on the matter.

"The grounds for difficulty lie not on the field of those social relationships we have mentioned before, although we do not question their significance. But rather they arise from the conceptual differences between the original Crusoe's maximum problem and the more complex problem sketched before.

We hope that the reader will be convinced by the above that we face here and now a **conceptual** — and not merely **technical** — difficulty. And it is this problem which the theory of 'games of strategy' is mainly devised to meet" (T.G.E.B., p.12).

In spite of its clarity, this warning message has been fully understood only recently. Due to the well-known T.G.E.B. appendix devoted to the first axiomatic treatment of utility, the majority of game theorists up to the 80s focussed on the connection between game theory and the models of the expected utility through the Bayesian rules of revision. Therefore, game theory was mainly pictured as an attempt to transform problems of interacting players into a special case of individual decision-making under risk (Luce and Raiffa, 1957). Harsanyi was even more precise on that point. He considered rational behaviour in game theory as a direct generalization of the Bayesian rationality under uncertainty. Indeed, in a game situation each player can evaluate his expectations about the decision of another player in terms of subjective probabilities and revise his belief in a way consistent with the Bayesian rules. Thus, game theory is to be interpreted as an extension of the Bayesian rational approach of individual decision-making (Harsanyi, 1977). This standard view was largely shared by the economists and the theoreticians of decision-making during more than thirty years with a few exceptions, including Binmore (1990, 1993).

More reflection shows that the relation between the specificity of interactive situations covered by game theory and the statistical Bayesian rules of individual beliefs revision is hardly obvious. As it was already noted by the authors of T.G.E.B., players' knowledge was not mainly concerned by substantive matters but rather by others' knowledge. Aumann, although he himself utilized the Bayesian approach as a technical tool for a tractable subjective treatment of probability in game theory, became convinced that a system where knowledge and belief refer to more than one individual person requires its own logical foundations which cannot simply be derived from those of individual decisions (Aumann, 1999). This recognition of such a social foundation for of interactive situations studied by game theory has only recently re-opened the way to new investigations on the epistemic background of this theory.

1.2 The Dynamic Dimension of Interfacing

The static nature of game theory reasoning is derived from two features most generally attached to the concept of strategy. Being defined as a set of all the players' movements chosen from the very beginning to the end of the game, the strategy appears as timeless. Furthermore, the well-known procedure of "backward induction", which is purely speculative and out of time, reinforces this picture, due to its close relation with players' rationality in game theory. If choosing rationally implies proceeding "backwards", there is apparently no room for time in strategic games. But, once again, some historical evidence questions the relevance of this common view.

During the academic years 1928-1929, Borel invited his friend, the great mathematician V. Volterra, to give several lectures on mathematical models of dynamic biology at the Institute Henri Poincaré, of which he was the director. An enlarged and revised version of those lectures were published later in French under the title *Leçons sur la théorie mathématique de la lutte pour la vie* (1931). Such a book is generally considered as a major precursor of evolutionary games (Maynard Smith, 1982).

The comparison between Borel's mathematical treatment of what he called "*la théorie du jeu*" between two players (Borel, 1921, 1924) and Volterra's models of animals fighting (1931) is really impressive. Starting with integral linear equation systems with a skew symmetric kernel where $a_{ij} = a_{ji}$, both authors utilized the possible permutations offered by such systems from which they derived their main results. But whereas Borel's topic is the confrontation between two sets of

"manners of playing", Volterra's study concerned the interrelations between animal species in a crude opposition predator/prey (4). In addition, the problem to be raised is not the same in the two cases. Borel's research is to find a precise rule for choosing a manner of playing which competes against all the opponent's manners of playing. Volterra's matter is to determine some dynamic laws of animal species' fluctuations. But as Borel rightly observed in his first note:

"Numerous problems can thus be reduced to the study of integral equations with a skew symmetric kernel. This kernel depends on the conventions of the game, whilst the diverse forms of the integral equations depended on the problems posed" (Borel, [1921], 1953, p.99).

Indeed, the properties of the matrices' coefficients can be studied either to determine the numerical solution, as for Borel's problem, or for analysing the nature of the dynamic stability, as for Volterra's question. This common mathematical support reveals the dynamic facet which necessarily complements the classical domain of game theory. Its best illustration is provided by a very simple example which can be found in Borel's as well as in Volterra's works translated in their respective fields of research.

	A	B	C
A	0	+1	-1
B	-1	0	+1
C	+1	-1	0

Fig.1

For Borel, it pictures the parlour game "paper", "rock", "scissors" (Borel, 1924, p.215). But it also portrays the situation studied by Volterra between three species A, B, C, where A beats B, B beats C, but C beats A (Volterra, 1931, p.63) This mathematical dress leads Borel to the conclusion that it is this the best rule for playing choosing by chance on the grounds that $p_1 = p_2 = p_3 = 1/3$. It also allows Volterra to demonstrate that his stylized system of three animal species tends to a unique dynamic equilibrium which is asymptotically stable on the grounds that $\Sigma(A,A)$, $\Sigma(B,B)$, $\Sigma(C,C)$ when Σ tends to 0.

The fact that the same formal properties are used for studying these two situations and solving the problem they raised does not mean that "paper", "rock", "scissors" and the three species are two identical games. It clearly shows, however, why a dynamic perspective of interactive phenomena also belongs to the domain of the mathematical theory of games from its very beginning.

Surprisingly, we have no indication that Borel and Volterra were aware at that time of such a similarity (Schmidt 2001). The connection between these two complementary dimensions of a game was clarified twenty years later thanks to Nash and his renewal approach to game theory through non-cooperative games.

Nash's basic idea was a new mathematical concept of solutions, which became the well-known Nash equilibrium. The definition of non-cooperative games was only derived from it to provide an interpretative support to this concept, initially defined in its pure logical acceptance (Nash, 1950b). Thus, the concept of equilibrium understood in a non-cooperative game gives rise to two different interpretations. A first interpretation called by Nash "Mass action" refers to populations of individuals which accumulated empirical evidence about consequences of the pure strategies at their disposal during the development of the game. According to it, the mixed strategies represent the average individual's behaviour in each population corresponding to an equilibrium point. In a second interpretation, the equilibrium point is the result of a rational prediction of the behaviour to be expected of rational players in the game (Nash, 1950a). Thus the first one is connected to the notion of a stable distribution of strategies, whilst the second included a shared knowledge of mutual rational expectations. Let us observe, by the way, that a large number of players (population) is not a precondition for the dynamic interpretation of the equilibrium as a solution of a game:

"The population (according to the mass-action interpretation) needs not to be large if the assumptions still hold. There are situations in economics or international politics in which, effectively, a group of interests are involved in non-cooperative games without being aware of it" (Nash, 1950a).

At first glance, stability's conditions in the dynamic interpretation seem to be a substitute for rationality in the static one. But things are much more complex. The information and the kind of knowledge are not the same in both cases. As for the stability, we know now that the conditions of stability for a Nash equilibrium are not sufficient to guarantee the asymptotic stability towards one equilibrating trajectory of a dynamic game. Once again, but for a different purpose, the previous example of the game "paper", "rock", "scissors" provided an illustrative example where the Nash equilibrium does not necessarily correspond to an E.S.S. (equilibrium stable strategy) which only guarantee the system against an unpredictable cycles when $A \rightarrow B \rightarrow C \rightarrow A \dots$ (Maynard Smith, 1982, p.20). Every E.S.S. is a Nash equilibrium, but the converse is false.

The main difference between "dynamics" for evolutionary games and "static (or strategic) games" is mainly a question of interpretation. While strategies are related to populations in the evolutionary games, they are associated with individuals in strategic games. Therefore, evolutionary games require an additional assumption for relating individuals to populations. The biological concepts of "phenotypes" and Darwin "fitness" easily solve this question for animal populations. They cannot be directly transposed to human societies. Therefore, the formal black box of "dynamic replicator" necessitates considerable work to give rise to relevant interpretation of social phenomena. Anyway, game theory is no more intrinsically static in its content than individualistic in its topic.

2. From Solution Concepts of a Game to Social Organizations

The historical background of game theory offers serious arguments for restoring the institutional dimension of its topic. The landscape today, however, is not so clear due to several evolutions more or less generated by Nash's very innovative ideas.

First of all, the initial domain of game theory has been split into two separate fields, namely, the co-operative and the non-co-operative games. At first glance, the institutional dimension seems

more obvious in co-operative games, where the solutions are defined in terms of coalitional organizations which give rise to institutional interpretations. Such evidence disappears in non-co-operative games where the players are assumed to operate in a totally decentralized world, free of any kind of institutions(5). Moreover, the evolutionary games have been developed from a non-co-operative approach, as an extension of the dynamic interpretation of the Nash equilibrium. By contrast, the analytical framework of co-operative games remained static up to now. Thus, the link between the dynamics of interactive social processes and one or the other solution concept becomes less visible.

The implication of another evolution, namely Aumann's investigation on the epistemic foundation of interactive situations, is much more complex for our purpose. Of course, Aumann stresses the logical distinction between the knowledge of an individual and the "common knowledge" of a set of individuals. Between these two extremities, Aumann points out the specificity of intermediate situations, such as, for example, the mutual knowledge between players. He also outlines the specificity of the knowledge that an individual can have on the others. Aumann's canonical model, although straightforward, remains slightly disappointing. Such a knowledge, as would be a dictionary, does not provide any factual information to the players, but it is supposed to be commonly known by the process of its construction (Aumann, 1999).

If this syntax approach to the means of knowledge operators is formally convincing, its interpretation is not so clear. What is the actual status of players' knowledge of a solution concept? Traditionally, it is assumed to be common knowledge between the players, on the disputable grounds that the solution is a component of the rules of the game. Such an assertion postpones the question which concerns the knowledge of the rules of the game. In an informal discussion of his canonical model, Aumann takes the example of a chess game. According to this model, a proposition like "player 1 and player 2 played a game of chess" implies that player 1 knows that player 2 won or knows that player 2 did not win and that this implication is commonly known by the players (Aumann, 1999, p.293). But this contradicts the metaphor of the letters of an alphabet (or the words in a dictionary). Therefore, the knowledge of the rules of the chess game can hardly be reduced to some kind of dictionary. Can the same result be applied to the solution concepts in game theory?

Part of the answer can be found in Aumann and Brandenburger's paper where they investigate the conditions on players' knowledge and beliefs for a Nash equilibrium (Aumann and Brandenburger, 1995). The two authors demonstrate that: 1) the knowledge of an equilibrium must only be a mutual knowledge, at least in the case of a two-person game(6); and 2) the model of belief which is attached to the game is commonly known by the players. There is some difficulty in combining these two statements into a clear unified construction. Anyhow, Aumann's work remains, until now, limited to the Nash equilibrium solution. For other solution concepts, nothing has really been done in that direction.

In spite of these ambiguous signals, we persist in thinking that game theory is developing a relevant analytical framework for understanding the institutional foundations of social organizations. In order to establish the point, we will re-visit the notions of 'accepted standards of behaviour' and "established social order" picked out from T.G.E.B. in the light of new insights. These notions will be used as guide-lines for discussing various approaches to the question proposed by different researchers, including myself.

2.1 "Accepted Standard of Behaviour" and "Established Social Order"

Von Neumann and Morgenstern provided in T.G.E.B. some interesting suggestions in our direction, which have been largely neglected by their successors, through the notions of "standard of behaviour" and "established social order". At first sight, such notions seem to be elaborated only to give an intuitive interpretation for the mathematical solution of a game. A careful reading of the book reveals their much more important role in Von Neumann and Morgenstern's intellectual construction. Indeed, they first appear in chapter 1 devoted to a re-interpretation of "the economic problem" in the new language of game theory (T.G.E.B., p.30-44). But they became imperative for the understanding of what they call the exact form of a solution (T.G.E.B. p.263-263) and support each attempt to extend the initial framework of the theory (T.G.E.B., p.471, 499, 501).

A footnote in chapter 1 gives the reason why the "standard of behaviour" can be used as a key for understanding the necessary social acceptance of the solution by the players. After recalling that the rules of the game are considered as given, it adds in a rather elliptic way:

"We suggest ... that the reader forgets temporarily the analogy with games and thinks entirely in terms of social organisation" (T.G.E.B., p.41, note 1).

What does it mean? In parlour games, the solution concept is implicitly included in the rules of the game which are completely known by the players. Therefore, the solution concept of the game is given with its rules. The situation is not the same in the social world, where the rules of the game (i.e. the order of movements, the numbers of the sequences ...) are free from a definite concept of solution. Thus, in parlour games the solution does not require an interpretation because the players adhere to the solution when they accept the rules of the game. In social games, on the contrary, the solution is not directly derived from the rules of the game and, therefore, must be found by the theoretician. This is not sufficient, however, to implement it. In addition, the players must accept the solution proposed by the theoretician. In that perspective, the solution is to be attractive for the players in order to become a social organization.

Let us abandon the metaphor of parlour games to consider a more abstract game with a unique solution. Such a solution has to be interpreted for the reasons previously given. But its interpretation does not raise a specific problem, due to its unique associated standard of behaviour. A two-person zero-sum game is a good illustration. Its solution, derived from the famous theorem $\text{Maxmin} = \text{Minmax}$, is intimately linked to a well-known standard of behaviour, namely, the *Maximin* criterion. In other words, the interpretation of the solution is self-evident in this case. This explains, in retrospect, why Borel and Von Neumann (1928) did not care for it.

A new problem actually emerges when the solution concept is not given by the rules of the game, and when either the solution concept gives rise to different solutions, or when various solution concepts are consistent with the same data of the game. Following the two authors of T.G.E.B., we will start with the first case.

The relation between the standard of behaviour assigned to the players by the solution of a social game and the social order established by the implementation of the solution looks simple. To perform the social organization, the players have to adopt a specific standard of behaviour. On another side, the players will adopt this standard if they accept the social order which will follow the recommended behaviour. At this point, Von Neumann and Morgenstern make a disputable distinction between two categories of conditions on the social order(s) established by the solution. First of all, the solution of a game cannot lead to a self-defeating system. Second, it must satisfy some additional desiderata concerning, for example, the allocation of the final outcome between the

players. Whereas the first condition is supposed to be natural and reflect the "order of the things", the second conditions are derived from subjective considerations.

This way of setting the question is closely dependent on the solution concept chosen in T.G.E.B. by Von Neumann and Morgenstern, "the stable sets" where the absence of dominated imputations characterized *lato sensu* the "inner stability" of the corresponding organization. Such a stability can be viewed as an expression of the non self-defeating condition. Unfortunately, Von Neumann and Morgenstern's "stable sets" can lead to different solutions which implies in T.G.E.B.'s terminology, various social orders and, consequently, several standards of behaviour. Such a multiplicity is just the consequence of the second conditions, i.e. the diversity of social desiderata. But this leads to a result which is not quite convincing, as suggested by the authors themselves:

"Several stable standards of behaviour, of course, exist for the same factual situation: Each of these would, of course, be stable and consistent in itself, but in conflict with all the others" (T.G.E.B., p.266).

No doubt the canvas sketched out by Von Neumann and Morgenstern is a fruitful starting point. But due to the time, several of its components reveal some weaknesses. The distinction between the solution of a game and the solution concept from which this solution is derived was still not drawn. Von Neumann and Morgenstern's initial quest is to discover a general solution for every game, but the solution they found was a set of different "imputations". In order to give a sense to these imputations, they associated a specific standard of behaviour to each of them.

Let us try to extend Von Neumann and Morgenstern's ideas to other concepts, such as the Nash equilibrium. In most cases, a game possesses several Nash equilibria. Each of them, however, refers to the same standard of behaviour. If we consider that each equilibrium is a solution which belongs to the same concept, it seems correct to associate a definite standard of behaviour to the solution concept and not to its different solutions in a given game. That which is true for the Nash concept is also true for other solution concepts, including Von Neumann and Morgenstern's stable sets solution.

Von Neumann and Morgenstern's interpretation of the stability condition is also disputable. Obviously, any solution must have a minimum of stability to give rise to a social order. But one can wonder on what principle this stability is based. In a social situation, the stability most often results from the confidence of the players' expectations on behaviour of the others. Incidentally, the two authors of T.G.E.B. surmise the existence of such a phenomenon. They notice that the "accepted standard of behaviour" is a necessary condition to maintain players' faith in the definite solution (T.G.E.B., p.266). They cannot analyse more rigorously this because they lack a model of the players' knowledge.

Once again, Von Neumann and Morgenstern's intuition is derived from the solution they have elaborated in T.G.E.B. where the stability is a direct implication of non-dominated imputations. A glance at other solution concepts proves that their stability has nothing to do with a natural "order of things". The strategic stability of a Nash equilibrium only depends on the absence of an incentive to deviate from the strategy specified by the concept (Kolberg and Mertens, 1986). Even the Shapley value which escapes *a priori* any stability conditions, can generate a social order "stable" at minima through a self-fulfilling mechanism (cf. supra p.25). These two examples show that, contrary to Von Neumann and Morgenstern's interpretation, the stability of a solution concept must be understood as a desiderata for the corresponding social order.

Finally, Von Neumann and Morgenstern are aware of a kind of vicious circle in the reasoning for relying on a standard of behaviour accepted by the players to the established social order. On the one hand, the existence of a social order depends on the implementation of a specific standard of behaviour by the players. On the other, a specific standard of behaviour must satisfy the social desiderata included in the expected social order to be accepted by the players. In order to avoid such a difficulty, Von Neumann and Morgenstern utilise the distinction previously criticized between the stability conditions and the other social desiderata. Beyond the necessary stability of whatever social order, their investigation does not concern the social norms imbedded in the social order corresponding to a solution of the game. Thus they quickly close the debate in the following terms:

"Our problem is not to determine what ought to be happening in pursuance of any set of necessarily arbitrary *a priori* principles, but to investigate where the equilibrium of forces lies" (T.G.E.B., p.43).

This position becomes hardly acceptable if the stability conditions are no more disconnected from other social norms. There is nothing to object to the very general statement that the solution of a game is more or less directly derived from the investigation of the balance of forces. But, according to Von Neumann and Morgenstern, such a balance results from the implementation of standards of behaviour which are accepted by the players. On what grounds can the players accept this or that standard of behaviour, except the social norms directly or indirectly incorporated in the corresponding social order? Therefore contemporary game theorists must bravely face the problem raised by T.G.E.B. about the connection between the acceptance of the standard of behaviour by the players and the norms included in its corresponding social order. However, its investigation necessitates, on the contrary, the analyse of what ought to happen in pursuance of different sets of *a priori* principles.

This legacy from Von Neumann and Morgenstern can be developed in different directions. Three of them will be successively discussed.

2.2 Greenberg's social situations

A first extension of Von Neumann and Morgenstern's seminal ideas is due to Greenberg. In an ambitious research programme, Greenberg has sketched out what he has called a "theory of social situations" for challenging game theory (Greenberg, 1990). Roughly speaking, a social situation pictures all the environmental features necessary for the players in order to reach a definite solution in the game theory terminology. Let us summarize how Greenberg revisits the old notions of "accepted standard of behaviour" and "established social orders" for his purpose.

a) The solution of a game is tantamount to a set of rules which lead to a set of final outcomes when they are applied by the players. According to this, the standard of behaviour is an operator who transforms players' behaviour to a game solution in a broad sense. Therefore it can be mathematically written as a mapping $\sigma(G)$, where G is the domain of the game.

b) Only solutions which are not self-defeated can refer to social orders. Consequently $\sigma(G)$ must be stable in this very weak meaning.

c) $\sigma(G)$ in itself is not dependent on a specific solution, but the interpretation of a solution concept necessitates the definition of an associated social situation (S.S.), which takes into account the institutional environment and the players' beliefs. Thus, a correspondence can be shown between a definite standard of behaviour and a specific solution concept thanks to the social situation. In formal terms, $\sigma(S) \Leftrightarrow (S.S.)$, where S is the solution concept of the game G and S.S., its corresponding social situation.

d) The players of a game are always free to accept or to reject a definite standard of behaviour. Accepting $\sigma(S)$ implies accepting the social situation to be associated to the solution concept of the game. So, either this social situation is a correct idealization of the players' actual situation and the players normally accept the corresponding standard of behaviour, or it is not the case and they reject this standard of behaviour. If their actual situation cannot be translated into any kind of social situation derived from a game theory solution concept, a new solution is to be found.

Greenberg moves from Von Neumann and Morgenstern's construction. With Greenberg, the standard of behaviour becomes the prescriptive version of the mathematical concept of a solution. In that spirit, the standard of behaviour offers an opportunity to unify almost all the different solution concepts of a game(7). On the other side, each solution concept gives rise to a social situation. This social situation induces constraints on the standard of behaviour and reveals, at the same time, a social order which can be established by the players. Greenberg's notion of "social situation" brings the link between the standard of behaviour to be accepted by all the players and the social order established by their acceptance.

Unfortunately, a social situation *à la* Greenberg is a baroque notion which put together two very different components: the institutional environment, on the one hand, which is given from outside, and the players' beliefs, on the other, which are derived from assumptions about their cognitive ability. In Greenberg's theory, the social situations provide a unique framework for the two purposes, namely to describe the process for implementing a definite game solution concept and to picture the real interactive situation where the players operate. The first target is hardly reached. As for the second, the point remains questionable, due to the mixture of its components.

Let us start with the weakness of the social situation as the procedure to be associated with a social concept. Nash equilibrium for example, is transformed in what Greenberg calls a Nash situation by means of the three following conditions (Greenberg, 1990, p.89):

C1 = only simple players are allowed to deviate

C2 = a deviating player is free to choose any strategy from his strategy set Z_i

C3 = the deviating player believes that all the players will stay put and pursue the same action they intend regardless of the action he chooses.

Indeed, a Nash equilibrium is a state where no individual player has an incentive to deviate from his corresponding strategy. One can easily understand why this set of conditions imposed on the deviating players is the cornerstone of a Nash situation. C1 and C2 belong to a supposed Nashian environment. But the real meaning of C3 about the players beliefs is much more questionable, as shown by the following game:

		2		
		a	b	c
1	A	1,3	4,2	2,1
	B	2,2	3,3	2,1
	C	1,2	1,2	2,2

Fig.2

What precisely does it mean for a player to deviate? According to the classical definition of a strategy, to deviate is to be understood as a part of a mental process in the deliberation for choosing a strategy. If, for instance, (A,a) is the starting point of player 1's reasoning, he will mentally deviate from A to B because, thanks to C3, he believes that player 2 will stay with a. Thus he moves mentally in the game from the state (A,a) to the state (B,a). Let us imagine now that player 2, starting from (B,a) will also deviate from a to b for the reason previously given for the player 1. Can we still assert that a deviating player will stay put on the other player's same strategy?

C3 entertains a confusion between two different kinds of player's belief. Certainly, a deviating possibility in the Nash context of best reply to the other's strategy implies that the other's strategy is supposedly given for each player during his mental deliberation. But this does not preclude the players' expectations on the strategy chosen by the others (and expectations on the other's expectations ...). More precisely, as long as players do not have any belief about the strategy which is chosen by the other players, they consider the strategies of other players as potentially given according to C3. Players, however, must have some beliefs on others' behaviour when they play in a Nash situation.

Let us come back to the example. According to C1, C2 and C3, player 1 knows that he must choose B against a, A against b and A, B or C against c. Suppose moreover, a perfect and complete information. Player 1 also knows that player 2 must choose a against A, b against B and a, b, or c against C. Does player 1 necessarily induce from this knowledge the belief that player 2 will choose c, and, consequently, that he must himself actually chose C? A positive answer requires additional knowledge. If Nash equilibrium, as the solution of the game, is a mutual knowledge between players 1 and 2, then player 1 will choose C, because he will take for sure that player 2 will choose c (and symmetrically for player 2).

What would happen if this mutual knowledge was dropped out? Player 1 will not choose C if he does not take for sure that player 2 will choose c because c is (weakly) dominated by A and B (and symmetrically for player 2). Therefore (C,c) which is the Nash equilibrium, will never be obtained(8). This belief is for this reason absolutely necessary and its roots can only be found in the knowledge of the mutual acceptance of this solution by the two players.

Greenberg would argue that the Nash equilibrium, as the solution of this game, is already incorporated in the standard of behaviour consistent with the corresponding social situation. As, by hypothesis, there is also a relevant standard of behaviour for this social situation, the players are supposed to infer the Nash solution from their knowledge of the situation. The *raison d'être* of C3 is to assure the players that no state of the game, except the Nash equilibrium ((C,c) in the example))

is stable in Greenberg terms, but nothing more. Does it imply that the standard of behaviour associated with a Nash situation must necessarily be "accepted"? The answer is obviously positive for a theoretician in an almost tautological way. It cannot be extended, however, to the players of the game because there is no reason that C3 generates the confidence for each player in a mutual acceptance of this solution(9).

A major consequence of this deficiency is the impossibility of reducing a social order to a positive comparison between players' real situations in an idealized *ad hoc* social situation.

2.3 Moulin's modes of cooperation

Another tentative for attaching the different solution concepts to institutional organisations is due to Moulin. Contrary to Greenberg, Moulin does not refer to Von Neumann and Morgenstern's notions. His starting point is a very broad definition of cooperation combined with a strict delimitation of its domain. According to the dominant economic tradition, Moulin's cooperation is tantamount to a mutual assistance between selfish individuals (Moulin, 1995, p.4). He then differentiates three fundamental "modes of cooperation" that he respectively calls "direct agreement", "decentralized behaviour" and "justice". Each of these modes pick out a specific feature of the cooperation, as well as a type of institutional organization. Each mode of cooperation is modelled by a group of games. Their backgrounds are to be found in specific solution concepts.

We propose to sketch out Moulin's approach by associating the "direct agreement" with the core solution, the "decentralized behaviour" with the Nash equilibrium, and the "justice mode" with Shapley's value(10).

From an abstract point of view, the simplest mode of cooperation is the result of a direct agreement between the players. More precisely, there is a set of individual players. Each player is able to negotiate freely with all the other players of the game, in a face-to-face "bargaining process" This process takes the form of a hierarchical system of coalitions and sub-coalitions, where a coalition is a set (or a sub-set) of agreeing players. As for example, suppose three players, namely Player 1, 2, and 3. Player 1 considers successively possible agreements with 2, leaving out 3, or with 3, leaving out 2, or with 1 and 2 together. The solution is final agreement which is accepted by all the players of a game. In such a context the "core" is a serious candidate for a solution, because it singles out the set of possible agreements which cannot be challenged by any sub-coalition. In a world driven by direct agreements, the core frames stable social order(s), preserving individual rationality and satisfying to the Pareto optimality; three reasons to be accepted by the players.

In spite of that, the core is neither always a fair solution at variance with the justice mode of cooperation, nor necessarily the best issue of a bargain, in the decentralized behaviour mode. This point is illustrated by the two following examples:

Let us assume three players 1, 2, 3. Each of them knows the outcome of all the possible coalitions of the game

$$\begin{aligned} (\{1,\}) &= (\{2\}) = (\{3\}) = 0 \\ (\{1,2\}) &= (\{1,3\}) = 1, (\{2,3\}) = 0 \\ (\{1,2,3\}) &= 1 \end{aligned}$$

Player 1 can agree with player 2, or player 3 or both. He knows that an agreement between player 2 and 3 is not fruitful. If player 1 receives 1 and the two other players nothing (the core solution), no player can object against this agreement. One can however legitimately contest this solution from a

justice point of view. Indeed, without player 2 and player 3, player 1 will never obtain the maximal outcome. In a more subtle way, player 2 and player 3 provide together a necessary information to player 1 in his face-to-face bargaining. This can be agreed, but in the case of the direct cooperation process *a la* Moulin, player 1 and player 2 could hardly put forward these arguments. It would be different in the "justice mode".

In the second example, the following outcomes are associated with the coalitions:

$$\begin{aligned}(\{1\}) &= (\{2\}) = (\{3\}) = 0 \\(\{1,2\}) &= (\{1,3\}) = (\{2,3\}) = 8 \\(\{1,2,3\}) &= 9\end{aligned}$$

The outcome of the great coalition dominates the outcomes corresponding to all the possible sub-coalitions. According to Pareto's optimality, the core is the result of a face-to-face bargaining between the three players in the grand coalition. One can wonder, however, if each individual player cannot really obtain a better pay-off in playing differently. As already pointed out by Aumann and Dreze, two of the three players can benefit from negotiating together, dropping the third (Aumann and Dreze, 1974). Thanks to the pure symmetry of the game, each of these players would reasonably expect a pay-off of 3 instead of 2, if they open the bargaining to the third player in the great coalition as in the core solution. What does this prove? If the core does not contradict the players' individual rationality, the pay-offs which are derived from it do not necessarily coincide with the best strategic choice of all the players. This is right, but reasoning in these terms implies endogenizing the coalition formation in a strategic process which is out of the direct agreement context. Thus, with the strategic choice of a coalitional structure, we progressively move to another mode of cooperation, "the decentralization of behaviour".

The same kind of analysis can be developed with the Nash solution for the "decentralized behaviour mode" of cooperation, and with the Shapley value (and others concepts of value) for the "justice mode of cooperation". Two additional observations have interesting consequences for institutions. In the decentralized behaviour mode, whereas the players have nothing to know about the other players, they must perfectly know the exact results of the game and know that the other players also know them (Moulin, 1998, p.28). As previously noted, the Nash equilibrium operates as a legal code which is a public information to be read by every citizen. The justice mode, on the other side, requires implementing the solution. This requirement can be realized by an arbitrator or through a social mechanism which is accepted by all the players, as for example, the rule of fair division to share a cake (Steinhaus, 1948).

However, Moulin's most important contribution to our topic is elsewhere. Moulin offers the opportunity to elaborate this notion of cooperation in developing the basic ideas which underline these three modes of cooperation. It refers actually to two different meanings, namely to agree and to coordinate. An agreement between players necessarily entails a coordination between their actions, but the reverse is false. Players' individual strategies can be coordinated without any agreement between the players, through a supposed mechanism (11). Furthermore, the players either can agree directly upon a substantive matter, as in a contract ("direct agreement"), or indirectly upon a Norm included in the solution concept ("justice"). As for coordination, it necessitates the existence of guidelines commonly understood by the players ("decentralized behaviour").

These three modes of cooperation are not mutually exclusive. As, for example, two or three solution concepts related to different modes of cooperation can effectively give rise to the same result. In the well-known "stag-hunt" game, one of the two Nash pure equilibria is also the core of

the game viewing with cooperative spectacles. For Moulin, the main interest of this singularity is to open the way to a convergence between the different modes of cooperation.

We do not share this position. The single fact that two solution concepts reach the same result in spite of their difference does not reduce the gap between their respective underlying social order. Let us come back to the stag-hunt game. By chance, one of the stag-hunt Nash equilibrium is also a cooperative situation. What does this mean? According to the specific configuration of the game (the pay-offs structure) the two players can coordinate their strategy in such a way that the outcome of the game is Pareto optimal and satisfies other conditions which belong to the direct agreement mode of cooperation. But this opportunity creates a new problem in the decentralized behaviour environment: How will the players choose between a coordination on the first equilibrium, which is "pay-off dominant", or on the second equilibrium, which is "risk dominant" according to Harsanyi and Selten's terminology (Harsanyi and Selten, 1988)? This second level of coordination problem has no room in the context of direct agreements. Indeed, a stag-hunt situation can be solved in following one or the other modes of cooperation ("decentralized behaviour" or "direct agreement", see Schmidt, 2001). Now, if the players can agree on a cooperative solution, whatever, it is not surprising that this solution also supports an implicit coordination. In some cases, as in the stag-hunt example, this coordination could take the form of a regulation by a Nash equilibrium. But, beyond the relation between "agreements" and "coordination", such a coincidence actually depends upon the data.

2.4 Agreeing to agree or to coordinate?

Greenberg, with his personal interpretation of the standard of behaviour, as well as Moulin with his broad notion of cooperation, attempt, by different ways, to unify the various solution concepts of game theory. We will draw out, on the contrary, the background of their difference. Our purpose is to clarify the relation between the standard of behaviour "accepted" by the players and related to each solution concept and their corresponding social order.

A first step in that direction is to be found in the connection between the players' acceptance of a standard of behaviour and a specific mode of cooperation *à la* Moulin, which is based on agreements and/or coordination. To say that all the players of a game accept a given standard of behaviour is quite the same thing as if they agreed on this standard of behaviour. But this terminological change is not purely semantic. Agreeing to a standard of behaviour implies for the players that their acceptance is a common language between them. Agreeing means here that player 1 accepts the standard and that he knows that player 2 accepts it also, and that he knows that player 2 knows that he accepts it... Consequently no player can disagree on an "accepted standard of behaviour"(12). In that sense, the first degree of agreement between the players of a game is the acceptance of a well-defined standard of behaviour.

As initially specified by Von Neumann and Morgenstern, the *raison d'être* of a standard of behaviour is to lead to an "established" social order via a solution concept. The solution of a whichever game refers to two principal ideas: on one hand a kind of agreement between the players, on the other hand, a way to coordinate their individual decisions. Such a plain distinction must be refined.

First, the two extreme situations of "pure agreement" and "pure coordination" are to be eliminated, because an agreement between individuals and a coordination of their actions are not, by themselves, the theoretical solutions of a game. As previously noticed, the agents become the

players of a game when, prior to any decision or movement, they agree to a specific standard of behaviour. Players' agreements which are derived from the accepted standard of behaviour belong to a second degree of agreements, at the same level as the coordinating processes.

Second, there exists a large spectrum of combinations between agreements and coordination among the various solution concepts. We propose the following table to classify by their goal orientation the different standards of behaviour associated with the various solutions:

	1	2	3	4	
	Goal oriented standard of behaviour	To achieve possible agreements	To implement a solution including a social norm	To reveal disagreement points	To coordinate individual decisions
<u>Pure cooperations</u>					<u>Pure coordinations</u>
	Solution concepts	- the stable sets - the core	-the Shapley value -the Owen value...	The Nash bargaining solution...	The Nash equilibrium

Table 2

The first two columns of the table are "agreement oriented". They traditionally belong to the cooperative games. The two others are "coordination oriented" and are considered as non-cooperative. But the difference between these four types of standard of behaviour is much more subtle. One can either make direct agreements (col.1) or agree indirectly through the adherence to a social norm (col.2). In a strict non-cooperative interpretation, the disagreement points are nothing more than the revelation of a mutual incompatibility of the demands emerging from the players. But to coordinate the players' strategies on an equilibrium through a process of best answers (col.4) is not identical to force their demand to be compatible demands with fixed threats (col.3).

All the pieces of the puzzle are now available. Players have at their disposal some information on the situation where they operate (the outcomes of the different coalitions in a cooperative, the possible individual pay-offs in a non-cooperative game, according to the traditional distinction). This information data can be complete or incomplete, symmetric or asymmetric, between the players. More generally, with these available data, players can organize different economic orders corresponding to different games and their solutions. The "established" order depends on players' acceptance of a definite standard of behaviour rather than another which would also be consistent with the data. This acceptance is to be analysed as a prior agreement between the players. Such an agreement can be tacit or formal, as in voting procedures. Thanks to this agreement, the private knowledge of each individual approval becomes a common belief among the players.

The example 1 (p.19) well illustrates this general framework. The data are given by the different outcomes associated with each coalition. The three players are supposed to possess all this information. Two different solutions, at least, are consistent with these data and their knowledge by the players. Each of them organize a different social order, because the solution of its core gives the

pay-offs profile (1,0,0) and the Shapley value (4/6, 1/6, 1/6). To reach one or the other solution, the players must first agree on their respective standard of behaviour (see Table 2, columns 1 and 2).

The relation between the goal and the pattern of organization vary from a standard of behaviour to another. With the core, for instance, the pattern of organizational rules (direct agreements in Moulin's terminology) dominates the definition of a strict norm for the goal. Therefore, several solutions can belong to the core. The priority is reverse with the Shapley value. (4/6, 1/6, 1/6) in our example, which is a simple application of a social norm, strictly defined as an allocation of the outcome of the game among the players. This norm allocates to each player his marginal contributions to the worth ("justice" in Moulin's terminology). Different mechanisms, including the service of an agency can be used to perform this profile. Consequently, the content of the prior agreement is not exactly the same in each case. It means in the first case to agree on some procedural rules and to agree on a norm of justice in the second case.

The last step is to explain how the players can agree on a definite standard of behaviour when alternative standards, corresponding to different solutions, are consistent with their available information on the situation. We have stressed the difficulty due to their comparison. But the introduction of strategic considerations can help us to circumvent this difficulty.

It is clear in the example studied that player 1 would prefer the core solution, whilst player 2 and player 3 prefer the Shapley value. Such an opposition results from their expected pay-offs in both cases. At first sight, it reinforces the difficulty for all the three players to agree previously on a same standard of behaviour. More reflection shows, however, that this conflict of interests might also open a way to solve it. Indeed, player 2 and player 3 can agree together to reject the core's prescriptions. Doing that, neither player 2 nor player 3 adopt an irrational behaviour. They know that whatever their decision, they will obtain 0 in the core system. Player 1 on his side, cannot obtain anything by himself in staying alone. If player 2 and player 3 agree to refuse an agreement with player 1, player 1 has nothing to object. Finally, the three players will be penalized in that issue, but player 1 only can in addition regret it.

Following this line of reasoning, player 1 reasonably believes that player 2 and player 3 do not agree on the standard of behaviour which leads to the core solution. Such a conviction is a strong incentive for him to move from the core standard to the Shapley standard. As players 2 and 3 cannot obtain more than in agreeing with player 1 on the Shapley solution, they will also tend to agree with him in its corresponding standard. Therefore, in this example, the Shapley order appears, for the reasons which have been developed, "socially more stable" than the core(12). Moreover, such a result does not emerge here from a prior common acceptance of Shapley's norm of justice.

What we learn from this example remains modest and cannot be extended without great caution. Anyway, it proves that, at variance with a majority of game theorists, to understand the cognitive considerations for which players can agree on gaming standards belong to the domain of game theory in a comprehensive definition. Such an investigation is to be included in their future research agenda.

Notes

- (1) The broad term of decision-maker is used here in order to make a distinction between the "agents" and the "players", which becomes relevant in every game in extensive forms.
- (2) In game theory, what is called the selfishness of the players is no more than the assumption that each player only maximizes his own pay-offs, without taking into account the others' pay-offs. Such an assumption is by no means necessary for the study of a game. One can easily assume, on the contrary, that players have preferences on the other players' pay-offs, without modifying the structure of game theory.
- (3) In the orthodox theory of individual decision under uncertainty, all the subjective probability distributions over unknown states of the world are supposed to be equally rational. This is not the case in game theory, because players' uncertainty does not concern unknown states but rational beliefs to be held by the players about each other. Such a difference entails that the consequent axioms built for the theory of individual decision cannot be applied to multi-person game situations (Hammond, 1994, 1996).
- (4) In a series of models, Volterra makes distinctions between different situations: one and the same species with many individuals, two opposite species, more than two species (Volterra, 1931).
- (5) This judgement can be reversed on the grounds of other arguments: the description of non-cooperative games is much more detailed than the cooperative games (see the extensive form in comparison with the coalitional form) including the mechanism of information transmission among the players. Consequently, the rules of a non-cooperative game are generally more precise, in connection with the corresponding solution concept. Those rules can also be viewed as the starting point of institutions (Shotter, 1981).
- (6) When $n > 2$, the Nash equilibrium must commonly be known by all the players. Incidentally, this clearly points out the rule of the number of the players in the analysis of information and knowledge conditions.
- (7) With the important exceptions of the Shapley value. For an alternative interpretation, see p.25.
- (8) Greenberg himself recognizes the point in his comment of a similar example. But he gives a different interpretation of this awkwardness. According to him, a rational recommendation to all the players of the game might conflict with the individual rationality of the players. Thus, standards of behaviour give recommendations and not predictions on players' behaviour (Greenberg, 1990, p.166-167).
- (9) It can be argued in an opposite direction, that according to c3 the players can refuse their strategies C and c with an easy mind, because each of them takes for sure that the other does not choose this strategy, no matter what the other player does.
- (10) For Moulin, however, the three modes of cooperation cannot be treated as Greenberg's social situations. Thus, there is no one to one correspondence between a given mode of cooperation and a specific solution concept. In that spirit, the core, the Nash equilibrium and the Shapley value are used here as illustrative examples.
- (11) This is precisely the case with the Nash bargaining model, which gives rise to situations labelled as "anti-conflict" when player's demands are more than mutually compatible (Nash, 1950b).
- (12) A standard of behaviour is neither an event nor a state of the world, but a code. To accept a code has a meaning for the players if, and only if, each player knows that the other players accept it, and knows that they know, and so on, to infinity.
- (13) This example provides an intuitive argument against the intrinsic instability of the Shapley value, which has some connection with its so-called irrationality (Roth, 1980, 1986; Aumann, 1985).

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