

Accounting for Globalization: National Statistics, International Comparisons and the
Emergence of the Global Economy

By

Todd Alway

A Thesis Submitted to the School of Graduate Studies
In Partial Fulfillment of the Requirements
For the Degree
Doctor of Philosophy

Carleton University
© by Todd Alway, September 2008



Library and
Archives Canada

Bibliothèque et
Archives Canada

Published Heritage
Branch

Direction du
Patrimoine de l'édition

395 Wellington Street
Ottawa ON K1A 0N4
Canada

395, rue Wellington
Ottawa ON K1A 0N4
Canada

Your file *Votre référence*
ISBN: 978-0-494-47468-6
Our file *Notre référence*
ISBN: 978-0-494-47468-6

NOTICE:

The author has granted a non-exclusive license allowing Library and Archives Canada to reproduce, publish, archive, preserve, conserve, communicate to the public by telecommunication or on the Internet, loan, distribute and sell theses worldwide, for commercial or non-commercial purposes, in microform, paper, electronic and/or any other formats.

The author retains copyright ownership and moral rights in this thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without the author's permission.

AVIS:

L'auteur a accordé une licence non exclusive permettant à la Bibliothèque et Archives Canada de reproduire, publier, archiver, sauvegarder, conserver, transmettre au public par télécommunication ou par l'Internet, prêter, distribuer et vendre des thèses partout dans le monde, à des fins commerciales ou autres, sur support microforme, papier, électronique et/ou autres formats.

L'auteur conserve la propriété du droit d'auteur et des droits moraux qui protègent cette thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.

In compliance with the Canadian Privacy Act some supporting forms may have been removed from this thesis.

Conformément à la loi canadienne sur la protection de la vie privée, quelques formulaires secondaires ont été enlevés de cette thèse.

While these forms may be included in the document page count, their removal does not represent any loss of content from the thesis.

Bien que ces formulaires aient inclus dans la pagination, il n'y aura aucun contenu manquant.


Canada

Abstract

This dissertation offers a genealogical exploration of “globalization.” Where do the ideas and categories that circulate around this narrative (the national economy, economic progress and competitiveness, interdependence, the global economy itself) come from? Are the categories under which this discourse takes place objective and scientific, in an Archimedean sense?

Our entry point into this genealogical study is via slices of statistical history – particularly national income analysis - from the 17th to the 20th centuries. The governmentality of the present is one that is frequently mathematical, statistical, numeric. In such a context, it is appropriate to explore those numbers that have been taken not only as guides for action, but also as arbitrators of true and false statements with respect to both the present and the past. To what extent are the numbers associated with the globalization narrative intrinsically political rather than self-evidently true? What do the numbers have to say when read in their own terms? What is the socio-technical history of the economic?

In sum, the objective is to both undermine the teleological and presentist history associated with “globalization,” and to demonstrate that the evidence on which the globalization debate is informed and arbitrated is as politically saturated as the positions in the debate. In fact, there is a certain sense in which the statistical evidence helped to constitute the debate in the first place and therefore cannot be used to judge it.

Table of Contents

Introduction: pp1-28

Chapter I - There is no alternative? What is the global economy and how should it be accounted for: pp29-77

Chapter II – International planning for the national economy: national accounting, national planning, national action: pp78-122

Chapter IIA - Stating the National Economy in a Disciplinary era: National income, social class, and the limits of disciplinary power: pp123-148

Chapter III - Making Progress in International Comparisons: pp149-199

Chapter IV - Giving Birth to the Economy: The Living Economy in the Nineteenth Century: pp200-237

Chapter V - Global Models, Global Problems: pp238-286

Conclusion - Where to from here?: pp287-305

Post-Script - Networks not structure, contingency not destiny: pp306-325

Bibliography: pp326-347

Accounting for Globalization: National Statistics, International Comparisons and the Emergence of the Global Economy¹

Introduction

Few subjects have had as wide-ranging a salience or generated such a concerted academic effort as that associated with “Globalization.” By one estimate the 1990s saw the production of 4 239 academic publications on that subject alone (Taylor, et al., 2002, p1).² More than this, the discourse of globalization is prevalent at many sites other than the academy. In fact, it is almost hegemonic in terms of both popular and academic orientations towards the contemporary social environment. Even when its pervasiveness is contested, it defines the limits for speaking reasonably about trans-border practices at the individual, state, or international level: It defines one of the main grounds upon which governing, at all levels, is rationalized and conducted.

Globalization is the empirical touchstone for what follows. Having said this, it is arguable whether we need one more story *about* globalization. Volumes have been written about the essence of “globalization,” with defending or discounting its effects on the state and sovereignty, about the economic dynamics, political pre-conditions, structural inequalities, or normative entailments of this process, product, or end point. In short, the story of the ontological status or non-status of globalization no longer offers fresh empirical terrain.

However, the taken-for-granted character of globalization does present a compelling gateway through which the present can be problematized; there is room for a

¹ My interest in/understanding of genealogy, governmentality and their relation to the international is a consequence of discussions with William Walters. It was he who suggested that an examination of the system of national accounts would be a useful opening in a genealogy of the global economy.

study that treats globalization as a problem space, a way of thinking about and acting towards the world, rather than as a contestable portrayal of the essential characteristics of the present. In other words, while descriptions of the nature of globalization have proliferated to the point of saturation, there is space for a genealogy of the idea of the global economy. It is the objective of this dissertation to begin filling in that space.

The genealogical study that follows sets two general tasks for itself: in the first place questioning the categorical a priori that are associated with the historiography of the global economy. Globalization narratives come in several, sometimes overlapping, forms: in some segments of the academic literature, and in certain populist accounts, globalization simply emerges into history as a largely unexplained epochal alteration in human practice. Where history does surface in this type of narrative (often implicitly), it has a certain linearity associated with it, with the global economy emerging as the last step along the path from local to national to global. The narratives may differ on when all this started, but the present represents a definite end point in an historical process containing its own momentum.³ Alternatively, there are also accounts that, in seeking to find parallels to the present in the past, are critical of some of the determinism and teleology that are characteristic of “hyperglobalist” accounts (Krasner, 1999; Hirst and Thompson, 1996; Hopkins, 2002). From this point of view, globalization is not as novel as the more hyperbolic chronicles maintain. For some this means going back further in time to identify the key processes causing the present (Gills and Thompson, 2006).⁴

² Given the abundance of globalization literature, it might be reasonable to suggest here that far from just analyzing globalization, academia is also responsible for constructing it. On this subject see Law and Urry (2004).

³ Thus even Marxist-oriented accounts that seek to add substance to globalization by attaching it to a more general process like the expansion of capitalism (see Rosenberg, 2005, for example) tend to see the expansion of capitalism outwards as an intrinsic property of history.

⁴ Consider as a representative the following: “We suggest instead that the globalization processes that have

Other elements of this literature use the parallelism to deny the existence of globalization altogether (Hirst and Thompson, 1996).

Nevertheless, and while much of this critical literature is sophisticated and useful,⁵ in both its teleological and its critical form the globalization literature has defined the terrain and meaning of history according to the needs of a particular discursive structure – that associated with the idea of an economy which functions naturally and organically within particular territorial borders, be they national, international, or global. The territorial parameters within which production, progress and interdependence take place are the central empirical issues. The net effect is that a particular architecture ordering what can be said about the economic comes to govern our view of the terrain of the past and, correspondingly, of the possibilities contained in our future.⁶

Our task is critical of orthodox globalization, but also quite different from the existing critical-historical literature. Instead of using the modern category “globalization” as the conceptual lens sorting the essential characteristics of the past and the present, we will ask the question of how the economy has been visualized and performed – both in the past and in the present. Instead of assuming that there has been a linear historical progression from local to national to global, or that globalization has a long history, or that we are not yet fully global, we will construct a genealogy that explores how “the economic” was conceptualized and practiced in those eras that were allegedly local,

caused so much concern have long pedigrees. Their pace and scale may have accelerated, but they are anything but novel. Maximally, they have been ongoing ever since *Homo sapiens* began migrating from the African continent ultimately to populate the rest of the world. Minimally, they have been ongoing since the sixteenth-century’s connection of the Americas to Afro-Eurasia (Gills and Thompson, 2006, p1).”

⁵ Even a cursory examination of history is enough to demonstrate that many of the practices commonly taken to be evidence of globalization – whether international trade, finance, and distance shrinking technology - have a long history (with the 19th century providing some of the most obvious analogues).

⁶ In its most teleological form, this is best expressed in the idea that there is no alternative. There are forces acting beyond human will to which we must accede.

national, international, or global in scope. To put this another way, we will explore the historical parallels and antecedents offered by presentist accounts of globalization not with the protractor of globalization, but in spite of it.

In doing so, what we will find is that the historical relationship between “economic” exchange, production, “economic” progress, interdependence, territorial borders, authoritative thought, and governance is much more complex, contingent, and, from another point of view, peculiar, than the globalization narrative supports. The idea of an economy which functions naturally and organically within particular territorial borders, be they national, international, or global, is, in fact, quite recent. In fact, the core ideas that circulate around the present debate on the globalized economy – the (obsolescent) national economy, economic progress, interdependence – have conceptual lineages that are quite different than presentist accounts presume.

Accordingly, and while the contemporary story of globalization is the orienting frame, what follows is of necessity an historically expansive exploration of “economic” thought and practice, one that tackles several of the elements that have gone into constructing the story of the global economic present.

This leads to a related element of the first task of this dissertation: to explore the specific ways in which the appellations associated with “globalization” have come to emerge as “objective” and “natural” descriptions of the economic parameters of the present. Even while we might accept, for the sake of argument, that the practices sometimes taken as globalization have always existed in one form or another - as some of the explicitly historical literature seems to suggest - the question is why do these practices look so new? What has changed in the conceptual apparatus by which prior practices are

situated? Thus, we will ask the question of when and how the globalized economy emerged as an “objective” reality that could be studied, debated over, and rendered into a topic for governmental discourse and policy-making. How did one specific rendition of the nature of the economic achieve such a degree of epistemic authority?

Having said all this, there is the question of where to begin in offering a genealogy of such a monumental edifice as the global economy? One avenue that suggests itself comes out of the governmentality literature. If we treat globalization as a governmentality rather than as an essence, as a “regime of practices (Dean, 1999, p21)” oriented towards organizing, investing, constructing, and managing “the social” - the global economy can be studied without the danger of essentialism. Globalization emerges here as a specific type of mentality, practice, technique, and orientation, one that can invest many or few sites without characterizing the essence of those sites in any meaningful sense. It emerges as an assemblage of parts that orient the practices of many actors, even while that assemblage lacks any ontological coherence. Viewed as a technique, then, as a form of visualization that creates economic meaning and guidance, one that permits large scale political projects oriented towards managing the social, specific avenues of investigation are opened.

In what follows, one of these avenues, the numerical and arithmetical frameworks that circle and inscribe the global economy, will be treated as a significant site of governmentality. Particularly in the “modern” present, quantitative measures have played a significant role in operationalizing governance by providing a specific form of visible and objective “truth.”⁷ There is a certain self-evidence about this that makes the numbers an opportune score through which a genealogical study of the global economy

can be orchestrated: in deliberations on the global economy and its effects, for example, figures on trade or money flows as a percentage of GDP are bandied about willy-nilly. In fact, much of the debate on globalization appears to be structured around determining what exactly the statistical evidence is indicating. A causal argument is constructed, statistical indicators are raised, and debate rages over what the evidence is really revealing about the nature of social life.⁸ These same numbers are used to inform governments about the appropriate courses of action to follow. Considered as an “economic” discourse, globalization is as much about the numbers as it is about the so-called decline of state power or the emergence of supraterritorial relations.⁹

Despite their centrality to the debate, however, the evidential standards themselves have infrequently been the subject of analysis. Debate does rage over whether they are sufficiently precise or whether they are lacking in scope, but their status as at least potentially “objective” measures is more or less taken for granted.¹⁰

In contrast to this position, there is a growing body of literature arguing that it would be fruitful to treat technical measures not as neutral and objective standards given from on high, but as social projects having an entire political history, one riddled with confrontation and accident (Hopwood and Miller, 1996; Poovey, 1998; Hacking, 1991; De Goede, 2003). We do not have to treat the numbers as the arbiter of evaluation in social scientific analysis. They can instead be treated as social objects in and of themselves - not referential to an exterior space but constitutive of that space.

⁷ See Porter (1995). Foucault (1991) takes statistics as being vital to the creation of modern governance.

⁸ See, for example, the discussion in Hirst and Thompson (1996).

⁹ See Scholte (2000) on supraterritoriality.

¹⁰ For some examples that explicitly target the question of how to quantify globalization, see: Kudrle (2004), Foreign Policy (2001), Brune and Garrett (2005). Kudrle suggests that “the most well-known and comprehensive work that attempts to employ quantitative data systematically is Held and McGrew (2003)

The second overarching goal of this dissertation, then, is to explore the ways in which numbers can be considered as political, social, and historical, and, correspondingly, with the ways in which they lead to specific types of governmental projects – projects associated with managing the “economic”.

In one sense to argue that numbers are political is non-controversial. The instrumental use of numerical figures to further particular agendas has been demonstrated in several recent cases.¹¹ To take one example, the political character of accounting techniques was starkly revealed in the off-balance sheet shenanigans of Enron and WorldCom – companies that appeared profitable on paper only because of the opaque way in which liabilities and losses were recorded. To take another recent case, sub-prime lending practices in the United States have ricocheted through the global financial markets largely as a consequence of the way in which mortgage backed securities were valued. To make one final observation, the question of whether globalization has been increasing or decreasing poverty and inequality depends, to a large extent, on whether the numbers being used reflect absolute or relative poverty, absolute or relative inequality, and on whether a country or population weighting has been utilized.¹² In this light, whether the World Bank’s millennium development targets are being met by current international economic practices depends upon the numbers being used. Different agents have an interest in promoting certain figures rather than others as an answer to this question.

(Kudrle, p343) ”

¹¹ See the excellent coverage of these issues at <http://www.fallstreet.com>

¹² Absolute poverty has decreased since 1980 while relative inequality has either increased or decreased depending on whether a country or population weighting has been used. See, for example, the fascinating debate summarized in Ravallion (2003).

Having said all this, the links binding the political to the numerical are stronger and more deeply entrenched than a picture of instrumental misappropriation or statistical chicanery can indicate. The numbers are not just tools that are misused by agents with a priori political agendas. Such a rendering would leave numerical figures and accounting systems as at least potentially apolitical descriptors of the social world – provided that their users are pure in their motives. In fact, the numbers themselves can be treated as the central character in narratives as full of intrigue and political contest as those that fixate on their users. There is, for example, an existing body of literature that documents the ways in which numerical figures and accounting systems assisted in constituting the present. This literature ranges from the indicative comments of Weber and Sombart on the role of double entry bookkeeping in enabling the development of capitalism,¹³ to more recent work discussing the relationship between the United Nations System of National Accounts and both patriarchy and environmental devastation (Waring, 1988). More broadly, the numbers always condense a complex reality into a manageable story – a story through which the world is both interpreted and acted upon. Numbers, then, can be treated as innately political in their construction and inevitably constitutive in their utilization.

Of course in the same way that there is a variety of qualitative indicators of the economic, there are also numerous quantitative indicators. Quantitative economic “evidence” cannot be reduced to only one figure or one institutional location.¹⁴ However,

¹³ See the review of this debate in Chiapello (2007).

¹⁴ In the case of globalization there is a growing body of literature which discusses the emergence of private (or hybrid) accounting standards as enabling “action at a distance.” See, for example, Graham and Neu (2003). They explore “the role of accounting” in diffusing and “structuring various institutional fields affected by globalization (p449).” They briefly examine standards generation at the IASB, IMF, WTO, OECD, amongst other locations, and their effect on standardizing practices in a variety of areas (capital, products, information, policies, people (p454)). However, their exploration is at best “preliminary (p450),”

and particularly for the purposes of constructing public policy, some indicators have been more important than others. This genealogy of the global economy will open with a focus upon one of the more important of these; the primary mechanism utilized in making the economy visible and actionable for public policy purposes in the 20th century - National Income Analysis. National income analysis has been hailed by the U.S. Department of Commerce as its greatest achievement of the 20th century.¹⁵ Its use in the present is nearly ubiquitous: as of 2001 “there were 179 countries producing official estimates, using standardized SNA [United Nations System of National Accounts] guidelines (Maddison, 2005, p10, n5).”¹⁶ Knowledge of the magnitudes produced by the national accounting project – Gross Domestic Product, Per Capita Income, Economic Growth – is widespread not only amongst statistical practitioners but amongst the general public as well. As aggregate measures of economic activity they provide an indicator of relative economic strength (useful for deciding upon relative contributions to collective endeavors, aid disbursements), and, considered as a continuous series, allow both relative and absolute economic growth to be measured. As accounting systems they arrange data in such a way (that is, as functionally interlinked investment, production, and

with very little discussion of how these measures were produced. Nor is the construction of the global economy actually revealed, so much as the tactics through which various governmental ends commensurate with the narrative of globalization are accomplished (p453) – as they put it, “the institutions that we have examined here are only the most prominent of those that aid and abet globalization (p466).” The political character of the accounting standards generated by the International Accounting Standards Board has also been a target of investigation, although not always from a Foucaultian-inspired point of view: Eaton (2005); Perry and Nolke (2006).

¹⁵ The United States Department of Commerce recently hailed the invention of GDP (one part of this system) as “its achievement of the century” (http://www.bea.gov/scb/account_articles/general/0100od/maintext.htm).

¹⁶ Having said all this, and as later Chapters discuss, not every state prepares its accounts in exactly the same way. There are different traditions in national income analysis. Our focus here will primarily be on national income analysis as it developed in the United States, the United Kingdom, and ultimately the United Nations. This is so not because the development of quantitative “science” in these two countries is necessarily more accurate, but because it is from these locations that international standardization has ultimately flowed.

consumption accounts) as to create a way of managing economic space that would, according to Kendrick, “be useful by itself even without data (Kendrick, 1996, p3).” In fact, we will demonstrate that national income analysis acts to condition thought and action within specific spatial, temporal and dynamic frames of reference. These frames have rendered the national economy, economic progress, and ultimately globalization into governmental projects – albeit in ways and with origins that differ from presentist accounts of the development of these categories.

A focus on the quantitative is of additional value for outlining the politically charged ways in which the economy is *performed* through the numeric. For example, the secondary literature has capably outlined how national accounting, in rendering certain types of actors visible, left the needs of others obscured – whether this relates to environmental costs or household services and hence women (Waring, 1988; Lintott, 1996; Suzuki, 2003). In fact, conduct is affected differentially by alternative ways of quantifying social reality. In what follows we will see that similar motivations (managing conflict, resources, etc) can be pursued differently at different times as a consequence of the dissimilar nature of the “scientific” evidence (see especially Chapter II (multinational plans rendered national), and Chapter IV (economic protection aligning with racial parameters)). Selective quantification (itself unavoidable in any attempt to summarize the complexity of the world into a few magnitudes) affects the direction of public action in particular ways.

What follows, then, relies upon the peculiar historical trajectories of national income analysis to disrupt the self-evidence of the categories underlying the globalization narrative. This means that authoritative figures like James Meade and Richard Stone,

William Petty, Gregory King, Colin Clark, Robert Giffen, and Wassily Leontief will be explored: These were major figures - either at the time or in retrospective historiographies – involved in quantifying the economic. Nevertheless, and despite their central place in the standard historiography of the quantitative-economic, reading them in their own terms reveals numerical conceptions of the economic that do not accord well with a presentist reading.

In sum, this dissertation has two important contributions to make to the existing literature: First it will tangentially cut into a globalization debate that is bound by ahistoricity, on the one hand, and linear, teleological, and presentist historical assumptions on the other, via a genealogy of the global economy.¹⁷ The core ideas that circulate around the present debate on the globalized economy – the (obsolescent) national economy (Chapters II and IIA), economic progress (Chapter III), economic interdependence (Chapter IV) – will be explored and denaturalized. In contrast to presentist accounts of the global economy, accounts that suggest that the economic has a definitive meaning – albeit with variable territorial borders - we will find that the “economic” has had, for example, feudal (Chapter IIA), martial (Chapter IIA), temporal (Chapter III), racial (Chapter IV), and environmental (Chapter V) parameters, depending upon the era that we examine. Moreover, the motivations underlying the construction of these categories of thought were frequently dissimilar to their authoritative uses in the present – they were not precipitated by the economic events that current accounts suggest

¹⁷ In this respect, this study has a similar form to that of Keith Tribe’s *Strategies of Economic Order* (Tribe 1995). In this work Tribe examines German economic discourse beginning in the 18th century in order to demonstrate some of the symmetries between past and present projects for producing economic order – including between National Socialism and the Modern Social Market Economy. In the process, modern debates are not directly targeted, but indirectly displaced. As he puts it, “if we are to respond constructively to the social and economic problems of the world, some considerable effort of imagination is needed, an effort that can perhaps be stimulated by reflection on the discarded histories of modern

they were designed to measure. In contrast to teleological accounts of the development of a global economic space, then, we will find elements of an economic mode of thinking whose emergence has been the result of personal and institutional struggles rather than the shifting nature of “the real” as such (with an example of the process of the construction of authoritative meaning offered in the Post-Script).

Second, this study will challenge the broader use of numerical evidence that characterizes not just the debate on globalization, but much of social science in general. The evidential standards arbitrating the reality of the global economy, the technical criteria that render the “economic” visible and therefore capable of contestation, are more personal, parochial, and ultimately political than they are objective and neutral. Quantification is always *political*: numeration is inextricably saturated with political pre-supposition, reflective of a particular time, place, and location. Close examination of the numbers reveals them to be political projects created by specific individuals at particular points in time and for definite purposes. In demonstrating this, we will suggest that while the numbers may be more or less useful for a given political purpose, this does not suggest that that purpose, whatever it is, reflects the essential nature of reality.

Finally, there is also a broader and more pragmatic political concern associated with this study: When we can see that the state did not emerge as a homogenous economic whole¹⁸ without a statistical and normative apparatus whose emergence was accidental, contested, and political, the idea that transactions across borders, with reference to other geographic scales, taken in “real-time” around the world, force certain

certitudes (p7).”

¹⁸ According to Cameron and Palan (1999b), cross border economic flows were conceptualized as part of the national economy in the 19th century: “‘national’ economies were essentially located in urban centres and could encompass imperial territories far beyond the territorial boundaries of the metropolis (p41).”

political actions rather than others does not emerge as a taken for granted truism. Where it becomes evident that conduct is not regulated solely by the master forces of History or States but includes such mundane things as accounting standards and statistical styles; that borders do not contain or demarcate the limits of power and immanence but are themselves a product of multiple techniques, practices, and ways of characterizing that have particular and non-determined histories; that the power inhering in social characterization and behavioural regulation is not something which is dictated from above or forced to the surface by some grand historical tremor, but is microscopic, local, channeled through multiple and otherwise unrelated conduits; when the tenuous nature of the evident is made evident, politics, choice and responsibility can be reasserted. In other words, where the present is made strange rather than inevitable, political choice and moral responsibility can be reestablished within the discourse of government: we can re-politicize the moral choices that in fact are being made when decisions are fashioned based upon “the evidence.”

Chapter I - There is no alternative? What is the global economy and how should it be accounted for?

This Chapter begins with a cursory review of the existing literature on globalization with a view towards documenting its parameters of intelligibility. It will then explore some of the limitations of orthodox approaches towards globalization in order to situate the unique contributions that genealogy and governmentality can offer.

Methodologically, there is an extensive literature on genealogy and governmentality (especially Foucault, Dean, Rose, Hindess) that will be drawn upon to orient what follows.

From this point the Chapter will explore how the governmentality literature has approached the problematic of globalization, with the goal of revealing both what it has said as well as its current shortcomings. In light of these shortcomings I will document the empirical avenues that will be explored in subsequent Chapters – particularly National Income Analysis and National Accounting. In doing this I will both justify their use for this genealogy as well as explore the historiography associated with this indicator.

Chapter II – International planning for the national economy: national accounting, national planning, national action

This Chapter offers a genealogical exploration of the “national economy” in scientific-governmental thought. This is a necessary beginning to a genealogical exploration of the global economy – especially given that the national economy is that which is supposedly being transcended.

In some respects, the national economy is analogous to a Chimera – a composite creature defined by the Greeks as half man and half beast. There is no a priori “economic” rationale for aligning juridical borders and economic borders. Yet the political imagination was constrained along just these lines in the Post-World War Two period. We can locate the emergence of the national economy as a taken for granted scientific object with the development of the system of national accounts.

The Chapter begins with an examination of the first international agreement on

National Accounting standards, an agreement that was reached in 1944. This agreement was motivated by an allied War need for statistical comparability so that *multinational* war planning could be effectively conducted. To further understand the context of the Agreement (about which little is written), the Combined Production and Resources Board, which itself conducted a number of studies informed by national accounting statistics, is examined.

What we find is that the agreement to standardize measurement according to a particular type of national accounting structure itself structures the international environment in a specific way. The “scientific” management of economic flows emerges in a particularly territorial form, even where alternatives might have been better predisposed to deal with specific policy issues. Budgetary considerations certainly play a part in what develops (in that government is concerned with determining how much it can tax the state), but why structure the accounts in such a way as to make interdependencies invisible? Why is it accepted by nearly every economist as an economic, rather than governmental or budgetary, account of reality?

Furthermore, and what makes the national economy constructed by this system “peculiar” rather than self-evident and objective, the national accounts are thoroughly saturated with presuppositions, suppositions that are subjective and political rather than directly suggested by “the facts” on the ground. Thus what we find (via Suzuki, 2003; Waring, 1988) are a number of assumptions rendered numerical, assumptions associated with the Keynesian political project, assumptions associated with the unit of account (money vs labour), assumptions associated with the segmentation on a year by year basis, assumptions associated with the division into particular types of sectors, assumptions

associated with patriarchy, and most importantly for our purposes assumptions regarding the use of territory as a bounding limit. These assumptions have tangible consequences when they form the basis for political practice.

In sum, it is possible to treat the national economy – whether obsolescent in practice or not – as a governmental project that developed according to a readily identifiable, politically contestable process that is characterized by assumption and construction rather than mere reflection of some essential “economic.” Despite the pretensions of objectivity, technicality and neutrality, the political is deeply embedded within the instruments by which the economy is made visible.

Chapter IIA - Stating the National Economy in a Disciplinary era: National income, social class, and the limits of disciplinary power

This sub-Chapter continues the line of inquiry initiated in Chapter II, but attempts to do so by digressing further back in history to the origins of national income analysis. National income accounting has a long history. For the standard historiography this is a history characterized by measures that have become increasingly accurate at representing an essential economic reality over time. However, when expressed on their own terms these figures appear incommensurate in many respects with what the modern historiography would suggest is economic reality. National Accounting feeds off of a national income analysis stream that has its origins in the 17th century, but evolution - with its progressivist connotations - does not best capture this process of incorporation.

Instead, an examination of William Petty and Gregory King - the first to make national income analyses - reveals that a topography separate from that of the 20th

century is being measured. Rather than finding the nascent beginnings of the national economy (as we would use the term) in quantitative thought, what we find being measured and quantified are assumptions commensurate with Political Oeconomy (Tribe, 1978) or Raison d'Etat (Foucault, 2007). Political relationships, feudal classes, circulation, the limits of extraction – these terms define the parameters of measurement, not production, class, or supply and demand. The “economy,” in such a system of thought, is a political relationship; it is not an object having its own immanent and self-constituting characteristics. It is one characterized by a belief in the need to order and regulate rather than a need to respond to an essential and self-augmenting economic order. In this system of thought, where the political power to order and extract ends, so does the measurement.

Two conclusions emerge from this: First, what is taken to be a self-evident target for economic numeration is historically contingent - a contingency that does not, as such, reflect different economic structures but different understandings of what is economic.

Second, there is a certain discontinuity in the epistemic structure of the modern national economy. The politico-territorial assumptions commensurate with seventeenth century cameralism, assumptions contained within early national income analysis (and aimed at political power and disciplinary limits), were mapped onto the social assumptions commensurate with Keynesian economic thought (aimed at the characteristics of supply, demand, production, savings, and investment). These assumptions informed and rendered numerically self-evident a specifically inter-national form of internationalism in the context of the War and post-War years

To conclude, these two Chapters demonstrate that the “national economy” which

guided policy makers in the post World War Two era did not emerge spontaneously nor is it uncontested as an objective expression of underlying structural features. The numbers which lend a certain tangibility to the project of the national economy, reflect the political and social assumptions, sometimes unconscious, of their progenitors. They inform and articulate political projects in very specific directions. Politics, contingent histories, and the momentum embedded in the numeric: these categories offer a fuller account of the national accounting apparatus and of the governmental practice of the national economy than any notion of an essential economic.

Accordingly, and to relate this Chapter to the overarching themes of the dissertation, the idea that “globalization” represents an obvious and linear transformation of a formerly national-territorial-economic epoch is at the very least questionable.

Chapter III - Making Progress in International Comparisons

In this Chapter the genealogy of economic growth and progress is explored. What we find is that the practice of statistical comparison in the “era” of the national economy articulated the international economy into a realm of differentially experienced national time rather than common international presence. Global economic space was unified through chronological linkages rather than in terms of temporally co-present practices.

The Chapter begins with an examination of the differences between economic Growth and economic Progress, while noting the relatively recent invention of the latter. While we can trace the existence of an analytical notion of economic growth in the early national income analysis of Gregory King, for example, the growth that is recorded is a mere increase in size as a result of some change external to the normal process of national

monetary exchange. Political and demographic factors determine the terrain of economic analysis at the time, not any internal propensity for the economy to grow.

The Chapter then discusses the emergence of economic progress, primarily through an exploration of Colin Clark's *Conditions of Economic Progress*. Progress was a dominant orienting feature of the post-World War Two international economic imagination (Taylor, 1996; Agnew, 1998). Clark was instrumental in the development of this as a scientific economic practice. In measuring per capita growth, he separated the rate of population increase from a secular increase in economic transactions. The secular changes consequently observed in the data series made it possible to extrapolate the national income as a solely economic measure both backward and forward in time. Economic progress is abstracted out statistically, making an economic slope the natural condition, and allowing economic progress to become an end in and of itself.

In charting existing national income data over time, and by comparing this data between countries, universally applicable generalizations regarding progress could be obtained. National economies naturally grew – a comparison on this basis meant that some were deficient in this regard with respect to others. States lower in economic magnitude resembled an earlier period of states higher up. Accordingly, where the conditions underlying earlier national economic progress in the one could be identified, they could be replicated in the other. Thus time was the common connection between states, not the character of present economic intercourse. In contrast to the co-present imagery underlying globalization, national economies in the post-War world existed out of time with one another – despite their contemporary interactions. States existed separately on a common temporal horizon – although they could advance up or down on

that horizon depending on the national policies that they adopted.

The Chapter then discusses an overlooked accounting trajectory that existed concurrently to that of Clark and his followers – one associated with the International Comparison Programme. Where efforts (like those of the ICP) to make comparisons more context-specific were initiated, attempts which might have undermined the logic of common-yet-distinct progress, there was little incentive to adopt them. Since they did not speak to the common episteme they could be discounted as either irrelevant or dangerous to the very comparison exercise. The “objective” character of the international economy is thereby revealed as an arbitrary (at least when weighed on the scales of a scientific methodology to which those like Clark subscribe) construction motivated as much by a fear of anarchy as by the character of “real events” on the ground.

In sum, this Chapter is designed to explore the emergence of a key element of the globalization narrative – in this case progress. National progress emerged as a very parochial way of accounting for the economic. The statistical system elided the contemporaneous character of the economic into one in which states exist out of time with one another. While the contemporary story of globalization has re-situated the terrain of progress – with progress now a product of international competitiveness rather than local conditions (Hindess, 1998) - the same considerations regarding the parochial and the peculiar apply.

Chapter IV - Giving Birth to the Economy: The Living Economy in the Nineteenth Century

Previous Chapters have focused on documenting the economic-topographical

imagination of the “pre-global,” i.e., on denaturalizing the self-evidence of those globalization narratives which propose a readily identifiable economic teleology from local to national to global. This Chapter highlights a different aspect of the historiography of globalization – one associated with the attempt to analogize with the past on the basis of the categories of the present. Specifically the Chapter examines two historical periods that on the surface have many similarities – that of the late 19th century and that of the late 20th. The question it implicitly asks is whether - given a tangible increase in economic transactions across juridical borders - there is anything inevitable about viewing the economy in terms of economic “interdependence” and the end of territory. In fact, what we find is that despite the common “internationalization” of the economy, the economic imaginations of the two periods are markedly different – a difference that does not reflect differing economic structures as such, but a difference of perspective on what the economy is and what aspects of life are considered economic.

For evidence we turn once again to the statistical indicators. What we see in and through the statistics is not an earlier form of globalization but an economic rendering containing largely incommensurate idiosyncrasies – naturalistic rather than productionist. We also see an economy whose territorial limits are variable - alternating between state, empire, race, and world. In each case a pervasive biologism colours the statistical categories and the political projects that they inform.

The first part of the Chapter concentrates on the statistical works of Robert Giffen – widely regarded as the most prominent statistician in the United Kingdom in the late 19th century - in order to document the terrain of statistical-economic-territorial thought in that most internationalized of economies. What is revealed is an overwhelming

naturalism expressed primarily in the quantitative overlay of racial and economic space. Economic categories like production, consumption, competition, growth, and ultimately success are directly inscribed onto racial markers, markers that correspond to distinct geographic areas. Race thus constitutes a key unifying/dividing axis along which economic topography - whether outside the Empire or within – can be established.

The Chapter then explores more directly the question of the territorial parameters of economic immanence. What we find is a considerable ambiguity on the issue of where the limits of “the economy” lay. In fact, the literature demonstrates an easy shift between state, race, and empire. In part this is caused by the lack of systematicity in the existing statistics: there was no generally accepted collating account that would organize the statistics with respect to one another. There is no self-evident “national economy” to orient the discourse.

One political consequence of this ambiguity is then demonstrated through an examination of a policy that on the face of it would seem to most evidently align with “national” economic reasoning – protectionism. The economy was not perceived as wholly national even where protectionist policy was being promoted. Joseph Chamberlain and the discourse of “Fair Trade” in the early 20th century provide the evidence here. In exploring the discursive milieu surrounding the “Fair Trade” controversy, two *political-cum* statistical suppositions are revealed: In the first place, when “protectionism” was promoted as a policy alternative in the United Kingdom, it was of a form where the unit to be protected and promoted was the white Empire rather than the national economy as such. The dominant stream of protectionist agitation was not oriented towards a closing off of the United Kingdom from competition, but a

reorientation of trade and markets to where they “naturally” belonged– the white Empire.

Secondly, since it was the balance of trade figures that dominated the controversy (that is figures on the border), the external environment was the political focus (Friedberg; Trentman). If the trade balance weighed against the UK then, other things being equal, the cause must be unfair trading. The solution to the dilemma of a lack of balance was to find some way to eliminate the external barrier to “normal” commercial intercourse: either eradicate the price impact of unfair barriers (retaliatory tariffs) or expand the economic territory within which and through which the United Kingdom could fairly compete. The political terms of trade rather than the “economic” character of competition set the parameters of debate. In contrast to much present protectionist discourse, the “competitiveness” of the national economy simply was not quantitatively imaginable. There was no quantitative indicator like trade as a proportion of GDP which would internalize the debate to the British economy itself.

The Chapter ends with a brief discussion of the image of the world economy amongst statistically-informed observers. Images of the world economy in the period come in two primary forms: in the first place in the form of a “closed world” frame warranting a Darwinian competition between states (Agnew, 1998). However, in the statistical journals – particularly in the early work of William Cunningham - one can also find a spatial extension of the biological metaphor world-wide in the form of a cosmopolitan commercial organism. This form marks a less zero-sum world-wide economic complementarity. It also suggests an additional element of fluidity to the economy-territory-biology image which is characteristic of the time.

In sum, the objective of the Chapter is to demonstrate, somewhat paradoxically,

that a fixation on international interdependence is not wholly unique to our present “global” economy, while concurrently demonstrating that the past cannot be reduced to an earlier stage or a mere reflection of the present. Interdependence can be measured and practiced within a context of economic-racial parameters as easily as those characteristic of post-Fordist production.

Chapter V - Global Models, Global Problems

By the late 1970s the grip of the state on economic discourse had begun to weaken. So what changes in the 1970s to facilitate the coming into being of the world economy as a coherent economic unit and as one of the dominant markers for economic policy making in the 1980s and 1990s? That is the question that this Chapter seeks to answer, the question of emergence. In other words, this Chapter focuses specifically on the origins of the discourse of globalization. It does so by attempting to locate the emergence of the world economy as a self-referential economic object in quantitative-statistical thought.

The Chapter starts with the Club of Rome report of 1972, *The Limits to Growth*. It is in this influential publication that the public beginnings of global economic modeling can be located. *Limits* established a “World Problematique” that was primarily fixated on the environmental limits to further human growth. However, to make its argument about the need to end growth publicly persuasive, it quantitatively modeled the characteristics of the world system – a system which includes economic in addition to environmental and demographic characteristics.

In the process, *Limits* affected the terrain of quantitative economic thought in a

number of ways. Most importantly, the *World economy* begins to be analyzed in and of itself. The model *Limits* relies on is geographically holistic – the development of the whole determines the development of the parts. In publicly charting the terrain of the global, particularly as it relates to the economy, the self-evidence of the national economy came under scrutiny. Trends in the global economy as a system rather than a mere resultant of national economies became a public concern, stimulating further academic effort: In the decade that followed, global modeling efforts proliferated widely.

The Chapter then traces the process by which the dystopian modeling of global futures of *Limits* was translated into a progressivist account of the global economy. The key figure here is Wassily Leontief, who was responsible for developing the United Nations World Economy Model to respond to the types of concerns raised by *Limits*. Leontief set his goal in his 1973 Nobel speech to “construct a data base for a systematic input-output study not of a single national economy but of the world economy viewed as a system composed of many interrelated parts (Leontief 1974, p823).” The task required the utilization of a specific type of accounting framework, a framework that Leontief had developed in the 1930s and that had earlier (1968) been incorporated into the United Nations System of National Accounts as a recommended method – Input-Output Accounting.

Leontief’s model produced the “global economy” in two ways: In the first place it shifted the axis of the “World Problematique” from one that was environmental and concerned with limits to one that was as much economic and concerned with managing progress. The method translated the environmental problem into an economic question. Only those variables that could readily be translated into an economic language were

retained, permitting an economic logic to define subsequent statements of the problematic. In the process, it translated the “world problematique” from one of global environmental limits into one of the characteristics of growth in the world economy. On this basis, the Report demonstrated quantitatively that there is no physical reason why economic growth cannot continue despite environmental limits.

Secondly, Leontief’s model definitively loosened the linkage between economic measurement and national territory. It did not extinguish such linkages altogether – it is not as if the national economy ceases to occupy econometric analysts. However, it demonstrated an alternative limit and method within which recognized economic statistics could be assembled and in which aggregate figures could be interpreted. In sum, in Input-Output accounting the “Rest of the World” is not left as an aggregate balancing item, as is the case with the Keynesian-inspired System of National Accounts, but is part and parcel of the accounting system and the economic interdependencies that it is attempting to record.

To summarize the Chapter’s conclusions, it is in the environmental movement of the early 1970s that we can locate one set of beginnings for the breakdown of the national economy and the rise to public prominence of the global. Global environmental modeling precipitates a global economy modeling effort relying on Input-Output accounting as one of its key sources of legitimation. It is with Input-Output accounting that the interdependencies of the global economy become quantitatively visible. It is with Input-Output accounting that a global environmental concern for the future, highlighted by a private international body, can be translated into a global economic concern bearing official sanction and representing present reality.

Post-Script - Networks, not structures; contingency not destiny

In the final Post-Script Chapter - following the Conclusion - I attempt to offer an indicative guide for answering a question that the dissertation has left largely unanswered: The question of how specific images of the economic came to dominate the upper echelons of policy formation, in addition to great swaths of public imagination and public practice. The target of this Post-Script is, therefore, power.

Answering the question “how” is accomplished by tracing the actual transmission belts of economic imagery – the actor-networks (Latour) with its key individuals, institutions, and techniques. It was frequently as a consequence of the relationships between key individuals that a particular quantitative model of the economy would be internationalized. Contacts and key resources, rather than statistical self-evidence, were responsible for a given model’s spread and acceptance. Once embedded in particular strategic locales these quantitative techniques, and the political projects that they carried with them, would radiate outward to other areas.

Of course these networks are not just personal and institutional, but also material. The Chapter will demonstrate how ideas, institutions and relationships were combined with technical artifacts like computers and charts. All were necessary to ensconce a particular way of visualizing. In being material the resulting systems of thought thus confront actors with a tangible force and resist change. Power does inhere in a network even if that power is irreducible to another source.

However, networks are not immutable. They are modified in light of bureaucratic and political exigencies (Kohli, 2001), and they are altered in the course of enrolling

other actors into the network. They can be transformed where confronted with other actor networks containing alternative political pre-suppositions.

In the context of the more ravenous consequences of the current econometric imagination of globalization, this suggests that targeted action can produce change.

Chapter I:**There is no alternative? What is the global economy and how should it be accounted for?**

The literature on globalization is already voluminous and is increasing rapidly with the publication of every new journal issue in Political Science, Anthropology, Sociology, Geography, Cultural Studies, and Economics.¹ In fact, the breadth of material is so large that there is an entire sub-genre of the literature concerned with defining the contours of the globalization debate (Held and McGrew, 2000; Amin, 1997; Scholte, 2000). This makes any attempt at summary on my part necessarily cursory and obviously contestable. As such, it is appropriate that I define the grounds upon which I will be condensing the material. First of all I am most concerned with globalization considered as a broader public discourse. While it is clearly a growth industry within academia, it is also a framing discourse within official government institutions, standards setting and regulatory bodies, corporations, and the general public. It is globalization situated with respect to the management of public affairs that is of interest here. Secondly, while the literature on the specific effects of globalization is exhaustive, by identifying the central dynamic by which globalization is deemed to have emerged into the present, the cacophony of voices can be reduced to one central tune. When considered in these terms, the globalization literature largely coheres around an economic centre,² albeit a centre which itself has a variety of manifestations depending upon just what one means by

¹ Even that literature discussing the superficiality or death of globalization is adding to the mystique surrounding this term – see, for example, Justin Rosenberg (2005) who discusses it in terms of the conjunctural moment of the end of the cold war, or Walden Bello (2006) who reduces it to a longer term crisis of overproduction. In both these cases the idea that the economy exists as a functional system with its own logic that is expressed within specific territorial parameters is not challenged. The discursive parameters of the narrative of globalization are not decisively superseded.

“economy:” as a material structure, as a political economy, or even as a social construction. This economy is generally construed as having undergone a fundamental change over the course of the last 3 decades, whether this is defined by the emergence of Post-Fordism, the “third industrial revolution,” or neo-liberalization (Jessop, 1994; Piore and Sable, 1984; Gill, 1995).

Within this context, the specificity of globalization as a discourse can be further defined when it is contrasted to its allegedly antonymous and prior social state: Where the past is characterized as one of nationally-bounded and largely autonomous economic and political units, the global era is one where the principal dynamics of economic and ultimately social and political life emerge out of a global structure. Hirst and Thompson’s ideal type definition is instructive: “In such a global system distinct national economies are subsumed and rearticulated into the system by international processes and transactions. The inter-national economy, on the contrary, is one in which processes that are determined at the level of national economies still dominate and international phenomena are outcomes that emerge from the distinct and differential performance of national economies (Hirst and Thompson, 1996, p71).”

Defined in this light, the status of spatial boundaries in regulating and containing the dynamics of political-economic life is the central object of contestation in the orthodox globalization literature. These boundaries may either demarcate the limits of immanence and cause, or they may be epiphenomenal or at most a functional effect. On these grounds the literature schematically divides into those who suggest that the global economy is *sui generis* on a global scale (regardless of whether or not it requires an

² While the narrative of space-time compression is also prevalent (Harvey 1989; Waters 1995), it is usually Capitalism or alterations in the forces of production (technological change) which are viewed as driving

international political architecture to be instantiated (Armijo, 2002) or whether national boundaries are functional to its perpetuation (Panitch, 1997)), and those who maintain that it is not (Krasner, 1999).³ Where differences occur within this simple division, it is generally in terms of whether political agency (Helleiner, 1994; Weiss, 2005)⁴ or determinative material factors are causally significant,⁵ or whether the process is homogeneous or multifaceted (Mann, 1997). Regardless of the variations, what is particular to globalization as a discursive system is its characterization of the economic as having specific historico-territorial parameters.

Nevertheless, and despite the variety within the commonality, for a discourse that revolves around the reality and nature of *epochal* change, globalization studies have arguably been ahistorical at their worst⁶ and presentist at their best.⁷ In most of the cases where globalization's historical specificity is explicitly acknowledged, this is usually couched in terms of when it emerged as an immanent phenomenon (with various authors making the case for anywhere from the 15th century to the 1970s)⁸ rather than when it

this process.

³ This division seems to be commonly recognized. For example, Held and McGrew (2000) differentiate between Globalists (some of whom we have already mentioned) and Skeptics (Stephen Krasner, for example) in their review of the literature.

⁴ This stream argues that political agency was necessary for these economic changes to have emerged in the past and to be maintained in the future.

⁵ Or some combination of the material, political, and ideological – as in the neo-Gramscian literature on globalization. See, for example, William Robinson (2004).

⁶ Scholte (2005) and Hirst and Thompson (1996) are instructive in outlining just how ahistorical much of the globalization literature is.

⁷ As where Hirst and Thompson, even while paying attention to history, explore that history through the use of modern categories rather than in its own terms. Amoore et al (2000) suggest that this is characteristic of IPE in general, which does not “venture much beyond the admonition to ‘add history and stir’...In emphasizing the two dimensions of ‘object’ and ‘context’ through sensitivity to ‘historical specificity,’ however, they overlook a third critical dimension, namely the researcher or historian as ‘subject,’ ‘agent,’ and ‘context’ (p56).”

⁸ From Wallerstein (1500s) to Jessop (1970s). See also the collection of essays in Hopkins (2002) and Gills and William (2006), which talk about a variety of globalizations taking place in different historical eras and centred around different regions of the world. Although his Braudellain “historical mode of thought” is less linear or teleological than some of these narratives, and while he asks important questions related to “where, how and through which types of institution it [globalization] is sustained (p72),” Germain (2000)

emerged as a specific orientation towards the social. Even those authors like Hirst and Thompson who use a study of the past to deny the reality of globalization in the present, rely upon the presentist notion that the economy functions naturally and organically within particular territorial borders, be they national, international, or global. The net effect is that a particular architecture ordering what can be said about the economic comes to govern our view of the terrain of the past and, correspondingly, of the possibilities contained in our future.

The results are little different in those rare cases where globalization is treated as an historically specific problem space. Taking a few examples, Scholte notes that the term globalise only emerged in published form in 1944, the term globalization in 1961, and that globalization only became an acknowledged social problematic in the late 1970s (Scholte, 1999, p14). He also explores several definitions of globalization that are at best repetitions of earlier processes – liberalization, internationalisation, westernization, universalization (Scholte, 2005). However, his subsequent fixation on supraterritoriality as being definitive of the present is unsatisfactory both in a conventional historical sense and in a genealogical sense. In the first sense it relies on too many qualifiers in order to maintain the illusion of temporal uniqueness.⁹ In the second sense there is no exploration of how the idea of a space beyond space emerged as an orientation to the economic.

also fits within this schema. Globalization still emerges as a social category (albeit one with a longer and frequently interrupted history and a more restricted social space) rather than as a problematic. As a characterization (one that “has had a significant temporal presence in successive world economies from at least the thirteenth century (p73)”) this leaves open the questions of why these forces and institutions (associated with finance capitalism) have become more important at certain times rather than others. In this respect, it would seem to feed into the type of Marxist-inspired hegemonic succession analysis of Arrighi and Silver (2001).

⁹ As if, for example, the telegraph (since the 1830s) and telephone (1870s) were not supraterritorial in a similar way. Rosenberg (2005) argues that this strategy of qualification is endemic to the globalization literature. He suggests that “What distinguishes a concept as an intellectual ‘folly’ is that the qualifications involved in its application are necessarily of such a kind that they add up to a retraction of the argument

To take another type of example, there are also several studies that highlight historically distant conceptual antecedents, suggesting that past authors have anticipated the present problem space of globalization. For example, Busch references Saint-Simon, Marx and structural-functionalism as “inputs into the globalization debate (Busch, 2000, p28),” in order to explain different intellectual positions on present changes. Rosenberg (2005) and Brenner (1999) note how Marx can be read as implying a deterritorializing (and hence globalizing) moment as endemic to capitalism itself. However, the net effect of these types of accounts – even while they might reject the idea that current globalization is anything new in an epochal sense¹⁰ - is to treat past authors as creatures of the present, referencing “globalist” terminology either by way of structural prescience or because latent globalizing tendencies are present in the past. “Globalization,” or the process that causes what looks like globalization, is ultimately regarded as forcing analyses of it – the dispositif that makes this type of problematization possible is simply assumed away.¹¹

In essence, those studying the past for evidence of globalization’s past presence read the past through the present rather than in its own terms. There is no account of how the past was conceptualized and practiced by those living in it. Historical specificity is written out of the story by our apparent knowledge of the final outcome.¹² Moreover, and somewhat ironically, when we refuse to excavate the past on its own terms we lose

itself, without however being recognised as such by their author (p5).”

¹⁰ Rosenberg (2005) puts it most deliciously: “Globalization Theory, deceased circa 2000. Cause of death: congenital misplaced concreteness, leading to terminal intellectual complications, compounded by sudden loss of life-supporting ideological plausibility (p73).”

¹¹ Dreyfus and Rabinow (1983) suggest that by dispositif Foucault is implying a “grid of intelligibility...[that] encompasses the non-discursive as well as the discursive (p121).”

¹² According to Dean (1994), “Sociology, and in this it is like Marxism, can therefore claim to be a science of history that has, paradoxically dispensed with the necessity of concrete historical analysis...in many

bearing on the specificity that is the present. Left unrevealed is how and when a social characterization like globalization became prevalent, of how it emerged as a self-evident way of characterizing social life, of how it emerged as a practice rather than as a response. The historical specificity and conditions of possibility of this particular way of characterizing social interactions disappear from view – to say nothing of the actual variety of ways in which the real was and is defined and acted on. Globalization becomes an essential reality rather than a particular way of narrating the late 20th century.

All this is not to deny that increased “economic” transactions are taking place between people living in different states, or that territorial borders are being treated with a different level of regard than they were in the past. Rather, it is a question of how, along what avenues of conflict, and at the expense of what alternatives, these individual transactions have come to be systematized and given a motor, logic, and unity in our characterization of the present; of how and why these increases have come to be viewed as constitutionally significant. Before all of the processes identified as globalization could be considered as significant, they first had to be visualized, linked, and given meaning - in opposition to other ways of characterizing lived experience. Consequently there is an entire political process that is rendered invisible by focusing on globalization as a historical force rather than as a social characterization that has its own history and conditions of possibility.

Methodological considerations:

respects sociological theory has been made by ignoring or at least bracketing-out the difficulties and complexities that effective historical analysis must pose for explanatory generalisation (p8).”

It is in this context that Foucault's notion of genealogy is useful. Foucault's version of the genealogical method defies easy systematization.¹³ Nevertheless, there are several elements to his *Nietzsche, Genealogy, History* that offer significant signposts (Foucault, 1977).¹⁴

The general issue in this work is that historical analysis traditionally begins with categories that are themselves not historicized. As he puts it "the historian's history finds its support outside of time and pretends to base its judgements on an apocalyptic objectivity (Foucault, 1977, p152)." This leads to historical narratives that erase the history of those categories and truths that are the presuppositions for the analysis. The present idea of class or state or morality is the lens through which the past is interpreted, with the resulting narrative providing some form of self-affirmation of that assumed truth.

There are several ways in which this might take place: For example, the narrative might study the past to find the distant origin of that truth, or to outline how the presence of a kernel of the truth in the past led inexorably to the full blossoming of the truth in the present, or to identify the errors made in the past on the basis of the truth of the present - but the conditions of possibility for the truthful categories themselves are not explored.¹⁵

One of the tangible consequences of this with respect to the historical narrative is to

¹³ This is a point that is commonly made in the literature on Foucault – a generalization of Foucault's work or the nature of genealogy would be contradictory to the anti-essentialist purposes for which they were constructed. In what follows I am not trying to capture the definitive Foucault, only one plausible way in which he can be interpreted.

¹⁴ While recognizing that this paper was intended as a commentary on Nietzsche rather than a programmatic confession (see, among others, Dean (1994, p14)), this work forms a common reference for many of those claiming to work with the genealogical method.

¹⁵ Foucault (1977) outlines several types of Platonic history which it is the goal of genealogy to undermine: monumental ("a history given to reestablishing the high points of historical development and their maintenance in a perpetual presence (p161)), antiquarian ("history given as continuity or representative of a tradition (p160)"), and critical ("judging the past in the name of a truth that only we can possess in the

eliminate – a priori – the possibility that history might be messy, contingent, chaotic and richer than the present categories hold it to be.¹⁶ Correspondingly, this type of self-affirming narrative eliminates the possibility that the present might be similarly diverse, that it might overflow those metanarratives that have been constructed on top of it.¹⁷

For Foucault, the response to “traditional” historical analysis is genealogy – a method that targets the implicit metaphysics underlying the search for pristine origins, teleological continuities, or present superiority. Genealogy “rejects the metahistorical deployment of ideal significations and indefinite teleologies (p140).” What we hold to be truthful, the very categories that define correct and incorrect statements, have histories of their own that can be charted. To quote from Foucault this means a form of analysis that will,

“maintain passing events in their proper dispersion; it is to identify the accidents, the minute deviations – or conversely, the complete reversals – the errors, the false appraisals, and the faulty calculations that gave birth to those things that continue to exist and have value for us; it is to discover that truth or being do not lie at the root of what we know and what we are, but the exteriority of accidents (p146).”

What genealogy offers, then, is not a categorical disproof of truthful statements, but an empiricist unraveling of the elements that went into the construction of particular present truths. It offers to demonstrate the disjointed and contingent manner in which those elements of the past and present that we hold to be true were formed.¹⁸

present (p164)”).

¹⁶ “We want historians to confirm our belief that the present rests upon profound intentions and immutable necessities. But the true historical sense confirms our existence among countless lost events, without a landmark or a point of reference (Foucault 1977, p155).”

¹⁷ “a suprahistorical perspective: a history whose function is to compose the finally reduced diversity of time into a totality fully closed upon itself; a history that always encourages subjective recognitions and attributes a form of reconciliation to all the displacements of the past; a history whose perspective on all that precedes it implies the end of time, a completed development (Foucault 1977, p152).”

¹⁸ “The search for descent is not the erecting of foundations: on the contrary, it disturbs what was

In light of an analysis of the descent of a present truth, the conditions of its emergence can also be charted. According to Prado “in the analysis of descent the aim is to understand the miscellany of beginnings; in the analysis of emergence the aim is to understand catalytic coming-to-be. But as in the analysis of descent, the point is to produce accounts that, by showing the variety of generative factors, belie the idea that history traces underlying determinative continuities (Prado, p36).” Genealogy, then, offers to demonstrate both where the elements of a present problem space came from, as well as how they were put together.

Finally, and given the above, genealogy also decentres the momentum of the present. The emergence of a particular truth account into the present is unlikely to be the last chapter in the story of that truth. Since it is “always produced through a particular stage of forces (Foucault, 1977, p148)” it is always susceptible to displacement by other combinations of actors, institutions, accidents, and power.

On the subject of power, it is important here to differentiate between Foucault’s sense of the term and that of traditional history, between power and metapower: “the forces operating in history are not controlled by destiny or regulative mechanisms, but respond to haphazard conflicts. They do not manifest the successive forms of a primordial intention and their attraction is not that of a conclusion, for they always appear through the singular randomness of events (p154).” Power here is not the possession of a class. It does not represent the accumulated weaponry of a state. It does not exist as a metahistorical actor. As Prado (1995) puts it, “what emerges is not the culmination of

previously considered immobile; it fragments what was thought unified; it shows the heterogeneity of what was imagined consistent with itself (Foucault 1977, p147).”

anything but is a consequence of an accumulation of factors with no inherent interrelatedness (p37).”

In sum, empirical rather than a priori demonstration allows genealogy to undermine the foundationalisms of the present without engaging in the performative paradox which categorical disproof would entail.¹⁹

So what does all this mean for globalization? In the first place, the truth claims and categories underpinning globalist analyses of the present must themselves become the target of analysis. The national economy, economic progress, economic interdependence, the global economy – these are assumed to define the limits of social practice. They might represent the culmination of history, or they might be assumed to exist in the past as earlier versions of present practices. In either case the emergence of these ideas of the economic is simply assumed. In essence, the historiography on globalization is at least implicitly presentist in the sense of reading the past through the

¹⁹ Having said this, there is the danger that genealogy may re-enable foundationalist analysis as an effect of its empirical narrative. Genealogy’s oppositional rationale implies that its narratives must engage and displace those accounts that it regards as problematic. However, this requires that its particular empirical analysis be regarded as a serious (if not necessarily more accurate) portrayal of the past along the same lines as those accounts which are being critiqued (Habermas recognizes this in his *Philosophical Discourse of Modernity*). In this manner, the genealogical narrative conditions the grounds for its response. Specifically, it sets the terrain of adjudication on the empirical level itself. Genealogy can thus be reduced to the question of what history demonstrates (via the empirical archive) for a present problematic even if it is not an attempt to totalize that description to the entire period under consideration. In fact, the appeal to the empirical archive implicitly connotes the legitimacy of a language of correspondence in privileging the question of how a document, text, or archive should be interpreted. In essence, genealogy cannot shift subjects because the narrative it offers is itself an account of the emergence and significance of a present practice, of the status of one aspect of the real; how it emerged, by what co-action of forces, of what alternatives it suppresses. It can remove the necessity of the present, but not the need to characterize the empirical archive as indicating that the past and present is truly one way or another vis a vis the identified problem. Considered as a practice, then, using the language of traditional history against traditional history retains the horizons of intelligibility by which traditional history is produced in the first place. Prado (1995) discusses some of this. Nevertheless, and as a response, as a method genealogy is animated by the desire to demonstrate the contingencies by which any given regime of truth, including potentially its own, became possible – it permits the “ceaseless problematization of established truths and knowledges (Prado, 1995, p163).”

lens of the present.²⁰ Careful study of what these terms have connoted, or of how we came to visualise the world in terms of the national economy, progress, interdependence, globalization, is marginalized in the process. As a consequence, the contingency of these descriptions in the present is obfuscated. The specific ways in which these classifications percolate into truthful accounts is also left unrevealed.

According to Colwell (1997), “if history is the collective memory of a particular social group then genealogy is a counter-memory composed of the same elements repeated and arranged in a different manner.” As such, we must rearrange the way we think about the local, national, international, and global economy in a way that demonstrates contingency, accident, and personal as opposed to macro-historical struggles over meaning.

All this segues into a second and related methodological line that is relevant for what follows. Globalization can be treated as much as a form of practice as a thought space – the two are, in fact, inextricably related. It is in this context that governmentality emerges as a significant methodological strategy, one that is cognate to genealogy (Foucault 1991). Digressing somewhat, it is well established that there are two meanings associated with Foucault’s neologism governmentality (Gordon, 1991; Dean, 1999; Rose, 1999).²¹ The first refers to an historical alteration in the way in which the “exercise of

²⁰ According to Dreyfus and Rabinow (1983): “In the presentist fallacy, the historian takes a model or a concept, an institution, a feeling, or a symbol from his present, and attempts – almost by definition unwittingly – to find that it had a parallel meaning in the past...The other side of the presentist coin might be called finalism. This is the kind of history which finds the kernel of the present at some distant point in the past and then shows the finalized necessity of the development from that point to the present (p119).” While some of the historically-informed accounts of globalization may differ on what the specific end point currently is (i.e. inter-national or global), they also do not, in general, explore the categories through which those conclusions are made.

²¹ My understanding of this and the description that follows is derived largely from Dean (1999). That being said, it is important to note that within the academic literature, these multiple meanings of governmentality have coloured the manner in which the present has been “diagnosed (Rose 1999).”

power (Dean, 1999, p19)” came to be conceptualized and practiced. Thus in his *Governmentality* lecture Foucault traces a mutation in the characteristics of rule in Western Europe - beginning in the sixteenth century, but really taking hold in the eighteenth. As an illustration of this, Foucault explores Machievelli’s *Prince* and later commentaries on it.²² In the *Prince*, the typology of rule can best be characterized as one of sovereignty – where sovereign and subject are situated on a different plane, that of ruler and ruled.²³ Texts like the *Prince* are designed in part as manuals in how to “keep his principality (Foucault, 1991, p90)” and produce good order, where good order implies subjects who are obedient to the will of the sovereign.²⁴

However, beginning in the sixteenth century there is a shift in the object of governmental texts, from how to maintain and justify rule to how to govern.²⁵ In place of manuals that either fixate on justifying a ruler that is detached from the ruled, or that outline how to perpetuate sovereignty, there is a new concern with that which is being

Specifically, the concern for governmentality as an historically specific way of governing conduct has had the effect (if not the intention) of producing a stagist sociological account of government (See O’Malley, 1997; Stenson, 1998 – and note how this affects Luke, 1996). This has acted to colonize the diagnosis of the present into expression after expression of the liberal (adding first whatever prefix (neo, social, classical) seems suitable) governmentality of rule. Where this seems a limited understanding in light of present events, other forms of power (police, sovereign, authoritarian) can be appended since these are (fortunately for the model) immanent to liberal thought (albeit in a modified manner than past usage). In this way, neo-liberal governmentality acts to swallow up all manner of subjectification, government, and rule – In doing so, this literature evidences a structural affinity with the orthodox literature on globalization.

²² *The Prince* being an exemplary case of a general tendency: “Throughout the Middle Ages and classical antiquity, we find a multitude of treatises presented as ‘advice to the prince,’ concerning his proper conduct, the exercise of power, the means of securing the acceptance and respect of his subjects, the love of God and obedience to him, the application of divine law to the cities of men, etc (Foucault, 1991, p87).”

²³ “for Machiavelli, it was alleged, the prince stood in a relation of singularity and externality, and thus of transcendence, to his principality (Foucault, 1991, pp89-90).”

²⁴ As Foucault (1991) puts it, “in every case, what characterizes the end of sovereignty, this common and general good, is in sum nothing other than submission to sovereignty. This means that the end of sovereignty is circular: the end of sovereignty is the exercise of sovereignty. The good is obedience to the law, hence the good for sovereignty is that people should obey it (p95).” We can see a more tangible expression of this form of power in Machievelli in the often-noted discussion about whether it is better to be loved or feared. The advice is to the Price as ruler, not as governor.

²⁵ The literature targeted against Machiavelli in essence changes the subject: “Having the ability to retain one’s principality is not at all the same thing as possessing the art of governing (Foucault, 1991, p90).”

ruled: The focus transitions to one of how to govern over a society in which the Prince is interior rather than exterior.²⁶ The art of government in this case is initially made analogous to the management of the family, where the Prince must be informed of, articulate himself into, and guide the body of which he is a part, albeit as the head.²⁷

With this change comes a change in the ends for which power is used: “the finality of government resides in the things it manages and in the pursuit of the perfection and intensification of the processes which it directs (Foucault, 1991, p95).” In this context, government must be concerned with how to rule in light of a knowledge of the interior of the state.²⁸ It thus becomes a realm of appropriate action rather than parochial or moral expression. Corresponding to this, in the late sixteenth and seventeenth century there is also a sustained development of “a set of analyses and forms of knowledge...which were essentially to do with knowledge of the state, in all its different elements (Foucault, 1991, p96).” Prudent administration required a knowledge of that which was being administered.

The transition toward the “art of government” and away from sovereignty was not instantaneous and absolute.²⁹ Foucault offers several hypotheses for why this was the case (Foucault, 1991, pp97-98). More notable for our purposes here is his explanation of “how the art of government [was] able to outflank these obstacles (Foucault, 1991, p98)”

²⁶ “Whereas the doctrine of the prince and the juridical theory of sovereignty are constantly attempting to draw the line between the power of the prince and any other form of power, because its task is to explain and justify this essential discontinuity between them, in the art of government the task is to establish a continuity, in both an upwards and a downwards direction (Foucault, 1991, p91).”

²⁷ “The prince’s pedagogical formation ensures the upwards continuity of the forms of government, and police the downwards one. The central term of this continuity is the government of the family termed economy (Foucault, 1991, p92).”

²⁸ “the art of government, instead of seeking to found itself in transcendental rules, a cosmological model or a philosophico-moral ideal, must find the principles of its rationality in that which constituted the specific reality of the state (Foucault, 1991, p97).”

²⁹ Foucault in other lectures in the same year discusses a transition towards *raison d’Etat*, with a “modern”

by the end of the eighteenth century. Here the key is the move away from analogizing the state as family, to one of treating it as a “population,” an object containing immanent characteristics.

The development of new techniques like statistics played a significant role here.

As he puts it, statistics

“now gradually reveals that population has its own regularities, its own rate of deaths and diseases...statistics shows also that the domain of population involves a range of intrinsic, aggregate effects, phenomena that are irreducible to those of the family, such as epidemics, endemic levels of mortality...it shows that, through its shifts, customs, activities, etc., population has specific economic effects: statistics, by making it possible to quantify these specific phenomena of population, also shows that this specificity is irreducible to the dimension of the family (Foucault, 1991, p99).”

“Population” has its own reality that cannot be reduced to the family. It can instead be treated as economic, demographic, healthy, or sick, as having its own properties that government can either hinder or facilitate. Government requires “a range of absolutely new tactics and techniques (Foucault, 1991, p100)” to target this population to produce a given end. Government “cannot operate simply on individual bodies by means of exaction (Curtis, p19).” It is not a question of the individual and his or her obedience or moral rectitude. Instead “it is the population itself on which government will act either directly through large-scale campaigns, or indirectly through techniques that will make possible, without the full awareness of the people, the stimulation of birth rates...etc. (Foucault, 1991, p100).” In this sense, while the family can be used as an instrument to affect the characteristics of population, it no longer operates as its justificatory model (Foucault, 1991, p100).³⁰

governmentality not emerging until the 18th century. See Foucault (2007). We will elaborate on this in Chapter IIA.

³⁰ Curtis (2002) questions the historical timing of the discovery of population and its simple correlation

Governmentality in the first historical sense, then, represents a new typology of power concerned with how best to regulate the object to be governed (population) given its own internal characteristics.³¹

The second meaning of governmentality, and one that has been eagerly taken up in contemporary social studies, evidences a more general concern with outlining “how we think about governing (Dean, 1999, p16)” a given area or practice. To speak of governmentality here is not to fixate on the historical emergence of a new typology of power. Instead it implies a more contemporary orientation towards outlining some of the specific ways in which government transpires in the present.

In this form, governmentality analysis is concerned with identifying relatively systematic assemblages of action and forms of thought (“regimes of practices (Dean, 1999, p18)”), their conditions of possibility, and with delimiting the governmentality through which they operate: who and what are to be governed, how are they to be governed, why are they to be governed, and who is to do the governing (Dean, 1999).

According to Dean (1999, pp30-33), this implies a concern with at least four interrelated elements: visibility (concerned with the way in which the objects and subjects to be governed are made opaque or transparent); knowledge (concerned with the role that specific ways of thinking (including truth, value, telos) play in governing); techniques

with statistics: “The practice of police and inventory statistics makes it possible to determine how many people die, when and where, within limited territories but there are no 18th century national population registers. Such things remain in their local singularity. They are not paired to an inductive logic that would have permitted the emergence of conceptions of rates...What police, populousness, and inventory statistics could not do was to sustain the kinds of practices that make it possible for social relations, events, and conditions to appear in the politico-statistical form of population (pp528, 529).” He suggests instead that “political and administrative projects that embody individualizing and totalizing initiatives tended to follow the mathematization of statistical investigation, which is primarily a twentieth century phenomenon (p530).” Our own exploration of Petty, King, and Giffen in later Chapters tends to agree with this.

³¹ A typology that does not as such replace other forms of power so much as resituate how they are expressed (Foucault, 1991, p102). Curtis, quoting Foucault in a later work, defines governmentality as “the

(concerned with the forms of calculation and mechanisms which enable government); identities (concerned with the type of self presumed and elicited in both governed and governors in the process of regulating conduct).

A specific governmentality is revealed not solely through proclamations, policy papers, and justificatory texts but also, among other things, in systematic practices, technical procedures, protocols, forms of notation, and the ways in which these are assembled and utilized in the process of regulating conduct. To quote again from Foucault, governmentality implies exploring “the ensemble formed by the institutions, procedures, analyses and reflections, the calculations and tactics that allow the exercise of this very specific albeit complex form of power, which has as its target population (Foucault, 1991, p102).”

In sum, governmentality authorizes a methodological concern with tracing the specific technical and epistemic lines upon and through which present conduct is conducted.

Taken in both its historical and contemporary senses, the idea of governmentality has advantages for a genealogical study of the global economy. Most generally, it suggests that the relatively technical and procedural are as important to the exercise of power as those elements – classes, kings, states, theorists - that are more usually taken as politically significant. As Foucault indicates, modern government is itself in part of consequence of the new realms of visibility provided by statistics. In fact, it is in the technical and numeric, the dry and the arcane, that the most profound authority is often

manner in which the conduct of a mass of individuals comes to implicated, in an increasingly marked manner, in the exercise of sovereign power (p520).”

found. There is power being exercised here that the orthodox story of globalization has not explored.

A focus on the minute rather than the grand has the added advantage of refusing to outfit the analyst with the rigging for one more voyage in search of the white whale – the elusive master narrative that has driven social analysis towards projects that have frequently been self-destructive.³²

Consequently, if we are interested in studying the construction of the truthful narratives circling around globalization, and if we wish to do so without reliance on the crutch of a metahistorical agent, then the authority inhering in the technical, numeric, scientific, seems an appropriate place to begin.³³

Furthermore, if we think about globalization as a way of governing the practices of both others and ourselves, one that exhibits some degree of commonality in different locations and across different cultural horizons, if we treat “Global forms [as] able to assimilate themselves to new environments, to code heterogeneous contexts and objects in terms that are amenable to control and valuation (Collier and Ong 2005, p11),” then a focus on technical and numerical figures seems especially apropos. As Collier and Ong (2005) note (referencing Latour), technical procedures are a preeminent form of “immutable mobile,” able to be moved from location to location, able to visualize the social in a parallel manner, able to encourage similar forms of governance, regardless of the social context.³⁴ The numeric forms and accounting procedures may have been

³² As some have suggested about “modern” projects informed by grand narratives, like communism.

³³ To quote from Foucault, genealogy “must record the singularity of events outside of any monotonous finality; it must seek them in the most unpromising places, in what we tend to feel is without history – in sentiments, love, conscience, instincts (Foucault, 1977, p139)” - or in our case in statistics and “hard” evidence.

³⁴ As they put it (in this case referring specifically to ISO standards) “a technoscientific form that can be decontextualized and recontextualized, abstracted, transported, and reterritorialized, and is designed to

developed within a particular cultural and social horizon, they may be eminently political, but they can be packaged and moved about as if they were not. They have a form of visibility, tangibility, and complexity that may be difficult to express in oral terms, but they can be universally expressed in their own terms. The numbers are thus a form of language that can appear transhistorical and objective precisely because they are inscribed using numeric rather than alphabetic terms. Moreover, the fact that they can appear arcane, that expertise is required to decipher them, gives them a certain power.³⁵

The relevance of a numerical focus is also clear with respect to the orthodox globalization literature: across the spectrum of normative opinion and causal contestation there exists a general tendency to resort to the presentation of statistical “facts” as if they were enough to constitute an objective proof of one position or another. Whether the figure presented is increasing trade linkages, monetary, or investment flows, numerical evidence is frequently the implicit (and occasionally the explicit)³⁶ starting point for this discourse. Taking one example, Scholte (1999, p18) comments that “such a large accumulation of data surely suggests a significant trend away from territorialist social organization.” Hirst and Thompson’s frequently cited counter (1996) is likewise replete with charts and statistics illustrating the veracity of its contentions.

However, in the process the historicity of these very measures is obfuscated. The ways in which the tools used to accumulate the data were constructed, the institutions from which the numerical frameworks emerged, the individuals involved in their

produce functionally comparable results in disparate domains (Collier and Ong, 2005, p11).”

³⁵ See, for example, Mitchell (2002).

³⁶ For some examples that explicitly target the question of quantifying globalization, see Kudrle (2004), Foreign Policy (2001), Brune and Garrett (2005), Ravallion (2003), pp739-753. Kudrle suggests that “the most well-known and comprehensive work that attempts to employ quantitative data systematically is [Held and McGrew (2003)] (Kudrle, 2004, p343).”

construction and promotion, the numerical projects that lost out – all of this is lost from view. The numerical instruments that set the standards of evidence, the body of hard evidence that arbitrates between true and untrue hypotheses, the statistics that firms and governments rely upon to structure their own future actions; these would appear to be fundamental to a “modern” governmentality like globalization.

As such, this genealogical study of the global economy revolves around one of the preeminent characteristics of modern global governmentality – the visibility, knowledge, and technique of numbers.

Governmentality and Globalization:

So what has the response towards “globalization” been from amongst those utilizing the above Foucaultian themes? In the first place, governmentality has enabled an interrogation of the multiple sites of rule beyond the formal institutional domain of the state. A concern with epistemic and technical conditions, dispositions and identities, requires a critical awareness that is at once both broader and more microscopic in intent. However, to a large extent early research was limited to national accretions – the governmentality of health, risk, welfare, poverty, unemployment, self-esteem, within a particular national terrain.³⁷ Exploring non-national assemblages of government required a reorientation amongst segments of the literature from the governmentality of domestic space towards, as Lui-Bright puts it, the “arts of international government” that “secure the site where the practice of government can take place (Lui-Bright 1997, pp 593, 587).” In general, for objects like the “national economy” or “national society” to be visualized and governed as containing immanent properties they must be partitioned, borders must

be drawn between what is within and what is without. For this to occur, there needs to be a structural location out of which the local partitioning can take place – a principle by which the border can be drawn and shared techniques by which it can be maintained.

Taking a significant example, Lui-Bright explores the “international conditions of national sovereignty (Lui-Bright, 1997 p581),” specifically the “structural transformations (1997, p582)” of the 17th century, which engendered this principle.³⁸ Quoting Weight, she notes that “it would be impossible to have a system of sovereign states ‘unless each state, while claiming sovereignty for itself recognized that every other state had the right to claim and enjoy its own sovereignty as well (1997, p593, note 17).” Both as a general principle of division and as a shared practice, sovereignty emerges as an international art. Since recognized borders are immanent to a particular conceptual apparatus rather than “objectively” located in external space, they require agreed upon mechanisms to secure that which lies within.³⁹ Managing flows across borders is thus essential to realizing that which is presented as naturally the case. This suggests that government at the national level is never solely a national pursuit: Governing in the national context requires that international practices be managed. Governing the extra-national is articulated and expressed through common governmental practices at the national level. The partitioning of the globe into “autonomous” localities like the

³⁷ Walters (2004) notes this.

³⁸ Westphalia is significant, although not definitively so, for the emergence of sovereignty: “The treaty, in attempting to territorialise religion and in turn, political loyalty, also allowed states to begin the construction of the infrastructures necessary for effective governance (Lui-Bright 1997, p592).” Sovereignty is treated as a practice and goal, rather than as a form of power (Compare this with Dillon’s account (Dillon, 1995)).

³⁹ Governing a state requires that “externalities (Lui-Bright, 1997, p592)” between states be managed (as seen in attempts to regulate flows across borders (immigration, refugee, etc). See also Hindess (2000); Walters (2002a). The role of instruments like the passport in the management of populations across borders is explored in Torpey (2000).

sovereign state is, therefore, an effect of an “international” art which interpolates and gives form to the national subject.

With the international enabled as a problem space, globalization has emerged as a suitable target for governmentality analysis. In this regard, there are a variety of ways in which the term governmentality has been applied. As an elementary schematic, this literature can be segmented into four general orientations:

1. Fuse governmentality onto constructivism in order to reveal the discursive moment of globalization (Salskov-Iversen, et al. 2000). Globalization is still a social process associated with transformations in material flows, albeit a process that has discursive elements. These discourses are mediated through local governmentalities, producing a heterogeneous rather than homogeneous social environment.
2. Situate other “arts of international government” by way of their reference to an unexplored art of global government, usually considered as an alteration in the imagined space of the economy from a contained national system to one of flows and networks (Larner and Walters, 2002). Globalization is a significant art of international government here, but its specific ethos is not treated.
3. Develop an analysis of the governmentality of globalization (usually presumed as a liberal mentality), in the context of alternations in national regulation. Considered as a strategy, globalization invokes “international competitiveness” as a national response to perceived alterations in the spatial nature of economic production. However, in focusing on the national *response*, the global economy as an object in and of itself, is not suitably

explored. Globalization implicitly emerges, both empirically and structurally, as an effect of changes in national government rather than as an active governmental presence.

4. Elide globalization into neo-liberalism. This often includes a demonstration of the way in which other forms of the exercise of power (sovereignty, police) are in fact immanent to liberalism and hence liberal globalization (Dean, 2002; Hindess; Larner). Specific empirical analysis of globalization as a regime of practices often takes a back seat to textual exegesis of specific liberal texts. As a consequence the specific conditions of possibility of globalization are not elucidated.

There are other studies exploring particular “moments” of globalization - be it the environment, refugees, or Islamic finance (Bryant, 2002; Goldman, 2001; Lippert, 1999; Ong and Collier, 2005; Cameron and Neu, 2003).⁴⁰ However, given that these other aspects of globalization are usually considered as auxiliary effects of changes in the organization of capitalism, they will not be directly dealt with here.⁴¹

⁴⁰ The collection of articles by Ong and Collier is particularly thought provoking in this regard. They offer several studies delimiting different types of global assemblages – what they call “complex infrastructural conditions that allow global forms to function (2005, p12).” These range from Islamic finance (Maurer), “antiretroviral globalism” as it relates to identify formation around the issue AIDS (Nguyen), and the global ethics of population control in China (Greenhalgh). The net result of this collection is not to outline the problematic of globalization as such, but some of the issue specific governmental complexes associated with “Global forms” - i.e. those forms that “are able to assimilate themselves to new environments, to code heterogeneous contexts and objects in terms that are amenable to control and valuation (Ong and Collier, p11).” Their focus is on “what Deleuze has called ‘little lines of mutation,’ minor histories that address themselves to the big questions of globalizations in a careful and limited manner (p15).”

⁴¹ See also the growing body of literature which discusses the emergence of private (or hybrid) accounting standards as enabling “action at a distance”. See, for example, Graham and Neu (2003). They explore “the role of accounting” in diffusing and “structuring various institutional fields affected by globalization (p449).” They briefly examine standards generation at the IASB, IMF, WTO, OECD, amongst other locations, and their effect on standardizing practices in a variety of areas (capital, products, information, policies, people (p454)). However, their exploration is at best “preliminary (p450),” with very little

Elaborating, then, on the types of governmentality analysis related to globalization:

1. Constructing Globalization?

While a particularly essentialist narrative underlies most accounts of globalization, there have been attempts from self-avowedly critically informed authors to treat globalization in less deterministic terms. Specifically, there have been a number of “constructivist” efforts that have focused on the discourse of globalization and with the effects that this discourse produces in rendering the real. Rather than regarding globalization as a wholly material phenomenon mechanistically compelling compliance from amongst states, corporations, and individuals, this literature evidences a concern with tracing the way in which material forces are supplemented, mediated and distributed through normative and ideational means. Globalization is as much an ideological as it is a material phenomenon.⁴²

This constructivist treatment is relevant to the topic at hand because of the synergies that some authors have perceived between constructivism and governmentality. One can see this explicitly in Salskov-Iversen et al’s “Governmentality, Globalization,

discussion of how these measures were produced. Nor is the construction of the global economy actually revealed, so much as the tactics through which various governmental ends commensurate with the narrative of globalization are accomplished (p453) – as they put it, “the institutions that we have examined here are only the most prominent of those that aid and abet globalization (p466).” The political character of the accounting standards generated by the International Accounting Standards Board has also been a target of investigation, although not always from a Foucaultian-inspired point of view: Eaton (2005); Perry and Nolke (2006).

⁴² See, for example, the collection of essays in *Demystifying Globalization*: “Our concern should be with the relationship between ideas held about globalization on the one hand and the processes such ideas purport to describe on the other. Whilst contributors and editors of this volume vary over the precise extent to which social, political and economic contexts constrain, circumscribe and delimit the ideas held about them and the related extent to which ideas mediate, condition and circumscribe the realm of social, political and economic intervention, they agree on the need to understand this relationship dynamically and historically (Hay and Marsh, 2000, p9).” See also Cameron and Palan (2004) who relate the narrative of

and Local Practice,” which suggests “emphasizing globalization’s relational character, its reliance on discourse and local mediation (Salskov-Iversen et al., 2000, p185).”

Globalization is approached here as being comprised of “very real and rapidly increasing flows of capital, flexible production processes, and people in motion (2000, p185).”

However, it is also comprised of discursive elements that have their own causality. These discourses mediate the responses produced to the material flows in ways that the flows themselves do not directly suggest; they act governmentally to delimit and structure the realm of public choice, possibility, action, and justice (what can and what should be done) within particular logical and technical parameters having their own dynamic independent of the material changes. Moreover, they are realized in ways which vary according to the discursive specificities of the local context to which they are applied. In short, globalization both conditions and is conditioned by interpretations of how governing should be conducted in its wake. It emerges as a heterogeneous practice where local interpretations of a particular Transnational Discourse Community (in this case the transnational discourse of New Public Management) structure its practice in oftentimes dissimilar ways. One cannot, therefore, comprehend “globalization” without an appreciation of the discourses through which it is expressed.⁴³

Now there are two immediate difficulties present in any attempt to focus governmentality analysis through the “lens of constructivism (Salskov-Iversen et al., 2000, p184).” First of all, the end point of idea-centric constructivist analysis is social characterization – with the role ideas play in rendering an objective (and therefore external) reality. However, in order to avoid the “idealistic” argument that social reality

globalization to tangible developments in offshore finance in the 1970s.

⁴³ In some respects this method parallels that of the neo-Gramscians, with all of its incumbent problems

is comprised of nothing but ideas, material “forces” are also accorded significance. Since social reality contains both material and normative elements, it lacks a pre-determined teleology. However, in the final analysis we can state that globalization really is this or that.

Suggesting that social reality is comprised of both material and ideal realms is significant because it leads inexorably to the type of aporia that has bedeviled structuration theory.⁴⁴ How does one determine where, when, and how the material or the ideal realm is causally significant for a particular event or social structure? While the material and ideal are viewed as reciprocally conditioning, what drives the direction of social change in any given instance? One is left with the choice of reducing the material to the ideal or vice versa in any empirical analysis. Thus in the case of Salskov-Iversen et al. one could argue that they are materially reductionist in that the “very real” flows they identify are the initiating force conditioning the discursive moment. This is, arguably, a problem which any type of analysis concerned with objectively capturing social reality must face: it runs into an aporia – if not material/ideal than agent/structure or structure/superstructure.

Governmentality, for its part, is not trying to produce a more comprehensive model of social reality in the above sense. Rather its objective is to delimit the emergence of a problem space, with how that space functions in rendering disparate objects, subjects, and actions into a manageable form. It is not a case of suggesting that the “real world” is essentially characterized by this problem space. The focus is on

with reduction “in the last instance.”

⁴⁴ Doty (1997) does an effective job of demonstrating this.

determining how a thought space is made possible and with the effects that this produces on action.

Secondly, while a common concern with discourse would seem to presage an affinity between the two methods, this belies a significant difference in the respective conceptualizations of the common term. As noted, constructivism in International Relations tends to maintain a distinction between the material and ideal realms (even if they are “dialectically related”), with discourse being implicitly reduced to the realm of thought, intention, and even rhetoric. Discourse emerges here as rather personal and subjective.⁴⁵ Thus Salskov-Iversen et al. are concerned with documenting the “interpretations (2000, p184)” and “shared understandings (2000, p190)” created by the “professionals’ discourse (2000, p187),”⁴⁶ and with demonstrating how these may vary in different locales.⁴⁷

While it is undoubtedly the case that agents will act in dissimilar ways according to their particular understanding of what is possible and desirable, action is conditioned by forces that are not always made manifest at the level of conscious thought. This is the case both in terms of the underlying rationalities or “strategies” which give a discourse a certain logical structure beneath its explicit proclamations, and in terms of the material techniques which reduce the inchoate multiplicity of actions/events that take place into specifically visible and organized forms (Dean, 1999; Miller and Rose, 1992; Walters, 2002b) In fact, this is one of the key differences between constructivism and

⁴⁵ Palan (2000) notes this with regards to certain forms of constructivism in International Relations.

⁴⁶ The discourse is the property of the professionals.

⁴⁷ While this leads to the aporia already noted, it also reduces analysis to the understandings that those in power have of their own environment and mission rather than with the specific conditions of possibility for any social characterization (As Kevin Stenson (1998) notes with regards to governmentality analysis in general) – to the parole rather than the langue if you will.

governmentality: governmentality (drawing on Foucault, Latour) approaches discourse in a more material sense. It is not just the ideas, norms and rhetorics that are involved in manufacturing a discursive space, but also the maps, computational/statistical styles, charts, and forms, which enable/effect those rationalities, which condense the nebulous multiplicity of events, actions, subject positions into visible, manipulable, and verifiable social objects.⁴⁸ As Walters, drawing on Latour, puts it, “actions are coordinated, behaviours collectivized and regulated not by the sharing or inculcation of norms and ideas alone, but through the way in which socio-technical networks combine humans and non-humans (Walters, 2002b, p98).”

Consequently, while what emerges in Salskov-Iversen et al. is an explanation of how globalization functions and spreads in its normative aspects, with discourse emerging as a form of ideological legitimation of material changes in economic flows, a methodologically consistent governmentality analysis would attempt to document globalization’s specific conditions of possibility as a governmental problematization, with the way in which discourse inscribes a diversity of practices into a specifically visible and manageable form, and with the effects, even unconscious, that this produces.

2. *One art with many voices?*

The second tendency amongst those treating globalization from within the parameters of governmentality is to reference globalization as a conditioning art for other

⁴⁸ Salskov-Iversen et al. note the broader understanding of discourse, but they do not apply it. In their discussion of the rationality and technology of discourse, technology is reduced to the tools available to implement policy: “There is a close relationship between political rationalities and technologies of government. But analytically, it makes sense to distinguish between representation of and intervention into specific domains (p191).” They claim (note 27, p219) that this is not a two-step process, but rather “circular.” However, the effect is the same as with structuration in that it is reductionist towards the narrower, constructivist, understanding.

governmental forms without exploring its specific conditions of possibility. One such example is given by Larner and Walters in their exploration of the “new regionalism” as an art of international government. This particular art is treated as one contemporary form of “transnational spatialization (Larner and Walters, p2)” among many, one that partitions the world into regional complexes (centred on North America, Europe, and the Asia-Pacific) articulated within a global economic framework.⁴⁹ The new regionalism is thus a governmental form that is largely constituted by way of reference to another: its spatial imagining “is based upon the presupposition of the global economy...economic globalization provides the framework in which regions are made intelligible (p18-19).”

However, this particular referential register is not itself subjected to a critical analysis. Rather, the orthodox typology of networks and flows, the very rendering given by both proponents and opponents of globalization as “process,” is taken to suffice. Neither the conditions of possibility nor the specific governmental arts of “globalization” are interrogated. Given that the specific objective of this work is to trace the political rationality of regionalism rather than globalization, this does not in and of itself constitute a flaw in their analysis. Nor is this to suggest that all arts of international government that reference “globalization” need to be reduced to some master-narrative of “globalization,” regardless of their specificities. However, that so many other arts of international government draw upon it as a referential/justificatory tool does suggest that the conditions of possibility of this particular art should be elaborated.

⁴⁹ The specificity of these complexes emerges in their concern with knitting together a variety of multi-scalar functional networks rather than in forming a dichotomous territorial inside/outside division. A region is a density of many processes and networks which vary in intensity depending on the location, rather than a homogeneous space (Larner and Walters, 2002, p24).

3. *The strength of the nation?*

Significantly, there have been a number of works that have explicitly targeted globalization while utilizing the governmentality framework in a methodologically consistent manner. While there is much that separates the respective analyses, the common element here is to regard “globalization” as eliciting a strategy of international competitiveness.

An excellent example, Wendy Larner has published a number of studies applying Foucaultian insights in an attempt to demarcate the “forms of expertise and knowledge practices through which the global economy has been constituted as the focus of economic governance (Larner, 2001, p297).” To that end, she has oriented her empirical research towards a series of governmental programs in New Zealand – a locale where by 1990 “globalization became a strategy integral to a new political rationality (Larner, 1998, p599).” While this includes distilling the political rationality underlying government pronouncements, it also notably includes documenting the “practical techniques (Larner, 2001, p299)” which have enabled/effected this shift in orientation. These techniques visualize/operationalize the objects and ends of government in ways that are oftentimes unintentional.⁵⁰ As a result, they act to rearticulate government in new and unexpected ways.

One particular technique which she identifies in a case study of the Call Centre Attraction Initiative is international benchmarking, a technique once reserved for internal

⁵⁰ There are problems in the way that Larner treats technologies as almost instrumentally related to rationalities: “the means through which a political rationality constituted in discourse is given material content and rendered operable (Larner, 1997, p13).” Thought here is treated as less than material. Rather techniques are used to solve various problems identified by prevailing rationalities which in turn creates new rationalities. As such, less attention is focused on enablement than enactment. In this sense, she is similar to Salskov-Iversen et al.

assessment but now “coupled to a new purpose (Larner, 2001, p308, referencing Power, 1997).” While not solely responsible for enabling globalization, international benchmarking does contribute to the transformation of what had previously been regarded as spatially disparate “national” practices into objects that are both comparable across borders and hierarchically ranked amongst practices in other locations.

It is in drawing the link between international comparison/competitiveness and “global connectedness (Larner, 2001, p300)” where Larner’s analysis is most lacking. While an international ranking could conceivably alter the focus of government from the national distribution of wealth (as had been the case under Keynesianism) to the creation of national efficiency vis a vis practices located in other nations, it is not clear why benchmarking per se implies that this should be construed as taking place in a globally interdependent environment. In other words, international economic *comparability* does not imply global economic *interdependence* - that the economy (as opposed to competition) functions in sui generis terms on a global scale. It is not clear why this technique should function in such a way as to enable a new political rationality rather than reactivate a prior one concerned with, for example, highlighting national champions. Comparison may reveal relative position and, depending on what is being compared, it may even visualize borders as more porous/less significant in partitioning the economy, but it does not on its own suggest that economic production has been systematically globalized.

Missing also are the grounds upon which it became possible to compare across national borders in the first place. While relative levels of economic growth emerged as one of the primary standards of comparison under the “national economies” regime

(Larner and Walters, 2002), what developments allowed the veil of aggregate comparison at the border to be pierced? This is not a problem restricted to Larner. As Walters notes, “the history of how one compares the economies of nations remains largely unwritten (Walters, 2000, p180).”

Finally, there are doubts about whether or not Larner has escaped the “territorial trap (Agnew, 1994)” that has restricted social science to treating territorial borders as if they were constitutional limits. For Larner “globalization was a political strategy that emerged out of an historically specific set of circumstances...that was useful to the Labour government in addressing the tensions associated with a particular political programme (Larner, 1998, p604).” Globalization emerged in New Zealand as a consequence of a particular type of “neo-liberal technology” being used to actualize a political rationality that contained other than neo-liberal ends (Larner, 1997, p32).⁵¹ However, while this may explain the case of New Zealand, it is unclear how and through what means “globalization” came to be such a prevalent way of characterizing and governing social life in so many other locales.⁵²

Barry Hindess, for his part, also attempts to document the governmentality of globalization (Hindess, 1998). In his case, the significant political technology is the national accounts. As a statistical compilation of a number of other measures, the national accounts are themselves amenable to disaggregation; the integrated picture of the national economy they present capable of being disassembled/reassembled on an other than nationally comprehensive level. Specifically, as these accounts were “progressively

⁵¹ Including various accounting and technical standards related to the “new managerialism (Larner 1997, p23)” which had the effect of “expelling” the original social welfare goals of Labour in favour of commercial efficiency (1997, p24).

⁵² Unless one wants to reduce globalization to neo-liberalism, as the reliance on the causal force of “neo-

refined (Hindess, 1998, p219)” over time, sub-holistic economic processes were assembled/revealed in an attempt to target government intervention. The economy was disaggregated into a number of components having their own dynamic exclusive of the national whole. The technology of the spreadsheet made assembly of “custom-built (1998, p219)” models, having no necessary relationship to the national economy considered as a sui generis system, a simple task. Moreover, given the ubiquitous international adoption of this technique for representing the economy, the necessary statistical indicators were available for most states, allowing for assembly on an international level.

This rearticulation of the economy is significant for Hindess because of the way it transforms the discourse of national economic security. Under the previously dominant problematization, each state was implicitly viewed as bounding a self-regulating economy. Each state therefore had a natural capacity for growth provided that liberal governmental practices were pursued. This national orientation towards the economy was coupled with a Ricardian understanding of mutually advantageous trade between economies on the basis of comparative advantage. Governmentally, this enabled such measures as would assist the state in obtaining comparative advantages over other states, including macro-economic interventions. However, while within the transformed problem space the international economy may likewise display a propensity towards growth, there is no guarantee that all nations will garner a share of it (Hindess, 1998, p221). In fact, given that growth is associated with an international rather than a national system, it could entirely elude a state that is not as efficient as its competitors. In such a context, there is little that a national government can do on a macro-level to stimulate the

liberal technologies” seems to suggest.

economy's overall performance – securing efficiency is the only effective mechanism of national intervention. The Ricardian model has been displaced by one in which nations must competitively engage one another on the basis of efficiency in order not to be excluded from growth. The problematic of national economic security has thus been reassembled as one of the competitive pursuit of national efficiency (Hindess, 1998, p223).

Hindess' analysis provides much that is useful, both in terms of technical apparatus (national accounts) and problem spaces (international trade, economic growth), for understanding globalization as a problematic. However, it also begs many significant questions. For example, why has the disaggregation associated with the “progressive refinement” of the national accounts resulted in their being re-assembled at the global level? As Hindess notes, there are copious ways in which the statistical data can be reassembled, limited only by the computational power and imagination of the economist. Why should the global level have been viewed as the natural one on which to build econometric models? Multiple unrelated processes (whether international or not) could just as easily result as the notion of a globally integrated system.⁵³ Moreover, given that there is no obvious common standard by which different economies can be measured (more on this below), how were economic processes in different states made combinable? There are important steps missing here. Finally, Hindess' account seems almost automatic (spreadsheets simply emerge as the obvious way of conducting income

⁵³ For example, Ruggles sees the same processes as part of a “changing focus of policy, from an exclusive concern with macro-economic policy to questions of distribution and to social aspects of well-being of the population [which] increased the need for microdata bases integrated with the macro economic data in the national accounts (Ruggles, 1995, p255).” In other words, while these new techniques may make new problems visible, there is no reason, a priori, why these problems will not be visualized within the national framework.

analysis) with no account of the political struggles waged within the “conditions of possibility.”

There is also, as with Larner, a propensity to position the state as the natural location for government. In part this is an empirical consequence of his choice of target: documenting the effects that altered understandings of the economy have on the government of “other aspects of the life of the national community (Hindess, 1998, p222).” In effect, what results is not so much a recording of the emergence of the global economy as it is a rearticulation of the way in which the “strength” of the nation should be pursued in the face of a modified economic environment. While we can locate an alteration in “the manner in which governments perceive their own national economies (Hindess, 1998, p211),” the specifics of the global economy are not made visible.

This state-centrism is a problem both empirically and structurally. Empirically it reduces government to the national domain and national concerns – non-national sources of authority, technology, governance, and governmental ends that are not specifically national in orientation, are rendered invisible. The effects of international conferences, organizations, and standards, are not treated. There is little analysis of the way in which government effervesces within, between, and through the spaces of national government.

Structurally, the implicit focus is on the nation as a subject whose rationale changes rather than on how national government is inserted as a subject by this particular art of international government. By what principles are states being partitioned/united, through what shared practices, to what common ends? As with early works in governmentality, the state is retained as the primary location/subject of government in effect if not by intention.

This prioritizing of the national prevents certain questions from being asked.

Other than a scalar shift, the specific dynamics (political, social) of globalization cannot be traced.⁵⁴ This is especially significant given that the realm of the economy and formal political rule are situated on a different conceptual terrain in the “global” imagination.

How is the global economy as opposed to national competitiveness to be managed?⁵⁵

That said, the above is not to suggest that the discourse of international competitiveness is not one avenue in the broader discourse of globalization – clearly it is.⁵⁶ In this respect, international institutions like the World Economic Forum are significant nodes in containing, manufacturing, and perpetuating both a discourse of “one world” as well as that of international competitiveness (through its Global Competitiveness Report).⁵⁷

However, even this one avenue is only cursorily mapped by Hindess and Larner.

⁵⁴ The origin and effect of such concepts as interdependence, growth, in constituting/partitioning local spaces out of the global whole just cannot be documented from within such an orientation.

⁵⁵ The question occupying volumes dedicated to tracking “global governance.”

⁵⁶ On the competition state see, for example, Cerny (1997). Despite the apparent opposition, the literature on “Varieties of Capitalism” also plays into this schema: Hall and Soskice (2001); Cerny, Philip, et al. (2005).

⁵⁷ Fougner (2006, pp165, 176) notes that the World Economic Forum, in addition to several other organizations, plays a role in constituting “international competitiveness.” Reinert (1997) argues that there is a 500 year tradition of thought on national competitiveness. He suggests that both the German and American traditions of political economy are important in this regard (List, Hamilton, etc.). However, there is a significant difference between the nominally nation-centred notion of competitiveness and the mercantilist notion of competition which precedes it. Competitiveness fixates on which state is best at articulating itself into global networks rather than which state can best isolate itself from external influences. What we see is a mutation of a prior statist orientation from within the discourse of Globalization – states oriented towards making themselves more attractive to “footloose” capital and thereby perpetuating further “globalization.” Thus, and to quote Fougner “a quick look at bibliographies of literature on international competitiveness reveals that writings on the issue were very limited prior to 1980...During the first half of the 1980s, however, a flood of literature on international competitiveness began pouring out of business schools, government offices, think tanks...and that flood has yet to show any sign of abating (Fougner, 2006, p170).” Competitiveness is a creature of globalization. The project of “competitiveness” should also be taken as a reminder that “Globalization” is neither a monolithic nor a homogeneous characterization – attached to the notion of a global economy are competing narratives associated with disparate political projects. Cameron and Palan (2004, pp15, 17) suggest “a tri-partite cognitive map distinguishing between distinct socio-economic spaces” which they categorize as “the offshore, private, and anti-economies.”

These concerns suggest a tactical orientation for this dissertation. An orientation towards broader than national visualizations suggests that “international” forums are the appropriate area to begin an empirical investigation – to trace the avenues and mechanisms by which specific governmentalities have both developed and percolated into geographically distant locales to become common truisms. Note that this does not suggest that the international and national are somehow constitutionally separate. The international is a thought space, not a geographic location: a way of construing actions, events, and locations within a certain conceptual apparatus. For obvious reasons this is often most explicitly manifested in International Organizations, although it can just as easily inform the deliberations of a national or provincial parliament, a university, or a local business. As we will see, the creation of an international system of national accounts, even while not always associated with a formal International Organization, nicely fits these parameters.

4. Liberal colossus?

Finally, there tends to be a predilection within much of the literature, including much of that cited above, to treat globalization as a creature of or supplement to “liberal” government. Contemporary international arts of government often emerge as immanent features or at best supports of a liberal mentality of rule, rather than as something discontinuously produced and containing their own immanent technologies and rationalities. Hence Larner relies on the causal force of “liberal technologies” to advance “globalization” in New Zealand, Liberalism acts to filter and shape contemporary

understandings of international economic change for Hindess,⁵⁸ and Dean is preoccupied with demonstrating how a “knowledge” of globalization assists in enabling “authoritarian liberalism (Dean, 2002, p57)” as a mode of governance. In a striking parallel with the orthodox literature on globalization, advanced liberalism emerges (at least in effect) as a trend with its own force, consuming and digesting other forms of governance.

Globalization is, therefore, only treated as a subsidiary problematization.

Treating Liberalism as the categorical a priori for government has the effect of submerging other ways of governing that may be more or less pernicious. Why reduce globalization to Liberal attempts to “force freedom (Dean)” – where globalization emerges as an effect of Liberal moral explication. This precludes treating globalization as containing its own moral force, where, for example, it is regarded as producing desired moral changes rather than demanding them in the pursuit of competitiveness/efficiency – eliminating moral laxity through labour, etc.⁵⁹

Creating Space for an Analysis of Space:

Outside of the discipline of International Relations, there has also been a “critical” consideration of the spatial imaginings of our time from amongst certain elements of the discipline of Geography. This “critical” geopolitics literature indicates that the globe has its own history of imaginings – principles and techniques by which activities on other scales are to be understood and managed. To cite the most obvious (dealt with by Agnew, 1998), during the Cold War the globe was partitioned along the ideological axis

⁵⁸ “What concerns me here is how the governmental impact of changes in international economic activity will be mediated by the prevailing rationality of government (Hindess, 1998, p211).”

⁵⁹ A policy of open trade was rationalized in similar terms under Republican notions of political economy in late 18th century America: See McCoy (1980). While we will not be following all of these moral

of communism/capitalism, where a state's essential characteristic was determined by its perceived alignment along this axis rather than by any specific internal factor. In fact, the globe has long been a problem space – one shared between actors located in spatially disparate areas - before globalization. However, an analysis of Agnew, Taylor, King, and others associated with critical geopolitics, reveals a Foucaultian problematization of the past, which is forgotten in the moment of the present. Globalization is not problematized in terms of the conditions of possibility for this particular geopolitical imagination, so much as it is presented as refiguring space itself, making older imaginations anachronistic and forcing us to figure space in new terms. In other words, they (particularly Agnew)⁶⁰ argue that we need a new ontology of space in light of current events, rather than documenting how current events were made possible by re-imaginings of space.⁶¹

Critical historical accounts of the economic

Finally, and in terms of the existing critical-historical literature on the emergence of the economic in thought, there are several studies that outline the emergence of the economy by the late 18th century (Foucault, 1991, 2007), early 19th century (Tribe, 1978), or even as late as the mid-20th (Mitchell, 1998). To a lesser extent the “national economy” has also been targeted, with the point of conceptual emergence usually located in the early 20th century (G.F Thompson, 1998; Cameron and Palan, 2004).⁶² Many of

questions below, they are, at least, not precluded.

⁶⁰ “Complex population movements, the growing mobility of capital, increased ecological interdependence, the expanding information economy, and the ‘chronopolitics’ of new military technologies challenge the geographical basis of conventional international relations theory (Agnew, 1994, p77).”

⁶¹ There is also a literature here on the many different ways in which space has been refigured in light of globalization (Brenner, 1999; Amin, 1997, 2002; etc) – not just in terms of triadization, nodes and networks, glocalization, but a variety of other spatial conceptualizations.

⁶² Cameron and Palan examine the construction of the national economy - through the lens of evolutionary institutionalism.

these accounts will provide useful empirical information for what follows. Nevertheless, the accounts are incomplete: there are no systematic accounts exploring the genealogical topography of the global economy as a visible and therefore governable object. There are no comprehensive explorations of the elements that define its self-ascribed history.

Examining the National Accounts:

In sum, the extant literature is indicative of a number of avenues by which a genealogy of the global economy could proceed. However, as yet these accounts are partial. While it seems clear that an altered problem space has emerged, the specifics by which this was enabled, the type of social object produced, the alternatives silenced, are only schematically elaborated. The story of the conceptual building blocks through which a governmentality of globalization has been constructed – the (obsolescent) national economy, growth and progress, interdependence – has not been told. Consequently, the empirical archive must be further trawled if the lines by which this particular approach to the truth is constituted are to be revealed; if the governmentality that it ultimately makes possible is to be accounted for.

So where to begin? As noted in the case of Hindess, the existing governmentality literature has *cursorily* recognized the significance of the national accounts in constituting the economy as an object that could be manipulated to achieve specific governmental ends.

Moreover, there are also elements of the governmentality literature that have highlighted the national accounts as relevant to governmental forms other than

globalization.⁶³ To date, however, the accounts have been bit players in these narratives. They have been briefly slotted into the story largely in the context of their role in performing aspects of the inter-national rather than global economy - where the international constitutes more of a *context of comparison* (over aggregate growth) than an object containing a specific *content*. For example, Tomlinson notes the role that the standardization of national accounts within the UN and OEEC played in enabling the “international *comparisons*” of national economies, itself permitting relative performance to emerge as a primary indicator of both national and governmental performance. Rose likewise suggests that “the collection and *comparison* of national economic statistics by the Organization for Economic Co-operation and Development in the period after the Second World War opened up a new vision of competing national economies: the charts and tables stabilized economies in terms of a few simple and elegant figures, and hence rendered them *comparable* (Rose, 1999, p37).” Larner and Walters take their analysis onto a slightly different terrain by demonstrating the enabling effect that standardization had on the practice of international development: “the Marshall Plan, the creation of the OECD, and the UN agreement on national accounting...gave rise to the practice of *comparative* national accounting as an instrument for coordinated and cooperative, non-zero-sum ‘development’ (Larner and Walters, 2002, p12)” (Italics added in each case).

All this is incomplete, even on its own terms: As mentioned above, a focus on the effects of comparison begs the question of how “national” economies were made comparable to begin with (Walters, 2000 p108). There is a history of debate on the technical and theoretical grounds upon which socially, culturally, and economically

⁶³ Several of these studies have, in contrast to Hindess’s nation-centric approach, briefly highlighted the role of the “international” in the resulting governmentalities by stressing the role of the OECD and the UN

disparate locations (itself implied by the national territorialization of the economy, with halting statistical measurement at the border), could be made comparable.⁶⁴ Just how one compares is a contested and political, rather than self-evident and technical problem. For example, relying on some form of purchasing power parity rather than on exchange rates tends to raise the relative position of the underdeveloped to the developed economies, increasing both their expected contributions to common projects as well as minimizing the measure of relative poverty.⁶⁵ Associated with this is the belief that the national incomes of developing countries are underreported due to the existence of barter and a widely subsistence-based (and therefore outside of the realm of exchange and measurement) economy. However, Rao (1953) notes that neither the services of housewives nor payments in kind are imputed in measuring the national income of developed countries – leading to a massive underreporting of the size of developed economies as well.⁶⁶

In sum, the national accounts have been identified as central to the construction and management of many of the elements constituting economic space. However the

in this process.

⁶⁴ See Studenski (1958, pp224-250). On a technical level, there are a number of reasons why international economic comparison is a problem, why it is difficult to measure relative aggregate economic strength. Edey (1954, p 111) lists three specific reasons: Definitional (defining what is and what is not productive); Structural (production is not fully monetized in some (less developed) states, making accurate measurement and therefore accurate comparison difficult); Common Standard (there is no common or neutral standard (like a world currency, for example) by which a value can be assigned to every state's national product). As Barna (1953, p153) puts it, "The Keynesian system [which the early SNA approximated] is based on certain assumptions, whether they are explicitly stated or not: it applies under conditions of general unemployment and it presupposes the existence of the financial institutions which are to be found in the United States or the United Kingdom. There is no inherent reason to assume that the same theory would apply in different surroundings and hence there is no reason to adopt the same set of statistical tools in all conditions."

⁶⁵ According to Kravis (1984, p28), from 10.1:1 to 5.8:1.

⁶⁶ The unrecorded contribution of "women's work" to global GDP has been measured by the UNDP as high as \$11 Trillion (1995).

accounts themselves, their histories, politics, and projects, have been only been briefly explored within this literature.

The significance of national accounting to modern governance is not limited to the governmentality literature, of course. Their importance has been broadly recognized within mainstream Economics: a total of 5 Nobel prizes in Economics have been awarded in the last 40 years to those associated with their development.⁶⁷ Kendrick notes in this regard that “[e]conomic accounts have become so indispensable a tool in the ways described that it is hard to imagine how we would get along without them. They have been called the greatest invention for economic analysis of the 20th century (Kendrick, 1996, p6).” In fact, despite its somewhat taken for granted character in the current context, the idea that the economy could be statistically measured, imputed, and collated into meaningful and functionally interlinked economic accounts, accounts containing activities that could, moreover, be manipulated to attain desired objectives, constituted a major alteration in the terrain of what was viewed as politically governable.⁶⁸

Finally, there is also a body of socio-historical literature – written largely for the benefit of the statistical compilers themselves - specifically targeting national income analysis. This literature, while empirically rich, suffers from its own presentist limitations. For example, one strand of this literature traces the progression of national income analysis from its alleged beginnings in the 17th century to its present

⁶⁷ Awarded to Kuznets, Stone, Leontief, Tinbergen, and Meade. It should be mentioned that this prize is itself part of the “scientific game” associated with constructing economics as a science (Walters, personal communication). In the first place, the award is not actually a Nobel Prize: “The Prize in Economics is not a Nobel Prize. In 1968, Sveriges Riksbank (Sweden's central bank) instituted ‘The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel’, and it has since been awarded by the Royal Swedish Academy of Sciences, Stockholm (<http://nobelprize.org/nomination/economics/nominators.html>).” There has also been a great deal of controversy associated with the award of the Prize – particularly in the case of Milton Friedman - with the suggestion that the selection committee has exhibited a certain ideological bias.

⁶⁸ As we will demonstrate in Chapter II.

incarnation.⁶⁹ However, these studies are, by and large, evolutionary in tone, with the present dictating what is to be assigned significance in the past.⁷⁰ They stand on the elevated platform of present knowledge and offer a self-congratulatory reflection on how far we have come. Thus Studenski, in his oft cited treatment, suggests that Gregory King, writing in the late 17th century, “anticipat[ed] the modern practice of forecasting by 250 years...Quesnay’s Tableau anticipated by 200 years our modern statistical analysis of National Income and expenditure by sector accounts (Studenski, 1958, pp33, 61).” Ruggles, for his part, explicitly states that “national income accounting has been the result of evolutionary developments of economic theory and economic measurement (Ruggles, 1995, p235).” In fact, despite the general acknowledgement of a significant difference between national income estimation and the national accounts (Studenski, 1958, p163, Ruggles, 1995, p242), the two are elided in terms of historical origins.⁷¹

As a consequence, wherever past documentation offers up current terms, there is understood to be a direct, if implicit and partial, revelation of the reality which future knowledge makes fully evident. This implicit teleology is a problem both epistemologically and empirically. To begin with, by making the past visible according to the interpretive lens of the present, we are unable to see past problematizations by way of their own terms (Rose, 1999). The mechanisms and mentalities underlying past governmental problematizations, by which statements on the reality of the world were enabled as truthful, are quickly dismissed as errors that will soon be corrected. Their

⁶⁹ Studenski’s historical study is the accepted starting point for most studies of early national income analysis. But see also Kendrick (1972), Ruggles, (1995).

⁷⁰ As Tribe (1978, p7) notes with respect to the invention of economic discourse in general, “the primary device which the history of economics employs for the demarcation of the economic archive is the structure of contemporary economic theory.”

⁷¹ According to Kendrick (1972, p7), “it was only after 1940 that the concept of an interrelated set of sector accounts...was developed. It was only after 1950 that the concept of a comprehensive integrated set of

governmental impact is not, as a consequence, explored – nor is the specific process by which “truth” was produced nor how it later became “error.” Moreover, this presentism can also occlude much documentary material on the grounds of irrelevance for not speaking in terms of the problem space within which the historian is operating.

In fact, to digress somewhat and as we will see, when read in their own terms, the early national accounts do not resemble an earlier version of the modern statistical system. There is a significant difference between national income analysis as it occurred in the 17th - 19th centuries and the National Accounts as they developed in the twentieth – a difference both in terms of the political context in which they were conceived and on a socio-technical level. To summarize somewhat crudely, national income analysis was historically concerned with aggregate measures (strength, wealth) rather than with systemic interdependence within the economy.⁷² Nor were early national income estimates (17th, 18th centuries) constituted in a social policy sense – that is with the goal of manipulating the economic system to given social ends - so much as they were with obtaining a measure of how much was available for extraction from the resident population in the form of taxation,⁷³ or with aggregate strength (militarily construed) with respect to other states.⁷⁴

accounts...gradually emerged.”

⁷² Where economic flow rather than sum total was an issue (as in Quesnay’s physiocratic model) it was in terms of how distribution occurred between politically defined actors rather than with the relationship between interdependent parts of an economic system. Quesnay’s Tableau is often referenced as an early expression of the input-output method of measuring a national economy (Kendrick, 1972, p12). However, it does not articulate systemic interdependence, but distribution from the productive (agriculture) to the unproductive (everything else) within the Kingdom of France (See Tribe (1978) for this reading of Quesnay). It is dependence not interdependence that is thereby shown. According to G. F. Thompson (1998, p299), Quesnay’s Tableau straddles the neo-Platonic (concerned with resemblance) and the post-Platonic (concerned with representation) episteme.

⁷³ Even a mainstream figure like Ruggles (1995, p236) notes that “[t]hese concepts of national income did not stem from economic theory but were concerned with measuring the income received by the population as a potential source of tax revenue for the king.” See also Tribe (1978). Foucault suggests that this concern with extraction rather than optimization is a characteristic of governing prior to the emergence of a

When we reach the 19th century, national income estimates were concerned with the distribution of the sum total amongst segments of the population, not with the operation of the economic system per se.⁷⁵

Within the national accounts of the twentieth century, by contrast, it is reciprocal flows between functionally interrelated sectors of the economy, rather than aggregate sum totals, which are the object of visualization - although the measurement of these flows abruptly stops at the territorial frontiers of the state.

Moving on to a second body of national-account-specific scholarship, there is also a group of literature exhibiting a different form of presentism: one associated not so much with how far we have come but with how far we can go – provided that the correct numbers are used. To begin with, this literature seeks to demonstrate the biases and limitations of the current system of national accounting. For example, one strand, which can be categorized as “feminist” in orientation, has focused its attention on how the accounts devalue the work of women by refusing to impute a value, and hence a national contribution, to the work of homemakers (traditionally women).⁷⁶ Peace activists have also objected to the attribution of value in the national accounts to the military-industrial complex.⁷⁷ Finally, certain environmentalists, for their part, have decried the manner in which the reckless exploitation of the environment is recorded as a positive increase to

Liberal mentality of rule.

⁷⁴ As we will develop in Chapter II.

⁷⁵ See here Studenski – who notes much of the above historical description without elaborating on the governmental significance of it.

⁷⁶ See Waring in particular, but also the more recent summary in Hoskyns and Rai (2007). Interestingly, this is recognized as a problem across the national accounting literature from the 1950s until the present. Yet there have been few alterations in the “core” accounts with this in mind (although “satellite” account guidelines were provided in the 1993 revision of the SNA).

⁷⁷ Waring also discusses this in some depth.

national wealth despite the long-term costs that such exploitation produces.⁷⁸ In light of the identified social and political shortcomings, a second step is taken: suggestions are made on how to make the accounts less partial and more reflective of actual social reality.⁷⁹

The political nature of the construction and evolution of the accounts has also been indirectly noted by those who have focused on the variety of national accounting practices internationally. In the Cold War context this was most apparent in the alternative standards by which production was measured in the Marxist as opposed to the “Capitalist” worlds (Arvay, 1994). Even within capitalist states, however, there were and are national peculiarities in how the economy is visualized and practiced governmentally – France and Great Britain/The United States being two examples (Miller referencing Fourquet).⁸⁰ Moreover, while a degree of standardization was/is produced through the United Nations recommended methods, this standardization did not and does not imply homogenization, nor does it imply a conflict-free standardization process (Korzeniewicz et al., 2004).

Nevertheless, and despite the importance that can and has been accorded to National Income Analysis from a variety of disciplines, the accounts have not been a prevalent object of analysis in mainstream International Relations. As noted with respect to the literature on globalization, there tends to be an assumption in mainstream International Relations that technical apparatus are no more than neutral measuring

⁷⁸ See Lintott (1996) for a review of this issue.

⁷⁹ Waring’s suggestion is to use time-use as the recording standard rather than money. Doing so would enable planners to visualize how time is actually being spent; it will reveal those areas that would most benefit from productivity enhancing advances. As an example Waring demonstrates the inordinate amount of time spent by women in the developing world in food preparation for their family (currently not recorded). Simple stoves would free up this time, which could then be utilized for other purposes.

⁸⁰ See Barna (1953, p144) for an explanation of the differences.

instruments.⁸¹ Where disagreement over these instruments arises, it is generally in terms of whether they are of sufficient scope, or of whether they are correctly operationalized.⁸² In terms of their emergence, they are generally regarded as being precipitated by events in the real which mandate that they (or something similar to them) appear. To extrapolate from this tendency somewhat, in the case of the economy we progress through historical stages which both require and generate pressure for new techniques by which politics can be applied. For example, the Keynesian accounting apparatus was a natural and perhaps inevitable outcrop of developments both external (war, a beggar thy neighbour trading environment) and internal (the Great Depression, the Fordist compromise between business, labour, and the state). National governments needed to be able to measure productivity, inflation, growth, etc., in order to be able to manage and plan the economy. The techniques emerged because they were required.

As a consequence of this type of assumption, connecting present problem spaces like globalization with the history and politics embedded in the techniques that we rely upon to visualize and measure those problem spaces in the first place, has been left largely unaccomplished.

The above, however, suggests an avenue along which we can travel to accomplish this task: it is on national income analysis, the ways in which it has united and divided the economic from the non-economic, the self-contained from the external, that this genealogical account of the global economy will begin. The accounts have been the pre-eminent truth standard for mapping economic space. Their emergence and mutation is

⁸¹ See, for example, Ravillion (2003). With respect to the objectivity and neutrality of technical standards, with the science being used apolitically to create a world society, see, for example, Loya and Boli (1999).

⁸² For some examples that explicitly target the question of how to quantify globalization, see: Kudrle (2004), Foreign Policy (2001), Brune and Garrett (2005).

thus of some significance to de-naturalizing the objectivity of the economic in the present. We will use an exploration of economic accounting – From William Petty and Gregory King (about whom much is written with respect to the invention of economic discourse (Tribe; Gordon; Burchell; G. F. Thompson)), to Richard Stone and James Meade (who were largely responsible for constructing the prototype that became the United Nations System of National Accounts), to Colin Clark (who occupies a prevalent place in economic histories of national accounting and growth), to the 19th century United Kingdom of Robert Giffen (where an earlier period of “globalization” is often supposed to exist), to Wassily Leontief (whose accounting method was incorporated into the 1968 revisions to the SNA) – to slice into the broader rationalities associated with the territorial limits of economic space. We will tackle the essentialist politics of globalization if not head on then at least at the margins, by revealing the artificiality of its historiography, the history of its truth standards, and the contingent circumstances under which it emerged as a problematique.

One final methodological point: using national income analysis as the lens focusing this genealogical study permits us to make wide-ranging conclusions on the basis of a limited number of historical sources. Since genealogy outlines the history of a problem rather than an era, genealogy is freed “from the obligation to exhaustive research of the historical sources. Not that he can ignore the facts; rather, he is warranted to consider only those events that are relevant to the problem at issue (Flynn, p42).” The entire archive of the periods of time being explored does not require examination, only those elements relevant to a particular problematic. In our case, as we will see, this means that authoritative figures like James Meade and Richard Stone, William Petty,

Gregory King, Colin Clark, Robert Giffen, and Wassily Leontief are suitably indicative:

These were major figures - either at the time or in retrospective historiographies – involved in quantifying the economic. Nevertheless, and despite their central place to the standard historiography of the quantitative-economic, reading them in their own terms reveals numerical conceptions of the economic that do not accord well with a presentist reading of any type.

Chapter II

International planning for the national economy: national accounting, national planning, national action

“International economic transactions are defined as economic transactions, including financial transactions and capital movements, among independent countries or states. Foreign or international trade, on the other hand, is defined to mean the exchange among such states of goods and services only. Although the definitions – when framed in this manner – are not stated in purely economic terms and are encumbered by the vagueness of the concept of ‘country’ or ‘state,’ this need not concern the economist unduly; for we do have a fairly clear notion, at least with respect to recent times, of what is meant by independent ‘states.’” Gottfried Haberler, *A Survey of International Trade Theory*, 1961, p1.

Haberler’s *Survey*, quoted above, is an account of international trade theory from David Hume to the current (1950s) era. It is remarkable for its succinct exposition of 200 years of economic thought in a mere 78 pages. It is also remarkable for succinctly capturing a commonsense truism that permeates much of the “economic” thought of the 20th century – that economic analysis should be framed around the concept of the state, despite the “vagueness of the concept.” Notwithstanding the non-economic character of this unit - after all, a national economy hybridizes notions that are geographical and juridical with those that are productionist and economic - it is in many ways the starting and ending point of 20th century economic analysis and policy recommendation.

This simultaneously “vague” and “fairly clear” unit of analysis, the national economy, is a good place to begin an investigation of a similarly vague and fairly clear contemporary economic truism – globalization. The “global economy” has in many ways replaced the “national economy” as the object orienting economic and political analysis. While the national economy has quite obviously not disappeared as an analytical unit, this unit is itself now situated conceptually within economic currents that allegedly both

transcend and define it.

In fact, the relationship between the two concepts is more intricate than just chronological succession. In many ways, the globalization discourse depends upon the rigour of the concept of the national economy as the basis for its specific social claims. From within the parameters of the globalization discourse, the national economy has either been transcended and rendered obsolete, re-configured towards new ends, or remains stubbornly determinative. In each case, the idea of the national economy precedes the analysis of the present.

But where and how did the idea and particularly the practice of the national economy emerge? How scientifically “objective” is it as a category? Given that economic transactions have always transgressed political borders the question is how did the state, a political unit, come to delimit economic thought? How did it come about that the economy came to be imagined as evenly spread across a geographic terrain, one with sharp juridical-territorial-economic borders (Cameron and Palan, 1999b)? Moreover, in what light and with what shadows are practices which overflow those boundaries – particularly “international” practices – cast via this rendering of economic space?

To answer these questions we must follow a number of steps: First we must identify when the national economy emerged as an analytical unit. This is a rather slippery question given that the case has been made from the mercantilists of the 16th century (Helleiner, 2002) to Keynes in the 20th (Suzuki, 2003). However, given a broader concern with rationalities of government, we can limit our search to the more specific question of when the national economy – considered as an autopoietic system¹ -

¹ “An autopoietic machine is a machine organized (defined as a unity) as a network of processes of production (transformation and destruction) of components which: (i) through their interactions and

first began to orient public governmental action. Thus while there is no agreement on who first gave voice to the national economy, there is general agreement that it did not constitute a target for *sustained* and *systematic* governmental intervention until the period surrounding the Great Depression and the Second World War. While there may have been governmental initiatives directed at aspects of the economy prior to this time (unemployment, trade, etc), the economy, considered as a holistic and self-referential system of production, did not occupy a prominent place in governmental programs until these social crises (Cairncross, 1988, p12). In fact, by the late 1930s/early 1940s, in a context where national governments were preparing for “total war,” information and control over the entire production process became a recognized part of the domain of government.

Following this, the second step is to answer on what basis this information and control over the domain of the economy was realized. Governmental intervention requires some way of visualizing cause and effect, of being able to measure how much intervention and of what kind is required. The answer to this question is provided by the national accounts, the premier analytical instrument for rendering the national economy visible. National accounting established the parameters under which the governmental management of the economic was imagined and practiced.² It established a visual and

transformations continuously regenerate and realize the network of processes (relations) that produced them; and (ii) constitute it (the machine) as a concrete unity in space in which they (the components) exist by specifying the topological domain of its realization as such a network.” (Maturana and Varela, 1980, p. 78, cited in: <http://www.reference.com/browse/wiki/Autopoiesis>).

² A point of clarification is perhaps required here. The following does not suggest that the national accounts are the exclusive source from which the policy imagination flows. There are clearly many avenues from which the realms of the possible, desirable, and laudable emerge. However, the national accounting system is one of the dominant quantitative frameworks. Moreover, (as we will see) when the national accounts are utilized to inform and give effect to an otherwise exogenous policy orientation (managing conflict or material disparity, for example) they produce effects on that orientation that may not be commensurate with the originating motivation.

numerical space for a specific type of governmental orientation to the social.

On the basis of the above, what follows in this Chapter is a genealogical exploration of the national economy as a governmental-scientific object. The Chapter will explore the ways in which the national economy can be seen as a peculiar type of governmental project rather than a neutral category. The scientificity of its science, the objectivity of its objective measures, the constitutive effects of its numbers, all these form the target of analysis.

With this in mind, the investigation below will start in 1944 with an international agreement between the United States, Canada, and the United Kingdom – the first international agreement over the structure of the national accounts. Perhaps ironically, there is a certain sense in which the measurement and practice of the post-War national economic system was the product of an international conference designed to meet international needs: Despite being nationally defined, measuring and manipulating the national economy was also a multi-national concern during the wartime period in which governmental control over the “national economy” was established. Thus the nineteen forty four Agreement is part of a broader institutional context that includes the multinational Combined Production and Resources Board and the United Nations Relief and Rehabilitation Administration. This is a context in which international cooperation on economic matters was viewed as being required for the prosecution of and reconstruction from a united war effort. This required the development of recognized international standards on what exactly constituted the economy, in terms of both its structure and its limits, in order to enable comparability, international planning, and joint management. Each allied national economy had to be visible and comprehensible to

every other ally: the charts, diagrams and accounts that summarized economic activity had to be readily translatable between states.

Nevertheless, the multilateral context in which this governmental program for measurement takes place is peculiarly related to the territorializing system of measurement that is ultimately adopted. The agreement to standardize measurement according to a particular type of national accounting structure itself structures international cooperation in a specific way. In effect, and despite the stated purposes of the multinational organizations for which comparability was developed, despite what were recognized as common problems, common resources, and the need for common solutions, these international organizations came to function as, at best, clearinghouses for separate national plans rather than as the source for cohesive economic direction. In other words, the national accounts constrained the policy apparatus to a contingent linking up of otherwise structurally and territorially self contained economic units. It limited the measurement and therefore policy orientation of government in such a way that the transnational (and as we will see in Chapter III the imperial and colonial) was rendered opaque. In structuring the realm of the possible for managers of the policy apparatus, the national accounts were thus instrumental in constructing a national/international environment in their own image.

All of this raises additional questions that this Chapter will attempt to address. Most notably, why was this particular form of accounting structure held to be the self-evident one into which measurement should be slotted? Answering this requires a brief exploration of the history of national accounting. Thus we are drawn backwards in time towards the work of James Meade and Richard Stone during the 1930s-1940s. The

materialization of a managerial science and policy orientation directed towards distinct national economic systems is a by-product of these works: It is the Meade and Stone system that is ultimately internationalized, to the extent that it forms the bedrock of the United Nations System of National Accounts.

What is notable about this accounting structure, and what makes the national economy it constructs “peculiar,” is that it is thoroughly saturated with presuppositions, suppositions that are subjective and political rather than directly suggested by “the facts” on the ground. Thus what we find (via Suzuki, 2003; Waring, 1988) are a number of assumptions rendered numerical, assumptions associated with the Keynesian political project, assumptions associated with the unit of account (money vs labour), assumptions associated with the segmentation on a year by year basis, assumptions associated with the division into particular types of sectors, assumptions associated with patriarchy, and most importantly for our purposes assumptions regarding the use of territory as a bounding limit.

In sum, the national economy – whether obsolescent or not – can be seen as a particular type of governmental project rather than a neutral category. The national economy did not simply emerge as a category of analysis, and more particularly as a governmental problematization, *ex nihilo*. It emerged as a consequence of a particular process whereby specific political projects were rendered “objective” via their translation into a numeric form. These numbers, which lend a certain tangibility to the project of the national economy, reflect the political and social assumptions, sometimes unconscious, of their progenitors. They inform and articulate political projects in very specific directions. Politics, contingent histories, and (as we will see in the next Chapter) the momentum

embedded in the numeric: these categories offer a fuller account of the national accounting apparatus and of the governmental practice of the national economy than any notion of an essential economic.

Nineteen Forty Four?

Nineteen Forty Four may, at first glance, appear to be a rather arbitrary place to begin an examination of the formation of the modern economic imagination. However, there are reasons, both methodological and chronological, for starting at this point in time. Methodologically speaking, starting at a moment in time that is distant from the present in both years and in thought-space reveals that the principles underpinning the contemporary construction of economic space are anything but self-evident or transhistorical. There are disjunctures, abandoned certainties, and political processes associated with the emergence of present “objective” truths.

Furthermore, since this date does not coincide with the absolute chronological beginning of the following narrative it is hoped that the narrative can avoid creating, as a literary effect, the impression that there exists in the historical record either a clear evolutionary refinement of economic comprehension, or an identifiable moment of absolute creation where the economy, understood in its current sense, emerges *ex nihilo*.³ As we will see in subsequent Chapters, there is a certain type of historical development in the character of national income measures between the 17th and the 20th centuries. However, this process is not one that gives the appearance of techniques progressively approaching the asymptote of truth.

So why begin specifically in nineteen forty four? Here reasons of chronology

play a part: this date marks the first international agreement directed towards the production of comparable national accounting frameworks (Kendrick, 1972, p18). National accounting becomes a part of official “international” policy at this moment – at least insofar as the governments of the United Kingdom, the United States, and Canada are concerned. There were, as will be demonstrated at a later point, explicit earlier attempts by individual scholars to compare the national incomes of different states. In fact, even where earlier national accounting studies were not explicitly oriented towards the international they did construct/represent a specific type of international environment through what they measured and made visible, and what, correspondingly, they neglected to include. However, it is at this moment that national accounting emerges as a tangible international policy issue, as an issue requiring and subsequently authorizing specific governmental interventions directed towards that “realm.”

An Agreement with no Name but with a Distinct Voice:

Although there were earlier attempts by the League of Nations to compile comparable lists of national income figures (League of Nations, 1939), nineteen forty four marks the first time that national accounting procedures were standardized by international agreement. Emerging out of a meeting in Washington of representatives from the statistical departments of the United Kingdom, the United States, and Canada, the Agreement set out a common procedural framework for the recording of economic transactions within each nation in order that “uniformity in definition among these three major countries should greatly simplify the problems of the users of national income

³ I am inspired (albeit loosely) by Deleuze and Guattari here.

statistics (Denison, 1946, p1).”⁴

On the surface this meeting was a relatively minor event. It resulted in no major proclamation, the participants were not heads of state, and there is no Yalta-like iconography through which this event could be encoded into the collective consciousness of the societies represented. Its immediate impact appears to have been limited to a select group of statisticians. In fact, I have only been able to find one published analysis of the meetings themselves, written by one of the participants, Edward Denison. And yet despite lacking the epochal character of the other great conferences of that year, this agreement does mark the recognition of a de facto standard of recording economic transactions within closed tabular accounts which will come to have a significant impact on the figuring of the international.

It is perhaps worthwhile spending some time analysing Denison’s recollection of the meeting. A caveat must first be made, however. Since Denison’s account is so schematic (it takes up a total of 19 pages) any conclusions drawn from it would seem to require further empirical verification. Accordingly, additional substantiation will be offered when the initial formation of the national accounts is examined in the sections below.

Getting back to Denison’s reminiscence, he notes that conference participants recognized that the national accounts served a specific purpose:

“a set of accounts that portray in summary form transactions in the national economy and *facilitate analysis of its structure and development...* to minimize the importance to be attached to any single series, such as national income, and to emphasize the *interrelations* among various sectors of the economy (1946, p4, my italics).”

⁴ Just what these problems and who these users are is not clearly specified.

The principle notions to highlight here are that the national accounts permit the economy to be visualized as an interlinked system, one that is, moreover, amenable to intervention provided that that intervention is both targeted at the appropriate sector of the economy and with a correct understanding of its interrelationships. More on this later...

Nevertheless, despite the stated importance attributed to interrelationships between sectors, when it came to substantive discussion it was the aggregates themselves⁵ rather than their interrelationships to which “the greater part of the sessions was devoted (Denison, 1946 p5).” There are significant implications to draw from this. In the first place, and accepting for the moment that each national economy can be considered as systemically autonomous, taking the character of national interrelationships as more or less a common given implies that national economic systems are equivalent in structure if not in size for the purposes of measurement. Systemic differences in economic structure does not emerge as a significant issue since all states are viewed as occupying a common, if partitioned, economic plane.⁶

Secondly, since comparable aggregate measures at the national level formed the crux of debate and ultimately measurement, it is aggregate comparison (rather than, for example, degree of international interdependence) which delimited what was made internationally visible. The international emerges as a space between these otherwise autonomous aggregates, an arena in which economies can, at best, *interact*, rather than constituting a place through which, for example, economic systems *interconnect*. The international is decidedly non-economic, an absence rather than an active presence

⁵ Denison (1946, p5-7) notes that agreement was reached on 7 of these measures: Gross national product and national income, Income and expenditure for individuals, Consolidated profit and loss for private industry, Government, Savings, Financial institutions, Foreign.

⁶ This will come to have an impact on development policy (as we will show Chapter IV).

insofar as the structural logic of the economy is concerned. When taken in conjunction with the first implication, relative size and growth levels in those aggregates, whether it be in savings rates, consumer expenditures, government debt, or the balance of trade and investments, would appear to be the primary and most significant indicators to measure for the purposes of assessing policy vis a vis other states.

Finally, while one might have expected that the Foreign Account would have received more attention at an international conference (particularly in a wartime context where Lend-Lease and massive international movements of troops and resources took place), Denison notes that “this account was not given much attention at the meetings (1946, p6).” In fact, explicit discussion of the Foreign Account takes up only two sentences in Denison’s recollection. In part, the issue of the international flow of capital, income and product is gerrymandered for the purposes of National Income by including in the definition of residents “persons temporarily abroad (1946, p7),” but not the “foreigners employed abroad (1946, p19, note 12)” by those same residents. National economic cohesiveness is preserved by expanding the territorial net outwards in a very selective fashion even if it means that some of the factors of production are excluded from measurement.

The rest of Denison’s narrative is concerned with definitional and accounting specifics (how to treat consumer and government debt, payments in kind, etc.) that are of less direct interest insofar as the international is concerned.

To sum up the argument that has tentatively been made thus far, the type of national accounting framework that emerged from the nineteen forty four Agreement played a significant role in delimiting to the state level the realm of what was viewed as

economically governable, with the international emerging as an empty space between autonomous units.

Of course, it is possible to object even to this initial position by arguing that statistical developments were merely reflecting the domestic political realities (above all a concern with budgetary resources) that participant governments were facing at the time. Moreover, if economic transactions took place largely within state borders, then why would statistical measures not be developed with that in mind? However, these simple assertions can be challenged by recognizing first that modern national accounting does not aim simply at a budgetary figure but (as we will see) at the characteristics of supply, demand, production, savings, and investment. Perceiving this would seem to require a greater degree of openness towards the flows characterizing what we take to be economic behaviour, one that is not a priori limited to territorial borders. Moreover, given that certain areas of the national economy might be more tightly integrated into certain areas of other national economies than to each other⁷, the homogenizing effect of national accounting is perhaps not the most economically self-evident. Finally, when inquiring into whom the “users of national income statistics” for whom Denison suggested comparability was required might be, one such user, the Combined Production and Resources Board, has concerns that are decidedly international in scope.

Combined Production and Resources Board

As noted, the nineteen forty four Agreement produced no formal declarations and little published documentation. Assessing the impact of national accounting through that Agreement alone is, therefore, rather tenuous. However, contemporaneous developments

in the Combined Production and Resources Board (CPRB) offer a glimpse into the milieu in which that Agreement transpired. For its part, the CPRB relied upon and made comparable data produced and derived from the separate national accounts as well as from other national statistical surveys. Accordingly, it offers a window into the impact that national accounting had on policy formation.

Formed in 1942 in the crucible of a united international war effort,⁸ the Combined Production and Resources Board was instituted to, according to its Charter, “combine the production programs of the United States, the United Kingdom, and Canada, into a single integrated program, adjusted to the strategic requirements of the war (CPRB, 1942, quoted in Rosen, 1951, p137).”⁹ Although different departments in the respective states understood this Charter differently, for the American War Production Board, at least, this implied a mandate “to carry on long-range planning on the international scope...to review, revise and combine the national plans so submitted into an integrated combined program (War Production Board, quoted in Rosen, 1951, p140).” The CPRB thus fits into the architecture of planning – albeit in this case on an international rather than a national level.¹⁰

To situate the CPRB in its appropriate place it needs to be stressed that planning here was done in the context of the collective war effort and the management of scarce resources. To most effectively prosecute the war as a united endeavour, each national economic situation had to be made clearly known in order that bottlenecks, scarcities and

⁷ Windsor is arguably more closely integrated with Detroit than it is with Charlottetown, for example.

⁸ Much of the information on the CPRB that follows is derived from Rosen (1951).

⁹ The CPRB was never able to effectively carry out this mandate due to power struggles with other institutions as well as disagreements over its power to co-ordinate. In a sense, however, this is irrelevant to the argument here. For the purposes of this paper, the point is to outline the terrain of what was viewed as possible and how the possible was to be rendered into the actual.

¹⁰ In this respect it is perhaps significant that Jean Monnet, often called the father of the French National

superfluities in the production of scarce materials could be rationalized between the collective economies. Initially, this meant that the Combined Chiefs of Staff would establish the material objectives towards which planning was required while the Board would determine just how those materials could be produced and allocated most efficiently (Rosen, 1951 p142). CPRB recommendations would subsequently be implemented through the various relevant national agencies.

Notably, and as a partial result of institutional competition for influence and direction,¹¹ the practical gamut of planning/measuring evolved to concern itself with more than just the production and allocation of scarce war-related materials, but also to include questions of how far civilian consumption could be curtailed in order to facilitate war production and ultimately to production concerns which were not directly related to war requirements but to matters of reconversion and relief (Rosen, 1951, p160).

Stepping back somewhat, the original Charter suggested an integrated form of planning that would have required a comprehensive knowledge of the economic transactions taking place in each of the participant states. Accordingly, in order to implement and realize this broad objective (and once the Board oriented itself away from specifically military issues),¹² an attempt was made to map out the production process in some detail. What this required was that existing measures of economic production, which up until this time had been separately gathered by national accounting agencies

Plan, initiated discussion towards a Combined Board in 1941 (Rosen, 1951, p131).

¹¹ Much of Rosen's account is dedicated to showing how the various combined boards dealt with crises of institutional competition and ambiguous mandates. In the case of the CPRB, institutional competition was most pronounced in the case of relations with the Armed Services, who were reticent in providing the CPRB with their strategic requirements. As such, the Board lacked "an adequate basis for the development of a properly integrated and realistic production program (CPRB, 1942, quoted in Rosen, 1951, p147)."

¹² Given competition, it is perhaps not surprising that the Board proved relatively ineffectual until its mandate was changed somewhat in 1943, to "collect and analyze production data of U.S., U.K. and Canada in order to maintain an up-to-date over-all picture of production potentials as measured against

according to varying standards and definitions, be made comparable and combinable on an international level.

So what did this standardization, so necessary to inform an “integrated combined program,” look like?¹³ An interrogation of the CPRB’s *The Impact of the War on Civilian Consumption*, a Report concerned with measuring the war’s effect on consumption levels in the United States, the United Kingdom, and Canada, is illuminating in this regard. The Report lays out its objectives as follows:

“to provide objective measurements on a basis that affords fair comparisons between countries...these facts will contribute to a fuller understanding by each country of the circumstances and accomplishments of the others, and that such an understanding is essential to a combined approach to their common problems (CPRB, 1995, p1)”.

In order to situate the Report’s conclusions on the common economic problems which the three countries faced, it is first necessary to outline just how the economy has been constructed for its purposes. Since the Report is not explicitly a work of theory but of policy, this requires an examination of two areas: the basis on which the individual “objective measurements” like “exports” (Table 6), the “number of persons per dwelling unit” (Table 26), and the number of pairs of shoes per person per year (Table 25) are deemed to relate to broader macro-economic concerns like “consumer purchases (Table 12),” “national income (Table 8)” and “net nonwar capital formation at home and abroad” (i.e. net change in national wealth) (Table 9). Secondly, it requires determining how those larger measures are deemed to relate to one another. In this regard, it is clear that the Report is relying upon a national accounting framework which recognizes the

requirements, military and *non-military* (CPRB, 1943, quoted in Rosen, 1951, p159, my italics).”

¹³ Here the specifics of standardization (i.e. what was changed from reported U.S. figures, U.K. figures, etc.) are of less significance than the character of the resulting statistical system itself. Appendix XII in

aggregative and interdependent nature of statistical measures (like income, consumption, and wealth), and of the systematicity of the economy that those measures are taken to represent. By way of illustration, consider the following statistical equation that is drawn in the Report: “Consumption = Gross National Product + Goods and services received from abroad [imports] – War Product – Goods and services sent abroad [exports] – Domestic gross capital formation (p5).” With the mathematical relationship between aggregates established, policy recommendations can be developed on the basis of a manipulation of the appropriate term. For example, “if a country can increase its total product plus goods and services received from abroad, it can expand its war product by an equivalent amount without contracting its consumption, exports, and capital formation (p5).” There is a recognition here of the malleability of the economic system to directed action. In terms of international planning for the war effort (although it is not directly suggested), increased exports from surplus countries seems the logical correlate to this equation.

It is also from within this equation that the limitations of the Report for developing a “combined approach to...common problems” can begin to be seen. The equation is closed off at the national level both by defining consumption, product and capital formation in national terms, and through the inclusion of exports and imports as separate categories. What this means in terms of measurement is that data is collated on a national basis rather than in terms of its economic function. This territorial division is graphically reinforced by the manner in which the data is presented: statistical observations are grouped in a tabular form, where each state’s relevant measures are presented side by side in vertical columns. Any production between nations is visually

closed off by thick black lines.

It should be noted that the authors are to some extent aware that the data they are offering for the Report is limiting when it comes to direct international comparison. As they put it, “comparisons of consumption levels in different countries are almost inevitably subject to a larger margin of error than comparisons between different years for a single country. The methods and definitions used...are seldom identical...it is seldom possible to make any allowance for differences, which may be substantial, in the average quality of things which have the same name (CPRB, 1945, p135).”

Comparability is further limited by the fact that data, where not presented in physical units (as is required when combining different physical quantities into an aggregate measure such as civilian consumption or national income), is usually presented in terms of dissimilar units i.e. the local currency of the state in question. Where direct intercountry comparisons of aggregate levels are attempted¹⁴ the difficulty in making the currency values in one state comparable with those in another, combined with the problems already noted, result in a stated margin of error of +/- 10 per cent (CPRB, 1945, p135).

Nevertheless, what is significant to note here is the form that critical commentary on these acknowledged shortcomings takes. Specifically, criticism is contained within the boundaries of the accounting framework rather than being directed at those boundaries themselves. Recognition of the limitations of the data with respect to quantitative and qualitative analysis evokes, both in the report itself and in later commentary, a concern with establishing either a more refined common definition for the

¹⁴ The report notes in Appendix XI's “intercountry comparisons of levels of per capita purchases” that per capita purchases in the United Kingdom were only 80-90 per cent of those in the United States (CPRB).

category in question or a more acceptable purchasing power parity weighting, rather than with the adequacy of the data collation method itself.¹⁵ In other words, the accounting framework delimits what type of solution to recognized problems the policy apparatus is looking for – a more precise unit of measurement rather than, for example, the explicit economic function of national borders or the specific patterns of economic production and consumption internationally. This concern with generating a common international unit is reflected in a number of later intergovernmental studies. The form that these solutions takes, as will be demonstrated in Chapter III, is itself indicative of how the international is being figured.

While the above might not present such an obvious problem to “national planning,” its limitation to international planning should be apparent.¹⁶ In the first place it largely limits the analysis of international interactions to the simple exchange of goods and services as recorded in the columns “imports” and “exports.” Thus the Report suggests that “while cutting exports involves problems for the future, the exporting country can make such a cut without immediate hardship to its people (CPRB, 1945, p12).” Recommendations emerge from the point of view of each country rather than on the basis of reciprocal impacts.

1945, p135)),

¹⁵ See, for example, Copeland et al (1947), which goes into the methods used to generate interspatial comparisons for the Report as well as some of the problems associated with them. Copeland was one of the authors of the CPRB Report. They also note the effect that different price structures could have on the validity of international comparisons (p145) but do not discuss the issue at length.

¹⁶ As Fourquet (1980) demonstrates (see Miller (1986) for an English summary), national accounting and economic Planning were able to successfully overlap in France following World War II. Specifically, a conscious political orientation towards modernization and growth was reflected and mapped into the categorical divisions in the French national accounts (as opposed to the British national accounts where a concern with Keynesian management and full employment dictated the categorical divisions (Miller, 1986, p95)). For our purposes, the key to observe about Fourquet’s argument is that the goals of National Planning were commensurate with the existing national accounting structure – at the international level such political goals could not be so easily mapped onto the existing tools as they were located on a different territorial terrain.

So what does all of this mean for the Report's conclusions? There were fourteen conclusions reached by the authors (CPRB, 1945, pp1-3). These can be broken down into three categories as follows:

1. National level - Two of the conclusions were situated solely at the national level in that they were concerned with relative changes in consumer purchasing levels per capita within a given state over the course of the war.

2. International comparison of national aggregates - Eleven of the conclusions were constructed in the form of international comparisons (either direct or indirect) of aggregate changes within each state for a variety of measures.¹⁷ The international emerges here as no more than an empty arena for the comparison of separate national processes. Various national ratios can be offered up side by side or in terms relative to one another, but meaningful international processes cannot. As such, this would seem to permit, at best, an ad hoc adjustment of international planning targets to deal with local shortages through increased exports/imports, rather than an integrated planning of production itself.

3. The international level as a common presence - Only one conclusion treated the three states as being part of a common international process in the sense that each

¹⁷ "physical volume per capita of consumer purchases," time and magnitude of the "war's impact on consumption," ratio of war product to GNP, impact on national wealth, reasons for why consumer purchasing levels changed at different rates in the three countries, relative favourability of the war's impact on consumption, areas of consumption which were impacted differentially in each state, areas of consumption which were commonly affected in each state, common areas where services were affected, common local shortages, common categories where consumption increased in each state.

economy had a structural impact on the operation of the others. Hence conclusion six notes that “the war products of the three countries were to some extent complementary...the United States was able to contribute munitions somewhat more than in proportion to the size of its population; the United Kingdom had a considerably higher proportion of its manpower in the armed forces...and was enabled to do so partly because of contributions of food, raw materials and munitions from Canada and the United States (p2).” However, little more is said about just what this complementary relationship suggests about international planning.

When the above observations are taken together, the question naturally emerges as to what type of “combined approach to...common problems” the information provided in the Report provides. Does it enable the Board to make recommendations commensurate with its stated combined planning objectives given that it constitutes an environment where consumption, production, and ultimately the impact of policy could only be determined on a comparative relative basis? Can its equations, underpinned as they are by national accounting statistics, facilitate planning objectives that are not so territorially restricted?

More generally, the preceding evokes the questions of how and why it came about that national accounting measures came to constitute the taken for granted means for viewing and controlling economic transactions when a statistical model revealing reciprocal links and international economic commonalities might have been as appropriate for the circumstances. To say this is not just retrospective wishful thinking:

there were a number of alternative ways of constituting economic space in existence at the same time, both methodological (Input-output accounting)¹⁸ and territorial (the South East Asia Co-Prosperity Sphere being one notable example).¹⁹ To answer these questions, we will digress into the emergence of national accounting before returning to the CPRB and international planning.

The birth of the National Account

There is a growing body of literature focused upon the emergence of the national accounts in the first half of the 20th century. This literature can itself be divided into a majority that can be characterized as positivist and evolutionary in tone, and a minority that treats the national accounts in terms of their constitutive role in establishing the national economy as a governable object. Both sides have a different focus when it comes to explaining why and with what effects the national accounts emerged. Visiting the orthodox historiography first, a number of authors have been identified as the initial fountainhead, ranging from Colin Clark (Stone, 1951),²⁰ to Irving Fisher (Kenessey, 1994a),²¹ to Richard Stone and James Meade (most), to John Maynard Keynes (Ruggles,

¹⁸ In this light, it is perhaps significant that Input-output accounting was rejected by central parts of the US government until the 1960s because of its perceived association with central planning (Kohli, 2001 p207).

¹⁹ This is not to suggest that there were regional accounting frameworks in existence in Japan at the time, only that the parameters of the economy in thought were not necessarily national. In fact, in a recent article, Suzuki demonstrates the deliberate dissemination of the Keynesian accounting framework after the war by certain individuals in the American occupying force, a dissemination which ultimately constructed “a new economic regime (2007, p267)” in many ways commensurate with the “national economy” that we are discussing here. We will explore some of the alternative limits to the quantitative imagination in Chapter IV.

²⁰ Stone calls him “one of the key links (cited in Cairncross, 1988, p21)” since “in his book [*National Income and Outlay*, 1937] the emphasis is not exclusively or even mainly on the National income, but on this in relation to other economic flows (Stone 1951, p83).”

²¹ “It seems justified to place the ‘intellectual fatherhood’ of the idea of double entry accounting for purposes of national income, product, and expenditure into America, where this idea apparently grew out of Irving Fisher’s work at the beginning of the century [*The Nature of Capital and Income*, 1907], and was expounded by Morris Copeland and Robert Martin in the 1930s (Kenessey, 1994a, p116).”

1995).²² Rather than quibbling over who was the first to commit national accounting ideas to paper, suffice it to say that there is a general recognition that there was a qualitative shift in economic analysis with the emergence of the national accounts (in contrast to national income analysis) into the realm of official governmental policy in the 1930s and 1940s. There were, prior to this time, official statistical tables gathered at the national level for other “economic” indicators – Cairncross notes that “there was a vast flood, particularly of trade and employment statistics (1988, p12).” However, and as he goes on to note “these were not put together, added up, adapted for use, *intended* for use and published so as to *invite* use [italics in source].” In other words, while there were many separate national statistical aggregates prior to the 1930s, these were constructed for specific and limited purposes having no direct relationship to one another or any implied systematicity. National accounting offered a way of linking up these separate aggregates into a coherent system which would reveal the workings of the entire national economy and thereby facilitate its management.

On the question of why the national accounts emerged at this particular point in time, the “orthodox” historiography has a direct response: they emerged because they were required, both by “real world” events and by the intellectual pressures and consequent need for adequate operationalization that was generated by a continually more accurate economic theory. Here it might be effective to quote from some of the retrospective assessments made by various major figures responsible for the adoption of the national accounts. In the first case they were required by governments in order that they might formulate an effective response to the economic dislocations initially caused

²² “It is generally recognized that *Keynesian General Theory of Employment Interest and Money* set the stage for national income accounting (Ruggles, 1995, p241).” For a more in depth analysis of Keynes

by the Great Depression and World War II. George Jaszi, who was a significant figure in the development of the U.S. national accounts, puts it thus: “the very idea of income and product accounting, which emerged in the early 1940s, grew out of the practical needs of economic mobilization for World War II (Jaszi, 1976, quoted in Kenessy, 1994a, p113).” In the second case, they represented the logical culmination of theoretical and statistical developments long preceding the accounts themselves. As Richard Ruggles (who was instrumental in convincing the OEEC to adopt a national accounting framework) puts it, “national income accounting is a development of the twentieth century, but the concept of national income on which it is based has undergone a slow evolutionary development going back more than 300 years (1995, p235).” Accordingly, they were “an idea whose time had come (1995, p242).” Kendrick is more specific on the pressures created by economic theory in noting that newly developed macroeconomics “required national income and product estimates for testing and implementation (1972, p11).”

In general, the national accounts emerge in this narrative as part of an evolutionary process whereby society is able to, with increasing accuracy, represent an external economic world with objective statistical measures. While not complete and certainly not without their failings, the accounts are nevertheless subject to continual “improvements (Kendrick, 1996, p2).” They provide a measure of the economic world that enables policy makers to intervene with a degree of precision and command which would otherwise not have been possible.

Having defined how “orthodox” approaches view the emergence of the national accounts, it is now requisite to establish the manner in which “unorthodox” or critical approaches view the same empirical archive. Here a caveat must first be made: the

national accounts per se are usually included in the following as only one element in a multifaceted process of change. That said, the difference between the historiographical approaches is perhaps best highlighted by noting, in general terms, the main objection to orthodox treatments of these types of measures:²³ There is a degree of presentism associated with the orthodox literature – one which assumes the existence of a “national economy” throughout the archive of historical thought and practice, and which waits impatiently for that reality to be fully recognized in the numbers. With the development of the national accounts, numerical strategy finally catches up to social reality. In other words, for the orthodoxy, the materialization of the national accounts was simply a matter of knowledgeable men (it is always men in these narratives (Waring, 1988)) realizing the correct way to measure. As “natural” representations of something outside of themselves, they are not treated for the political processes involved in their construction, for the limitations/enablers that they contain in and of themselves, for their role in interpolating new objects and new problems. By way of contrast, the national accounts need to be examined for their role in constructing new objects which do not pre-exist our measures of them.

Consequently, while there is agreement that the national accounts represent a qualitative shift in both the orthodox and critical literature, it is the nature of the shift that is in contention: whereas the histories of Kendrick, Ruggles, and Kenessey associate this shift with a change in the accuracy of measurement and the degree of governmental control permitted over the economy, in the “critical” literature the national accounts represent an epistemic shift, an alteration in the way in which the social terrain can be

²³ This is the general logic that can be extracted from Suzuki, G. F. Thompson, Mitchell, Miller, Fourquet, etc., since they rarely directly confront the standard historiography on national accounting.

thought about, known, acted upon, constructed. The shift, therefore, is more fundamental. It is not a question of an evolutionary movement towards a more accurate way of apprehending an already existing object, but of the construction of new objects, a new terrain for the application and orientation of political action.

Naturally there is some difference of view in terms of what exactly the national accounts helped to construct. Moreover, there is not complete unanimity in terms of the temporal span and scope of the epistemological change that the national accounts represent. Drawing upon the “critical” works that I have examined, Suzuki’s offers the most detailed analysis of the emergence of the national accounts in his association of them with “the social construction process of the macroeconomy in the sense that currently presumed, *prima facie* objective and popular profiles of macroeconomies were once actively figured by a handful of academics in a specific historical context (Suzuki, 2003, p473).” In this case James Meade and Richard Stone set out to intentionally realize and propagate Keynes’ statistical equations in an accounting framework which would subsequently take on a visual, objective, and self-evident quality. G.F Thompson, for his part, suggests that focusing on “graphical methods” in and of themselves “enables us to approach visualization (in its multifarious forms) as constitutive of a reality rather than as a mere reflection of it (G.F Thompson, 1998, p286).” Accordingly, he discusses the role of the national accounts in visualizing and thereby constituting a Post-Platonic economy over a 300 year period. They contribute/emerge as part of the modern episteme where representation (“the new statistical signs are referential but arbitrary connections which stand for definite things”), rather than resemblance (where “in each microcosmic manifestation of the world is a respective mirroring of the macrocosmic order, and vice

versa (1998 p308)”) comes to delimit social reality.²⁴ For Mitchell it is also the economy, “referring to the structure or totality of relations of production, distribution and consumption of goods and services within a given country or region (Mitchell, 1998, p84)” that is being realized as a new “discursive object (1998, p88),” with the relevant period being the 1930s-1950s.

As for why they emerged when they did, there is no generalizable answer. Being constitutive rather than representative, the origins of the national accounts cannot be traced to some more fundamental requirement. Even if conditions like the Great Depression and World War Two created pressures for governmental intervention, the exact form and content of this intervention is not directly suggested by the context. After all, there were other global wars (Napoleonic, World War I) and depressions (1873-96) that did not result in similar measures. Thus Suzuki focuses upon the pragmatic and politically deliberate, rather than economically reflective, efforts of Meade and Stone: “Concerned that the publication and appearance of accounts would have influenced public acceptance of Keynes’ economic policy, accounting terms were carefully selected and negotiated (Suzuki, 2003, p490).” G.F. Thompson, in noting the existence of pre-Keynesian national income analysis and in thus minimizing Keynes’ role, suggests that “the principles behind the construction of the accounts are thus pragmatic, technical and driven by institutional expediency (1998, p313).” Mitchell, for his part notes the “crisis of representation,” itself a discursive condition, caused by the decline of the gold standard (1998, p88).²⁵

²⁴ Thompson (1998, p294) realizes that there is an analytical tension in his account “between the general mechanism of the episteme and the particular manifestation of accounting practice,” but suggests that it is best to “let the tension remain (p321).”

²⁵ Although just how this constitutes a broader crisis of “the forms of social order and collective identity

In summation, for the “critical” historiography, and for the purposes of this Chapter, the national accounts do not per se represent a case where a more accurate governmental intervention into the economy has been made possible, but the emergence of new objectives, techniques, and orientations towards governing.²⁶ What emerges is a new “economic” mode of governing at the national level rather than a more accurate appreciation of an already existing economic reality. When we examine the specifics of the national accounts below, some of the more political (rather than strictly speaking “objective”) governmental objectives will be made apparent.

Making the National Accounts Speak

It is one thing to discuss what has been said about the general significance of the accounts and another entirely to examine what the accounts themselves say. So what exactly do the national accounts declare? Here it is necessary to be somewhat selective in the literature that is chosen for examination. There were many studies on national income analysis written between the 1920s and 1940s, not all of which are saying the same thing insofar as what is to be measured and how (Flux; Copeland; Kuznets). Nevertheless, with a selection criterion of explicit international influence, it is the works of Richard Stone that most merit assessment. This influence is manifest both in literary and in personal terms. On a literary level, and as noted by Comin, “the consensus is that the Meade and Stone 1941 essay represented a watershed in the literature of national accounts. While the previous focus on measurement criteria had been on the reliability of individual series, Meade and Stone put forward the idea of considering all series together

dependent upon them (Mitchell, 1998, p88)” is not made clear.

²⁶ In some senses it is perhaps more appropriate to suggest that they permit a more precise intervention

in a logical way (Comin, 2001, p218).” On a personal level, Stone was active both nationally and internationally: he was instrumental in devising the national accounting framework adopted by the British government in its 1941 White Paper delimiting how it was to finance the war, was a participant at the 1944 conference already discussed, and was a significant figure in the construction of standardized national accounting systems for both the OEEC and the United Nations. We will return to the personal and institutional centrality of Stone in the Post-Script.

As already noted, Tomo Suzuki has written a detailed excursus on the specific theoretical and political motivations permeating Stone’s general accounting framework. Specifically, he illustrates the direct and intentional relationship between Keynes macroeconomic identities and Stone’s national accounts, where “Keynes’ identities came to be embodied in the balancing accounting tables, and that accounting data came to be published as the official and most authentic picture of the economy (Suzuki 2003, p506).” By way of proof he examines, among other of Stone’s writings, the 1941 White Paper on war finance, which contains a series of explanatory tables roughly corresponding to the identity Y (national income) = C (consumption) + I (investment) + G (public expenditure) (2003, p486). Having been embedded in this “objective” numerical form and subsequently proselytized by Stone via the above noted international fora, this macroeconomy came to emerge as a taken for granted truism describing what the economy actually was rather than a contestable explanation of how it functioned (2003, p506). Accounting was a powerful rhetorical tool for persuading the public of the truth and objectivity of the Keynesian macroeconomy (2003, p507).

Given Suzuki’s extensive analysis of Stone’s personal and professional writings,

albeit not necessarily a more accurate one (Morgan, 2001, p243).

there is little need to review the same literature here. Instead I will examine one specific and influential document which Suzuki largely overlooks as a way of illustrating many of the same themes that Suzuki covers. That said, Suzuki's account is itself not complete. He is primarily interested in demonstrating how the macroeconomy was rendered visible and objective through accounting. The questions of why the macroeconomy was constituted in a specifically territorial (and therefore not specifically "economic") framework, of how the international is subsequently figured by this delimitation, are not elaborated. It is these two threads that, by contrast, will be my ultimate target.

Let us begin, therefore, with the "watershed" 1941 essay *The Construction of Tables of National Income, Expenditure, Savings and Investment*. Some context on the statistical "shortcomings" being addressed by Meade and Stone should first be provided. Prior to its being quantified into an accounting *system*,²⁷ there were three primary ways of calculating the size and composition of the national economy: by an aggregation of income, of expenditures, or of the output of producers.²⁸ While each method relied upon and "revealed" different aspects of economic practice, such studies were largely directed towards obtaining a total quantity – the absolute size of the national economy. Meade and Stone, for their part, have a different objective. For them the point of national income analysis is not exclusively to obtain an aggregate sum total – it is equally important to reveal the economic processes taking place beneath the aggregate figures. That being the case, which specific method to use in calculating the national income is not the significant issue. Rather, and given that "if the terms in the three...are properly

²⁷ Note though that there were other national accounting systems being developed concurrently (Tinbergen in the Netherlands, or the Soviet Material Production System, for example), although the Meade and Stone system was the most influential internationally.

²⁸ See Studenski (1958) for an exhaustive description of the history of national income analysis.

defined, the three totals...must balance (Meade and Stone, 1941, p217)” the inclusion of all three methods within a comprehensive accounting system can provide information of greater utility than the aggregate sum itself. For Meade and Stone, including all three would “serve the dual purpose of presenting the estimates in a form which is of most interest to economists and which enables the maximum amount of statistical cross-checking (1941, p216).” In other words, recognizing the equality of income, expenditure and output allows for the development of a statistical system which is more useful and subject to greater statistical verifiability in terms of the totals.

It is perhaps significant to note here that one of the primary purposes animating their project is to make national income analysis of greater utility to economists rather than with the accuracy or strict correspondence of their definitional and statistical structure with economic “reality.”²⁹ Clearly the orientation here is towards a method of enabling policy formation and governing rather than with dispassionate positivist analysis of existing economic data. In part this can be seen in the lack of quantitative evidence or detail provided. What is offered is at best a framework for analysis – for example, the 1941 White Paper contains only 5 pages on national income and expenditure while the Meade and Stone paper contains only 17 – rather than an exhaustive empirical proof that the method is, in fact, the correct one into which the datum should be sorted. A later personal letter by Stone reinforces this conclusion: “it has always seemed to me that in national income and expenditure work where the true values of the variables must satisfy

²⁹ In a sense one might suggest that an accounting framework is only successful to the extent that it meets the demands and assumptions of its audience – whether economists or government planners (see note 18 on the rejection of the Input-Output method due to a fear over its possible use for socialist planning). Having said this we must beware a totally instrumental viewpoint here in two senses: 1. That the interests of the users entirely preexists the mathematical definition of the problem. 2. That acceptance of the method is totally top down rather than distributed through a network that itself can modify the contents.

certain definitional equations it would be desirable to adjust the observations actually obtained so that these equations were exactly satisfied (Stone, 1949a, quoted in Suzuki, 2003 p485).”³⁰ We will return to this concern with governing shortly.

Getting back into its specifics, the accounting system Meade and Stone are suggesting takes the form of five interrelated, “cross-referenced” tables. Each table is itself divided into two or three columns whose sum totals must (definitionally) balance. These include tables on the aggregate size of the national economy, itself divided into three columns separately recording income, output, and expenditure (Table A); the disposition and distribution of personal income, where personal income must equal personal consumption plus savings (Table B), the source and use of savings, where total savings equals investment plus the budget deficit (Table C), the balance of payments (itself given only a brief explanation) (Table D), and the aggregate size of domestic capital investment (Table E). Totals in any table can frequently be derived by rearranging items from other tables: “if item 5 of Table C is properly defined, Table C is simply a rearrangement of certain items of Tables A and B (Meade and Stone 1941, p222).” There is an additional division cutting across the tables, as the tables are themselves populated by three different types of economic agents, or sectors: “government, business, and persons (1941, p230).” Taken together this allows the tables to reveal, according to Meade and Stone, “the inter-relations between the income, expenditure and savings of these three parts of the economy (1941, p230).”

One observation can be made immediately: as Suzuki notes with respect to the 1941 White Paper, it is clear that Keynesian macroeconomic identities are embedded into this national accounting framework: income, expenditure and savings are linked together

³⁰Suzuki also notes this concern with governmental utility over economic truth (2003, p506).

through the identity savings = investment (Table C). The framework represents a translation into the language of accounting the, at times, non-mathematical language of Keynes. Since the relationship between Keynes and Stone has been so thoroughly covered by Suzuki, we will leave it at that.

The second immediate observation is the absence of any meaningful measure for international economic activity. International economic activity is recorded as something taking place between two otherwise self-contained units. Thus the table most directly relevant to international flows of income and product, Table D, is constructed from the point of view of the balance of payments between national economies (where “Income generated by Receipts from Abroad” must balance “Total Current Expenditure and Investment Abroad”) rather than on the basis of the character of those economic interactions. A balance implies two separate sides pivoting on a single point – there is no room for interdependence in such a rendering.

Furthermore, while Meade and Stone suggest that “if a form of tables of this kind could be generally accepted, international comparisons of national incomes would be greatly facilitated (1941, p216),” this suggestion is at best incidental to their entire argument.³¹ There is no explanation as to why such comparison would be a useful aim or what it would reveal.

Since we have already covered (when we examined the CPRB) the effect on the construction of the international precipitated by this type of accounting system, we will instead take the opportunity here to examine some of the definitional choices that are embedded into the accounts. Here we will again turn to Suzuki (2003, pp 485-498) as he

³¹ Significantly, while the 1941 White Paper was designed to articulate the British economy, the 1941 article suggests that the general framework is one that is potentially applicable to all states.

has already listed several of the “political” (rather than strictly speaking “objective”) decisions implicated in the accounts. In the first place, the Unit of Account in which the national accounts are denominated is a monetary unit. There are other ways of denominating aggregate value than currency: for example, using “labour hours [to represent] the true value (Suzuki, 2003 p488).”³² Suzuki suggests that this was done intentionally by Stone in order to, in part, relate the accounting system to governmental war finance needs (2003, p488). The second political decision Suzuki notes is the accounting period. The economy is calculated on a year by year basis although there is no economic necessity associated with this choice: “the economy is a continuous process of change and development over a period of time rather than as a representation of collated facts at any one point in time (2003, p488).” One need only recollect the Five Year Plans of the Soviet Union to visualize an alternative (albeit one that still relies on temporal segmentation). The year by year segmentation is clearly related to the period over which the government budget is calculated (2003, p488). Finally, Suzuki notes that the choice of “sectors” into which data should be grouped is itself somewhat arbitrary. In fact, in the 1941 article we have already examined, Meade and Stone explicitly recognize that the division of the economy into three parts is problematic when they note the case of “clubs, charities, trade unions, etc. – which are neither Government institutions nor business institutions (Meade and Stone, 1941, p230).” However, they defer the issue by noting that it would cause “unprofitable complications of the Tables (1941, p230).”³³ They further suggest that “it is convenient to treat such institutions merely as a channel

³² See also Waring (1988), who suggests that time-use is a more effective measure of developmental value than monetary increase.

³³ A theme that recurs repeatedly when the scientificity of these types of quantitative measures is subjected to critical commentary – See Chapter III on this.

through which persons receive and spend income (1941, p230),” even though a similar comment was made at the time by Simon Kuznets with regards to government expenditure as a separate category (Kuznets 1936, noted in Suzuki, 2003 p489).” For Kuznets, government expenditure in such areas as policing and the military should be treated as a cost of generating welfare rather than a figure to be aggregated into the sum national accounting total (Seers 1976, p194).³⁴ In any event, the division of the accounts into separate sectors appears largely to be a political decision related to control rather than one that is, strictly speaking, mandated by the economic facts. As Suzuki notes, designating the government as an autonomous economic agent serves a useful Keynesian function as it provides “an implicit legitimisation of the active role of the econocrats in social management (Suzuki, 2003, p489).”

There are further observations that can and have been made about this type of accounting framework. For example, Marilyn Waring has demonstrated, in an examination of the Meade and Stone inspired United Nations System of National Accounts, the politics of overlooking that is embedded in national accounting of this form. As she puts it “economic production covers the whole range of human activities devoted to the creation, with limited resources, of goods and services capable of satisfying human wants...The National accountants choose which transactions – of all the exchanges taking place – are deemed production (Waring, 1988, p58).” In this case, the system assigns a value only to particular types of production. As Waring notes, what is measured and assigned value is the work that men have traditionally performed, work in the formal economy.³⁵ Left unrecorded is the work being performed in the non-formal

³⁴ Seers (1976, p194) notes that to include it would result in “duplication.”

³⁵ A value is also imputed to certain activities and objects that do not take place in the market – such as an

sector, work in the household such as food preparation, child-rearing, drawing water, etc, work that has traditionally been performed by women.

While this work is unrecorded in the standard system of national accounts, this is not to say that it is economically insignificant: the unrecorded contribution of “women’s work” to global GDP has been measured by the UNDP as high as \$11 Trillion (UNDP, 1995).

Moreover, as Hoskyns notes

“Biological reproduction; unpaid production in the home (both goods and services); social provisioning (by this we mean voluntary work directed at meeting needs in the community); the reproduction of culture and ideology; and the provision of sexual, emotional and affective services (such as are required to maintain family and intimate relationships). These are all elements contributed to the economy and society in general by the household and the community. They are mainly contributed by women (Hoskyns, 2007, p300).”

Nevertheless, these sorts of activities are not assigned a magnitude in the national accounts.³⁶ It is questionable whether the economy (as we normally use the term) would be possible were it not for the unrecorded services being provided by unrecorded actors.

In essence, then, there is a certain sense in which Meade and Stone’s national accounting system is patriarchal. The numbers reflects a socially entrenched disregard for women and the types of roles that they have traditionally played.

Nor are women the only actors rendered invisible: there is also a significant literature examining the consequences associated with rendering environmental costs opaque in the national accounting system (Waring, 1988, Lintott, 1996).³⁷ For example, where pollution or carbon dioxide have no cost associated with their production, the national

imputed rental value for owner-occupied housing.

³⁶ Although there have been more recent efforts to establish a numeration system for “women’s work” and the environment. UNSNA 1993 contains provisions for how to construct “satellite accounts” for these areas. We explore this further in Chapter V.

accounts may show an increase in national income (with its implicit positive connotations) even while the health and sustainability of the environment is severely compromised.

The general point here, one that both Suzuki and Waring insightfully reveal, is that there were and are a number of contestable political decisions associated with the development of the national accounts. At least in the Meade/Stone formulation, the accounts were intentionally designed to facilitate the general acceptance of a Keynesian management of the economy. They made certain activities visible, rendered other activities invisible, and made numerous assumptions about what should count (to paraphrase Waring (1988)). Accounting is as political as it is mathematical – the notion that it is objective is itself ideologically infused.

Nevertheless, there are a number of political decisions that Suzuki and Waring do not cover that are ultimately of greater interest here. For example, while Suzuki notes that “the concept that dominated in macroeconomics before the 1960s was the national economy (Suzuki, 2003, p476),” he never explicitly targets the *national* economy itself. Since his target is “the emergence of the macroeconomy and macroeconomics (2003, p476)” this is not a logical shortcoming. However, it does beg the question of why “the geographical and political settings of political economics [including macroeconomics] were nearly always nation-based (2003, p476).” Why was an analytical system like the national accounts, one designed to give a picture of the workings of the economy, constrained within topographical borders? Why were Keynes’ macroeconomic identities overlaid upon a national territorial framework? While providing information for governmental budgetary purposes clearly played a role here, why was this territoriality so

³⁷ We will explore this further in Chapter V.

readily accepted by those economists and the general public who were not directly implicated in governmental management? Moreover, given that national accounting work extends beyond and before Stone to include figures who did not have an explicit or implicit Keynesian agenda (Kuznets, Copeland, Timbergen, etc.), why is it the case that nearly all of this work is similarly constrained? To some extent it is well accepted that Keynes represented the beginning of macroeconomics. But why was the macroeconomy constituted in a national territorial (i.e. non-economic) framework? Stone's desire to render Keynes theoretical musings objective via an accounting framework is not a sufficient explanation, especially when one notes that Keynes was himself relying upon the "national" data contained in prior national income estimates, data which pre-exists his system.³⁸ Macroeconomics is in many respects a creature of the same limitations as the national accounts, not their progenitor.

In a general sense the problematic elision of economy and national territory has already been cursorily investigated. For example, Cameron and Palan suggest that "there is no fundamental reason why the economy should correspond to the state (Cameron and Palan, 1999, p38)."³⁹ They note that it is possible to define an economy in spatial terms through "identifiable networks of interactions of particular types and/or centred on particular places (1999, p40)." For example, a municipal economy can be defined as consisting of an industrial urban core and an agricultural rural hinterland. However, the national economy is not defined in this economic way. Rather, the national economy is

³⁸ Howson notes that "Keynes proposals on *How to Pay for the War*...were illustrated with estimates of national income and expenditure based on earlier work by Colin Clark (pF128)."

³⁹ See also Bryan (2001), who suggests that in the era of Globalization we need to alter our accounting framework to better correspond with economic reality. Bryan (apparently coming from a historical materialist standpoint) sees a disjuncture between economic reality and our measures of it, one that "is leading systematically to reinforce the subordination of labor to capital on a global scale (2001, p57)." By contrast, this paper will query the conditions of possibility of "globalization" in the same way as for the

simply a re-description of territorial space in economic terms – the basis of the description is not a functional economic interdependence that happens to coincide with a particular geographic terrain, but of a territorial location which happens to have economic activities taking place on it. As they put it, the national economy “is by definition extended evenly over a particular two dimensional space described by conventional geographical mapping, demarcated by a border (1999, p40).”

Nevertheless, even Cameron and Palan’s description of the territoriality of the economy is incomplete as they do not explain how and why these territorialized economies came to be so descriptively persuasive other than noting the emergence of central banks and national currencies.⁴⁰ In fact, the territorial character of economic measures has a long history which predates any central bank. We can see it most explicitly in the three centuries of writing on national income analysis, an archive that, as we have noted, the designers of the national accounts explicitly drew upon.

It is with respect to this historical lineage that the territorial character of the national accounts can be understood – not in the sense of linear progression, but in the form of a discontinuous cobbling together of otherwise unrelated elements. To précis what follows in the next Chapter, while the territorial borders of the national accounts are implicitly related to economic spaces of production, the territorial borders in national income analysis are explicitly related to the political spaces of extraction. They were

national economy.

⁴⁰ An institutional rather than epistemic explanation. They also note that the correlation has as its legitimating rationale not an economic but an affiliational basis, the “imagination of the state as a national community (Cameron and Palan 1999b, p40).” The “national economy” is thus related to the demarcation of the nation “as constitutive of the social body (1999a, p274).” Given that the imagined character of the nation is itself not static, the “national economy” likewise has a mutable history of its own. Thus they note that “prior to the nation-state becoming the norm of socio-economic organization during this century, “national” economies were essentially located in urban centres and could encompass imperial territories far beyond the territorial boundaries of the metropolis (1999b, p41).” We explore the topographical limits and

formed in a different, non-economic, epistemic environment.⁴¹ It is the incorporation of this element of national income analysis into the national accounts that helps to explain the non-economic “national” character of economic measurement and ultimately the policy imagination associated with the national economy.

The CPRB and the UNRRA – From the International Production Plan to a Plan for International Relief:

It was noted earlier that the CPRB did not succeed in its original mandate to “combine the production programs of the United States, the United Kingdom, and Canada, into a single integrated program.” Its significance to the history of arts of international government does not end with this apparent failure, however. Rather, by 1944 the focus of the CPRB had shifted to (in addition to “tight” supplies of vital materials), “the prospect of substantial relief requirements in European liberated areas after the invasion, and the possible increase of non-war output at a later date – specifically, reconversion timing after the defeat of Germany (Nelson et al, 1944, quoted in Rosen, 1951, p165).” As such, the political-territorial domain in which policy was to be applied had both expanded from the original three states to many, and had shifted from the international planning of production, to relief and rehabilitation. It is not surprising therefore that a broader international organization was constructed to give voice to the many interested parties – the United Nations Relief and Rehabilitation Administration.

social character of the 19th century economy in Chapter IV.

⁴¹ See Foucault, Gordon, Tribe, for more on the epistemic context of this period. It is necessary to add a note on the use of the term economic and non-economic in what follows: these terms are being used as they are conventionally understood in the present. There is no essential economic and non-economic. Rather what is considered to be economic is historically variable. However, using the terms in this way serves the rhetorical point of demonstrating how “systems” of thought are not always systematic and coherent.

While the UNRRA would, via coordination with the directly affected parties, establish relief and rehabilitation needs, it was the function of the CPRB to make those allocations that it viewed as possible on the basis of existing supply (Rosen, 1951, p165).

In terms of its institutional ambit, the UNRRA was designed to facilitate the international allocation of vitally necessary food, raw materials, and industrial goods; to achieve an “equitable distribution of available supplies (Article 2(b))” in the context of post-war shortages. Since existing arrangements would favour those states that had adequate provisions of hard currency, an international body was set up with the capacity to purchase - based upon a contribution of 1% of the national income of those states who had escaped occupation (Weintraub, 1945, p15) - vitally necessary materials for those lacking the capacity to pay. The supplies could then, at least theoretically, be allocated on the basis of relative need.

Although some enthusiastic proponents saw in the UNRRA the first step in “an experiment in international planning with a view to establishment of a permanent international welfare organization (Weintraub, 1945, p2),”⁴² the parameters under which the UNRRA operated rendered the height of any potential ascent rather short. While the term Rehabilitation in its title could potentially have implied a very economically activist international administration (Weintraub, 1945), in its actual practice the UNRRA did not aspire to such lofty purposes. In effect, the agenda of the UNRRA gave it a mandate to facilitate the *coordination* of excess national supply rather than any integrated planning

⁴² Weintraub (1945, p19) qualifies his enthusiasm by noting that “the subordination of UNRRA’s activities to the authority of national governments implies the recognition of national sovereignty. It indicates an orientation toward international association rather than super-national unification.” President Roosevelt, in commenting on the Administration went so far as to suggest that “The sufferings of the little men and women who have been ground under the Axis heel can be relieved only if we utilize the production of ALL the world to balance the want of ALL the world (quoted in Fox, 1950, p584).”

of production:

“To plan, coordinate, administer or arrange for the administration of measures for the relief of victims of war in any area under the control of any of the United Nations (Article 2(a), UNRRA, quoted in Woodbridge, 1950, p23)”

“To formulate and recommend measures for individual or joint action by any or all of the member governments for the coordination of purchasing (Article 2(b)), UNRRA, quoted in Woodbridge, 1950, p23).”

The conceptualization of international economic interdependence contained within the UNRRA was thus limited to the realm of excess supply and demand.⁴³ There was recognition that international political control might be required to mitigate some of the more deleterious effects of international trade, but no suggestion that the dynamics of the economic were anything but immanent to the nation. In fact, given the character of national accounting data, international planning could not be visualized as an extension of national planning without extending the boundaries of the political-territorial unit.⁴⁴

This is not to suggest that a more interventionist international agency failed to form solely because of the national accounts. While some were in favour of such intervention, there clearly were political interests that were not – Rosen (1951, pp183-185) notes a number of reasons why the British were while the Americans were not. However, to note as Robert Johnson (1951) does that the UNRRA was reflective of the relative power of the participant states is perhaps to miss the point. The ways in which material disparities in power were expressed depended upon how the environment to be

⁴³ International planning had thus been normalized in a manner similar to the cartel-like arrangements of the interwar years. See Barbezat (1989); James (1931).

⁴⁴ In the case of the OEEC/EEC a separate trajectory, associated with the national accounts of Europe, would eventually emerge. However, this was still territorialized around a European territorial-political border. What emerged was a regional rather than a national economy – an economy where production was nevertheless construed as more or less hermetically sealed within territorial borders. Tracing this is,

operated upon had been constructed. The “national interest” pursued was determined in part by the quantitative “proof” of national economic coherence in the realm of production. Such proof made competitive productive autonomy into a rational national pursuit.⁴⁵

Concluding an economic and political disaccord:

The theory of macroeconomic behaviour that Suzuki and others have noted as embedded in the national accounts is not, per se, constrained to territorial location in the same way as the exercise of formal political power - even if this has been the case for the measurement and practice of macroeconomic policy. There is no sui generis reason for limiting economic measurement in such a territorial way.⁴⁶ However, because of the form in which data is collated in the national accounts, those borders take on an objective quality. The economy that the accounts render visible is just not amenable to trans-national macroeconomic purposes. To state this another way, when the accounts are used as the basis of information on the economy they construct that economy as decidedly territorially bound and the environment surrounding that economy as systemically insignificant.

There is, therefore, a certain disaccord within the national accounts and in the idea of the national economy between the interior of the system and its limits. The “systemic” economic tendencies on which the national accounts are based render possible different,

unfortunately, beyond the scope of this paper.

⁴⁵ Contrast this to Panitch’s (1998) suggestion that US economic power in the present is achieved through the replication of its productive structure into other states: make them more like the US in terms of finance capitalism, etc. This gives US firms an ability to penetrate other social formations even more deeply than is the case under simple trade dominance.

⁴⁶ Which is not to suggest that institutional reasons and powerful networks are irrelevant – as we will explore in the Post-Script.

less territorially restricted, political programs (Piore and Sable, 1984). We can see this countervailing tendency expressed in the CPRB, among whose proposed functions was “Maximum utilization of the productive and supply abilities of the United Nations and friendly neutrals” in the context of “Planning the most effective assignment of productive and supply endeavour to the several nations (War Production Board, 1942, quoted in Rosen, 1951, p140.)” However, given what was made visible outside of the boundaries of the nation, such international planning could only be expressed in the form of the coordination of excess national surplus (i.e. exports) in order to meet the individual import requirements of each state.⁴⁷

This form of national accounting was ultimately institutionalized internationally in the form of the United Nations Systems of National Accounts.⁴⁸ Thus while this system did include a category or sector called the Rest of the World, roughly corresponding with the Balance of Payments, this sector was, in the words of Kendrick “residual (1972, p224)” – it was a tangential measurement made to ensure an accounting balance in the otherwise autonomous national economic systems. Yoshimasa Kurabayashi, notes that “[i]t is important to recognize, as SNA 1993 clearly points out (paragraph 2.23), that the rest of the world plays a role as an institutional sector, implying that transactions between resident and nonresident units are external transactions to the total economy and are grouped into the accounts of the rest of the world (1996, p382).”

In sum it is possible to treat the national economy – whether obsolescent in practice or not – as a governmental project that developed according to a readily

⁴⁷ Rather than to establish the most efficient production parameters for the entire international economy, for example.

⁴⁸ A system constructed largely on the basis of Mead and Stone’s framework, and in which Stone was critically involved (See Post-Script on this): United Nations (1953).

identifiable, politically contestable process that is characterized by assumption and construction rather than mere reflection of some essential “economic.” Despite the pretensions of objectivity, technicality and neutrality, the political is deeply embedded within the instruments by which the economy is made visible. Politics, contingent histories: these categories offer a fuller account of the national accounting apparatus and of a governmental strategy for the national economy than any notion of an essential economic.

Given the highly particular assumptions associated with the national economy, the idea that “globalization” represents an obvious and linear transformation of a self-evidently national-territorial-economic epoch is at the very least questionable. In fact, the national accounting story does not end with the Keynesian-inspired national accounts: as will be demonstrated in Chapter V on input-output accounting, it is possible to record economic output in such a way that the extent of economic activity performed on the national territory is recorded even while its potentially non-national relationships are not rendered invisible. These accounts, which themselves were incorporated into the national accounting apparatus with the 1968 revisions to the United Nations System of National Accounts, will have a significant effect in rendering the global economy conceptually possible.

Before we reach the dominant strand in the present, however, it would behoove us to examine in greater depth the reasons why national accounting incorporated territorial boundaries as the natural limits of the economic, and the peculiar historical lineages of this form of quantitative thought. National income accounting has a long history. For the standard historiography this is a history characterized by measures forced to the surface

by an essential economic. It is characterized by measures that have become increasingly accurate at intuiting an essential reality over time. However, the idea of an essential economy recorded progressively more accurately is undermined by an examination of earlier national income figures. When expressed on their own terms these figures appear incommensurate in many respects with what the modern historiography would suggest is economic reality.

Chapter IIA

Stating the National Economy in a Disciplinary era: National income, social class, and the limits of disciplinary power

“The search for descent is not the erecting of foundations: on the contrary, it disturbs what was previously considered immobile; it fragments what was thought unified; it shows the heterogeneity of what was imagined consistent with itself.” Michel Foucault, “Nietzsche, Genealogy, History,” 1977, p147.

We left off last Chapter discussing the national-economic governmentality that came to be articulated through the national accounts. This national accounting apparatus began to be standardized and internationalized in the 1940s. It came to orient the “scientific” management of economic flows in a particularly territorial way, even where alternatives might have been better predisposed to deal with specific policy issues. We also argued that this system was and is an apparatus containing implicit simplifications, simplifications that better reflect the assumptions of its creators that any essential economic reality. The economic may have been performed in such a way that patriarchy, anti-environmentalism and a specifically territorial type of economic reasoning came to define mainstream governmental practice. However, this is quite different from the idea that the economic is essentially patriarchal and territorial outside of those particular performances.

Having said all this, we have also implied that this type of governmental reasoning – reasoning based upon the idea of an autopoietic, self-referential economy, one naturally bounded by territorial borders - was a development of the early 20th century, without having demonstrated just how substantial an epistemic break it represented. After all, the orthodox historiography of the national accounts (Studenski, 1958; Kendrick, 1972; Ruggles, 1995) claims that history is replete with a national

economy mode of statistical reasoning right from the beginnings of national income analysis in the 17th century. This raises the question of whether there was a national economy (as the term will come to be used in the 20th century), even in a nascent form, in 17th century numerical thought. And if not, then what exactly are these numbers expressing?

Accordingly, in this Chapter we will explore the so-called National Income Analysis contained in the 17th century writings of Gregory King and William Petty. These accounts are held to be direct progenitors of national accounting by the orthodox national accounting literature. However, rather than finding the nascent beginnings of the national economy (as we would use the term) in quantitative thought, what we find being measured and quantified are assumptions commensurate with Political Oeconomy (Tribe, 1978) or Raison d'Etat (Foucault, 2007). Political relationships, feudal classes, circulation, the limits of extraction – these terms define the parameters of measurement, not production, class, or supply and demand. The “economy,” in such a system of thought, is a political relationship; it is not an object having its own immanent and self-constituting characteristics. It is one characterized by a belief in the need to order and regulate rather than a need to respond to an essential and self-augmenting economic order.

Two conclusions emerge from this: What is taken to be a self-evident target for economic numeration is historically contingent - a contingency that does not, as such, reflect different economic structures but different understandings of what is economic. In fact, when expressed on its own terms, early national income analysis appears incommensurate in many respects with what the modern historiography would suggest is

economic reality.

Second, there is a certain discontinuity in the epistemic structure of the modern national economy. The politico-territorial assumptions commensurate with seventeenth century cameralism, assumptions contained within early national income analysis (and aimed at political power and disciplinary limits), were mapped onto the social assumptions commensurate with Keynesian economic thought (aimed at the characteristics of supply, demand, production, savings, and investment). These assumptions informed and rendered numerically self-evident a specifically inter-national form of internationalism in the context of the War and post-War years – as seen in the case of the CPRB and UNRRA. New political projects, then, can be informed by long established procedures and data management techniques, techniques utilized for new purposes but containing embedded limitations and implicit momentum. This suggests that while the process in which numerical techniques are constructed is one in which there is a certain type of historical development, it is not one that gives the appearance of techniques progressively approaching an essential reality.

If we are to understand the construction of the national economy as a numerically (if not economically) coherent object, it is to the limits and tendencies of this “non-economic” episteme that we must turn.¹

National Income Analysis:

It is perhaps easiest to begin this section by recounting how William Petty and

¹ It is necessary to add a note on the use of the term economic and non-economic in what follows: these terms are being used as they are conventionally understood in the present. There is no essential economic and non-economic. Rather what is considered to be economic is historically variable. However, using the terms in this way serves the rhetorical point of demonstrating how “systems” of thought are not always

Gregory King, the most frequently mentioned predecessors to national accounting, have been fitted into the conventional national accounting narrative. Recall that the orthodox historiography on national accounting reads the historical archive by way of its evolutionary contribution towards the present. As an example we can turn here to Paul Studenski's excellent *The Income of Nations*, which suggests that from Petty's first estimates in the late 17th century, "the broader concept [national income] took on the specific meaning of the monetary value of the nation's annual production and consumption (Studenski 1958, p11)." Indeed, Petty and King "constructed fiscal and economic programs for their countries far in advance of their times (1958, p13)." Petty is taken as the touchstone for the development of national income analysis because of his invention of Political Arithmetick, a form of analysis based upon "number, weight or measure" rather than "comparative or superlative words (Petty, 1899, quoted in Studenski, 1958, p26)." His was the first scientific analysis of the national economy. King played the role of adding more statistical rigour to Petty's speculations, by "allowing the figures to tell their own story, adding only a minimum of generalizations (Studenski, 1958, p30)."

I called Studenski's *Income of Nations* excellent because of its exhaustive detailing of nearly every national income estimate, in addition to the historical context in which they occurred, over the course of a 300 year period. The problem, however, is that while he notes the purposes animating the estimates and the categories into which the measurements are divided, he does not relate those purposes or those measurements to the entire archive that he is describing. Instead, individual observations are re-described and summarized as if they were merely alternative ways of describing modern economic

processes. For example, in discussing King's 17th century estimates he notes the division of income into "social and economic class (Studenski 1958, p14)," "type of income...rent of land and dwellings and from other heriditaments in one group, while combining income from profits and from labor in another group (1958, p32)," and the value of various commodities produced per year. This apparently enables Studenski to claim that "in modern terms King's estimate can be said to have covered all three phases of national income: its production, distribution, and consumption (1958, p33)." However, as will be demonstrated shortly, this transcription of King is anything but self-evident.

Nevertheless, it is in this light that Studenski can bemoan the unpublished status of King's works until 1802 as "regrettable (1958, p37)" since they could have stimulated further developments in national income analysis. Following a "brilliant start" in the late 17th/early 18th century, national income analysis suffered a long "period of neglect (1958, p40)." There is a sense of "If only these works had been taken more seriously at the time then we would all be further along," evidenced by the use of such terms as "foreshadowing (p14)," and "anticipating (p33)," when discussing the substance of these early documents.

Studenski categorizes the 17th century as the point in time when modern developments in analytical economics began. However, as noted above, the relationship of these works to modern economic analysis is not so clear cut. In general, there is a problem of method with this type of historical research: rather than reading the historical archive by way of its own terms (Rose, 1999) what emerges is a slotting of apparently familiar terms contained in past documents into a framework of thought that is decidedly anachronistic. While some apparently familiar words may exist in the classical texts, one

must consider the manner in which the terms relate to one another rather than the terms taken in isolation if their discursive context is to be understood (Tribe, 1978; Foucault, 1977). In the case of the “economy” this has been said before and there is no need to reinvent the wheel here (Dean, 1999; Foucault, 2007; Tribe, 1978). Instead, it will suffice to turn to two such authors, Keith Tribe, and his work *Land, Labour and Economic Discourse*, and Michel Foucault in *Security, Territory, Population*, to set the stage for a more in-depth analysis of the discursive context of early national income work.

In discussing the same period of time as Studenski, Tribe contends that, at least in the realm of discourse, the “economy,” did not exist. In fact, according to Tribe economic discourse did not exist prior to the early nineteenth century debates “around the Corn Laws (Tribe, 1978, p113).”² The “economic” terms that the orthodox historiography dredges up from the archive, terms like land, labour, and rent, are better characterized as part of the discourse of Political Oeconomy: a system of thought that is given cohesion by the political concepts of the “Royal household” and “state administration (1978, p81)” rather than by supply, demand, or production. In Political Oeconomy, agents and tendencies are not defined via economic transactions in the way that the terms proletariat, bourgeoisie, and capitalism are defined in Marx. Rather agents and tendencies are given meaning on the basis of their position vis a vis Royal authority. The “economy,” in such a system of thought, is a political relationship; it is not an object having its own immanent and self-constituting characteristics. All this leads Tribe to

² This is later than Foucault, who dates the birth of the economy with the 18th century – relying on physiocrats like Quesnay as indicative (Foucault, 2007). Nevertheless, even the 19th century is regarded as too early by some authors. See Mitchell (1998), for example, who suggests that the “economy” did not emerge until the mid-20th century.

suggest that “their major concern is not with growth, development, production, distribution or any of the anachronistic concerns attributed to them: they rather address the question of circulation within the state, and it is in this category that all questions are contained (1978, p81).”

While utilizing different classificatory headings than Tribe, Foucault likewise outlines an epistemic environment for the seventeenth century that is quite different from that of the present. In his case, the form of governmental reason is given the heading *raison d’Etat*. A study of governmental works in the late sixteenth and seventeenth centuries reveals the emergence of the state as the a priori category under which political thought comes to be organized. As Foucault puts it,

“The state is therefore a schema of intelligibility for a whole set of already established institutions, a whole set of given realities. We see the king defined as a character with a particular role, not so much with regard to God or with regard to men’s salvation, but with regard to the state: he is magistrate, judge, etcetera. So the state appears as the principle of intelligibility of an absolutely given reality, of an already established institutional whole (Foucault, 2007, pp286, 287).”

The state emerges here not just as a new organizing mentality, but also as the end towards which governmental power and reason could and should be targeted. No longer should government be directed towards any end external to the state: “The state is organized only by reference to itself: it seeks its own good and has no external purpose, that is to say, it must lead to nothing but itself, neither to the sovereign’s salvation, of course, nor to men’s eternal salvation, nor to any form of fulfillment or eschatology towards which it should strive (Foucault, 2007, p290).”³

³ This is a form of intervention that rationalizes violence in a new way, no longer out of a sense of law or justice, but necessity: “To the great promise of the pastorate, which required every hardship, even the voluntary ones of asceticism, there now succeeds this theatrical and tragic harshness of the state that in the name of its always threatened and never certain salvation, requires us to accept acts of violence as the

To preserve that which is now the end of government requires a corresponding change in the means and knowledges required for governing; no longer law, or justice, or even wisdom, but knowledge of the state itself:

“at the start of the seventeenth century I think we see the appearance of a completely different description of the knowledge required by someone who governs...someone who governs must know the elements that enable the state to be preserved in its strength, or in the necessary development of its strength (Foucault, 2007, pp273, 274).”

More particularly, this form of knowledge requires a mapping out of the interior space of the state, frequently in numerical terms, in order to understand that which must be preserved:

“the sovereign’s necessary knowledge (savior) will be a knowledge (connaissance) of things rather than knowledge of the law, and this knowledge of the things that comprise the very reality of the state is precisely what at the time was called statistics (Foucault, 2007, p274).”

Having said this, and despite the variety of areas in which the necessary (frequently statistical) knowledge will be gathered,⁴ the interior of the state does not, as yet, emerge as an object with sui generis qualities, or, to use Foucault’s term, as “population.”

“Raison d’Etat is a relationship of the state to itself, a self-manifestation in which the element of population is hinted at but not present, sketched out but not reflected....One will speak of wealth, the circulation of wealth, and the balance of trade, but one will not speak of population as an economic subject (Foucault, 2007, pp277, 278).”

purest form of reason, and of *raison d’Etat* (Foucault, 2007, p267).”

⁴ “Etymologically, statistics is knowledge of the state, of the forces and resources that characterize a state at a given moment. For example: knowledge of the population, the measure of its quantity, mortality, natality; reckoning of the different categories of individuals in a state and of their wealth; assessment of the potential wealth available to the state, mines and forests, etcetera; assessment of the wealth in circulation, of the balance of trade, and measure of the effects of taxes and duties, all this data, and more besides, now constitute the essential content of the sovereign’s knowledge (Foucault, 2007, p274).”

Instead, the state, while the foundation and end of government, is an object that has to be made and remade; certain tendencies have to be fostered for it to be correctly managed and secured.⁵ The end of the state, its security, requires positive intervention, an intensive system of monitoring, surveillance, and intervention, one rendered possible via the technology of police.⁶ A monumental governmental strategy therefore develops under this rubric: “it will have to provide itself with whatever is necessary and sufficient for effectively integrating men’s activity into the state, into its forces, and into the development of these forces, and it will have to ensure that the state, in turn, can stimulate, determine, and orientate this activity in such a way that it is in fact useful to the state (Foucault, 2007, p323).” Within the parameters of *raison d’Etat*, police thus refers to the ensemble of interventions that are necessary to produce beneficial order, interventions oriented toward maximizing population, ensuring that the necessities of life are produced,⁷ that disease is prevented,⁸ that the population is kept active,⁹ and that

⁵ In a discussion of a seventeenth century text by Palazzo, Foucault notes “The weakness of human nature and men’s wickedness mean that nothing could be maintained in the republic if there were not at every point, at every moment, and in every place a specific action of *raison d’Etat* assuring a concerted and reflected government (Foucault, 2007, p259).” In part, this concern with securing the interior of the state emerges out of the newly constituted international environment corresponding to the Peace of Westphalia. With the recognition of the state as the object and end of government, there is a corresponding end to the universalizing telos of a re-born Empire or universal Church. Replacing the universalism and “perfect government” inherent to this end is a concern with the realities of the state, with balance between (European) states: “Henceforth the art of government will not consist in restoring an essence or in remaining faithful to it, but in manipulating, maintaining, distributing, and re-establishing relations of force within a space of competition that entails competitive growths (Foucault, 2007, p312).”

⁶ A mode of intervention and implementation, but also “an apparatus of knowledge (Foucault, 2007, p275)” that gathers information like statistics, and ultimately leads to the birth of “population” and the transformation from *raison d’Etat* to modern governmentality (p278).

⁷ “This not only implies supervision of the marketing of foodstuffs and provisions, but also supervision of their quality at the time of sale, ensuring their good quality and that they are not spoiled, and so on (Foucault, 2007, p324).”

⁸ “The air, aeration, ventilation, especially in towns, will all be linked, of course, with the theory of miasmas, and a whole new politics of amenities, of new urban space, will be organized by reference to and subordinated to concerns and principles of health (Foucault, 2007, p325).”

⁹ “seeing to the different types of activity men are capable of, ensuring that the different professions needed by the state are in fact practiced, and ensuring that the kind of products manufactured are such that the country can benefit from them (Foucault, 2007, p325).”

circulation within the state is facilitated.¹⁰

There is a certain sense in all of this in which “economic” problems can be thought to exist. Thus, “the problems with which police is concerned are also problems of the market, of buying and selling, of exchange...it concerns the regulation of the way in which things can and must be put on sale, at what price, how, and when (Foucault, 2007, p335).” However, this economy is one characterized by regulation rather than immanence, order is brought about by “the regulation, the ordinance, the interdiction, the instruction...we are in the world of the regulation, the world of discipline (pp340, 341).” Colin Gordon puts it thus: “the economy emerges here as a specific but not yet autonomous form of rationality. The economy of a functioning whole is a machine which has to be continuously made and not merely operated by government. This retains here from the ancient context of the oikos all its implications of possession, domestication, and controlling action (Gordon 1991, p11).”

By contrast, by the eighteenth century (later according to others (Curtis, 2002)) a governmentality will emerge that views the state as having its own independent and beneficial orders – grounded in the idea of “population”¹¹ – orders that are not created by intervention but that are, rather, immanent. We can get a sense of the difference here by contrasting the notion of police in the seventeenth century with its use in the twentieth. Whereas under *raison d’Etat* Police connoted those interventions necessary for the production of good order, in modern governmentality it takes on the sense of preventing

¹⁰ “By circulation we should understand not only this material network that allows the circulation of goods and possibly of men, but also the circulation itself, that is to say, the set of regulations, constraints, and limits, or the facilities and encouragements that will allow the circulation of men and things in the kingdom and possibly beyond its borders (Foucault, 2007, p325).”

¹¹ “Population is undoubtedly an idea and a reality that is absolutely modern in relation to the functioning of political power, but also in relation to knowledge and political theory, prior to the eighteenth century (Foucault, 2007, p11).”

disorder.¹² Population has its own beneficial orders, including economic, that do not have to be manufactured from above.¹³ Government here becomes a form of managing which relies upon knowing this order, and possibly using elements of that order to cancel out or augment other elements of that order,¹⁴ but that does not create this order as such. In fact, modern governmentality requires a limitation of governmental intervention since the attempt to try to impose a particular end on society, if unaware of or against society's essential currents, may produce the opposite of what is desired.¹⁵ In contrast to *raison d'Etat*, regulation is the problem rather than the solution precisely because population is not "indefinitely flexible (Foucault, 2007, p343)."

All this suggests a different sort of economic knowledge than that of *raison d'Etat*, concerned not with outlining the population considered as a collection of juridical subjects, but population considered as a natural order; with political economy¹⁶ rather than the economic order and security characteristic of mercantilism.¹⁷ Knowing this

¹² "Growth within order and all positive functions will be assured by a whole series of institutions, apparatuses, mechanisms, and so on, and then the elimination of disorder will be the function of the police. As a result, the notion of police is entirely overturned, marginalized, and takes on the purely negative meaning familiar to us (Foucault, 2007, p354)."

¹³ He holds the physiocrats, particularly Quesnay, as being key to the emergence of a new political economy – a shift away from the town towards the land, away from the market and circulation and towards production (Foucault, 2007, p342).

¹⁴ Foucault refers to this governmental strategy as one of security, where the security of the natural processes are the end: "state intervention with the essential function of ensuring the security of the natural phenomena of economic processes or processes intrinsic to population (Foucault, 2007, p353)."

¹⁵ The example given by Foucault on this subject relates to scarcity in the production of grain – in trying to control prices and trade in grain, government may be creating famine instead of preventing it (Foucault, 2007, p343).

¹⁶ "This knowledge is political economy, not as simple knowledge of ways of enriching the state, but as knowledge of processes that link together variations of wealth and variation of population on three axes: production, circulation, consumption (Foucault, 2007, p350)."

¹⁷ As described by Foucault: "Mercantilism was the first effort...of this art of government at the level of political practices and knowledge of the state...it is the first time that a knowledge of the state began to be formed that can be employed for tactics of government. This is absolutely true, but I think that mercantilism was blocked and halted precisely because it took the sovereign's might as its essential objective: how to ensure not only that the country is rich, but that the sovereign has wealth and funds at his disposal, and can build up an army with which to pursue his policies? The objective of mercantilism is the might of the sovereign. What are its instruments? They are laws, edicts, and regulations, that is to say, the

implies applying “scientific” and distancing reasoning of a form not present under police or mercantilism.

Petty and his non-petty place in the national accounts:

In sum, and regardless of the label that we apply, in the seventeenth century there are some significant differences in the epistemic environment in which apparently familiar terms like government or wealth are situated. Of course all this is rather generally stated with respect to our problematic of the characteristics of national income and the national economy. As such, and since William Petty has been referred to as the origin of national income analysis by a great many authors concerned with this question (see Studenski, 1958; Weale, 1995), we will begin with him to more directly outline the correspondence between numerical thought and this epistemic environment.¹⁸ Here Tribe is of great direct utility: Petty’s work – particularly the *Political Arithmetick* (written 1676, published 1690) – has been highlighted by Tribe, not for its modern similarities but

traditional weapons of sovereignty...Mercantilism tried to introduce the possibilities given by a reflected art of government within an institutional and mental structure of sovereignty that blocked it (Foucault, 2007, p102).”

¹⁸ Petty’s works have also been distinguished within some of the critical historiographies that have already been examined. Thus G.F. Thompson (1998) suggests that Petty expressed a modern episteme that was radically divergent from that which preceded it in that it was concerned with representation rather than resemblance. Fourquet (as described in Miller (1986, p87)) argues that Petty expressed a shift in governmental rationality “from a notion that the despot need do no more than extract from his subjects whatever wealth they might produce to a notion that the monarch should seek also to renew and even increase such wealth.” The problem in both cases is that the division of history into a modern and pre-modern episteme may overly compartmentalize epistemic orders (as G.F Thompson himself notes (1998, p294)). The division is too neat and can obscure both “pre-modern” characteristics in the “modern” (or vice versa), and the specific incoherence of a given domain of thought. Because he is implicitly concerned with differentiating the modern from the pre-modern, modern national accounting for Fourquet is viewed as just a permutation of national income’s concern with national power and “the distinction between the productive and the unproductive (Miller discussing Fourquet, 1986, p88).” National accounting is presented as wholly internally coherent (even while the definition of what constitutes national power and wealth may change) rather than as contingent, cobbled, and held together by political and epistemic inertia rather than logical order. While I agree that maximizing national power is indeed a goal embedded within both national income analysis and the national accounts, this is only part of the story. Given that it was developed in a non-economic episteme and then lashed to an economic, the incorporation of the parameters

as part of an illustration of the questionable economic character of the discourse of the 17th and 18th centuries.

To begin with, in the case of a partially arithmetic text like the *Political Arithmetick* the motive underpinning the work is significant for situating it in its appropriate discursive environment. As Hull notes in his introduction to Petty's works, "the main argument [is] regarding the potential superiority of England to France (Petty, 1899, plxxxii)." Petty aims at demonstrating, quantitatively, that England has a greater capability than her continental competitor. For Tribe it is the grounds on which this superiority is demonstrated that is key to understanding the character of Petty's text: the work is oriented towards illustrating the potential military and fiscal advantages that England possesses despite her smaller relative size. Military and fiscal prerogatives provide coherence to the quantitative measures. As such, this is not an economic treatise, in the sense of outlining a separate social realm with its own self-contained and self-referential properties, but a political one: for our purposes the "national economy" which results must also, therefore, be seen in this light.

As an illustration of this political character, Tribe notes Petty's contention in Chapter 1¹⁹ that agriculture is the least valuable form of labour to the state and seamen the most valuable because of their relative inability/ability to be "mobilized in time of war (Tribe, 1978 p87)."²⁰ The division of labour in this discursive system is premised not upon any productionist reasoning but upon a martial logic. While manufacturing labour

of national income into national accounting is in no way so organic.

¹⁹ That a small Country and few People, by its Situation, Trade, and Policy, may be equivalent in Wealth and Strength, to a far greater People and Territory: And particularly that conveniencies for Shipping and Water-Carriage, do most Eminently and Fundamentally conduce thereunto.

²⁰ Compare this with the physiocratic doctrine of Quesnay and its elevation of agriculture as the only activity producing a net surplus (Studenski 1958).

has a higher position in this hierarchy than agricultural labour, this is because of the relative ease of transferring these labourers to the soldiery in times of crisis, not because of any inherent productivity advantages associated with them. National strength here is militarily rather than “economically” construed (Tribe, 1978, p86).

Tribe gives other examples of the non-economically systemic character of Petty’s work. For example, he notes that in Chapter 2 of the text²¹ it is the concept of circulation (rather than, say, the modern notion of functional interdependence) that unifies economic transactions in this discourse. As noted above, and while not referring specifically to Petty, Foucault likewise suggests that circulation is the key linking mechanism at work in the seventeenth century: “We see the emergence of a completely different problem that is no longer that of fixing and demarcating the territory, but of allowing circulations to take place, or controlling them, sifting the good and the bad, ensuring that things are always in movement, constantly moving around, continually going from one point to another, but in such a way that the inherent dangers of this circulation are canceled out (Foucault, 2007, p64).” Circulation is the operative mechanism here not just for what will become the economy, but also for such things as town planning and epidemiology, where a concern with eliminating miasma (bad air which causes disease and death) dominates (Foucault, 2007, pp63-64).

The above being the case, recommendations to the monarch take the form of how best to secure and increase the supply of those goods which can circulate the greatest number of times.²² As Tribe records, “a hierarchy is then established for such productive uses which is organised according to the perishability of the goods in question: food is

²¹ That some kind of Taxes and Publick Levies, may rather increase than diminish the Wealth of the Kingdom

the most perishable...followed in ascending order by clothes, furniture, houses, working of mines and fisheries, until the most productive employment...‘bringing Gold and Silver into the Country’ (1978, p87).” The key to increasing national wealth and economic strength is thus the basic accumulation of durable valuable metals (an accumulation primarily achieved by increasing trade)²³ rather than any innate capacity to produce.²⁴ Consider the following quote from Petty: “the Wealth of every Nation, consisting chiefly, in the share which they have in the Foreign Trade...rather than in the Domestick Trade, of ordinary Meat, Drink, and Cloaths, &c. which bringing in little Gold, Silver, Jewels, and other universal wealth (Petty 1899, p295).” Growth in national income constitutes what Tribe calls an “augmentation of circulation (Tribe 1978, p85)” which can have its origins in trade or nature²⁵ but not on the basis of any innate tendencies in the national economy itself (1978, p95).

Taken as a whole, Tribe’s analysis undermines the notion that the economy exists in a nascent form in the discourse of the 17th century – production as such is not the focus here. However, Tribe does not specifically target Petty’s national income analysis. This of course begs the question of why Petty has been taken as a distant relation of national accounting. In fact, and on the surface, there are a number of similarities between the analyses of Petty and those that follow in the early 20th centuries. For example, in the *Verbum Sapienti* (written 1664, published in 1691) Petty does engage in a series of

²² Analogous to building a town where the air will circulate most freely.

²³ Thus Petty (1899, p259-260) suggests that “The great and ultimate effect of Trade is not Wealth at large, but particularly abundance of Silver, Gold, and Jewels, which are not perishable, nor so mutable as other Commodities.” Trade is not construed as beneficial here along the lines of increasing the factors of production or productive capacity but as a simple aggregation of more durable commodities.

²⁴ This type of knowledge fits within *raison d’Etat*, more specifically mercantilism, an art of government that is not quite governmental and yet also partially post-sovereign.

²⁵ Improvements on the land, for example. We will explore the idea of economic growth in the next Chapter.

calculations on the “Wealth of the Kingdom.” He begins by estimating that there are 6 million people in the Kingdom whose total annual expenses “for Food, Housing, Cloaths, and all other necessaries amount to 40 Millions (Petty 1899, p105).” He next estimates that the total wealth of the Kingdom (land, housing, shipping, livestock, gold, silver, plate, wares, furniture) amounts to 250 Million (1899, p107). Now on the basis that the existing stock of wealth produces an income of 15 Million, “the labour of the People must furnish the other 25 (1899, p108).” Given a similar multiplier between the income generated by the stock of wealth and its total size, this makes the People worth 416 $\frac{2}{3}$ Million. Consequently, we have here what looks like an attempt to estimate not only the national income via the method of expenditure, but also its composition by type (that is, income from capital and income from labour) and accumulated size.²⁶

It is notable, however, that the same types of observations that Tribe makes with respect to the *Political Arithmetick* can be made about the national income calculations in the *Verbum Sapienti*. If we take the national income calculations and situate them in the context of the entire work they begin to resemble less and less an estimate of the national economy, in the modern sense of the term. It is appropriate, therefore, to begin with the explicit goal of the *Verbum Sapienti*, which is the modification of the existing system of taxation under which “some pay four times as much more as they ought (Petty 1899, p104).” Petty intends on establishing both that this is the case, and that “by meer Method and proportion (1899, p104)” a revenue that is both more equitable and larger could be

²⁶ Interestingly, this fixation on the accumulated wealth of the economy dissipates in the modern era: Kendrick (1972, p168) notes that “[s]ince the beginning of the era of official national income estimation on a regular basis in 1925, no country has prepared balance sheets as a routine part of its national economic accounts.” This does not change until the 1993 revision of the SNA: “The 1993 report incorporates *valuables* in capital formation as a third category. It defines valuables as ‘goods of considerable value that are not used primarily for purposes of production or consumption but are held as stores of value over time (12, Ch X, p. 3).’ Examples of valuables are precious metals and stones, jewellery and works of art. The

generated for the crown.²⁷ The significant points to note here are the assumptions under which Petty constructs his proof. The first, and in line with Tribe's description, is that the economy is one defined by "circles," "circulations" and "revolutions (1899, p112)" rather than by production per se. Thus in responding to projected criticism that the total amount of the suggested taxation, 4 Million, might unduly inhibit trade in a nation of only 6 Million coin, Petty notes that "supposing payments in general to be of a mixed Circle between One week and 13...if we have 5 ½ Millions we have enough (1899, p113)." National wealth is not defined by the absolute size of the coin available in the Kingdom.²⁸ Money taken and spent at one point is available to be spent again by those who receive it. However, national wealth and the economy are neither constituted by productive capacity. Rather, it is the ability to function as a vector through which money can pass that constitutes the "economic" realm of the state. Petty can equivocate and then aggregate the People, Land, Houses, Shipping, Cattel, coin, wares (1899, p106) into a sum figure on the basis of the money that passes through them.²⁹ In this discourse the categories are otherwise unconnected by any functional economic interdependence – they are the hollow and otherwise indistinct veins through which currency (in the past and at least potentially in the future) circulates.³⁰ Thus what we see in Petty's 40 million national income figure is the total size of the circulation of coin within the state, not, as

reports of 1947, 1953 and 1968 do not record changes in the stock of valuables at all (Bos, 1994, p214)."

²⁷ The reason why a larger sum may be necessary is "this Holland-War (Petty 1899, p117)." Petty's concern with mathematically demonstrating that a more equitable taxation regime can be established also relates to the fact that such a system (at least as he demonstrates it) would also result in his paying less tax. There are important personal motives here: See Poovey on this.

²⁸ "The Causes of Error in this great Affair of Publick Levies have been these. First, Laying too great a stress on the matter of Money, which is to the whole effect of the Kingdom but as 6 to 667 (Petty 1899, p114)."

²⁹ As Hull notes when discussing Petty's aggregate total for England's wealth, "in order to add hands to lands he must reduce them to a common denominator...the common denominator chosen being money, it is necessary to determine the money value of the people (Petty, 1899, plxxi)."

Studenski claims, “an aggregate of consumable goods and services (Studenski 1958, p168).” To put this another way, while the size of yearly expense may be what enables the taxation analysis, that yearly expense has no intrinsic “economic” meaning. Income can be related to expense since both measure circulation, but there is no attempt to relate consumption to production, for example, since it is quite irrelevant to this discourse.

Second, the proposed solution to the inequality and revenue shortfall noted above is a more effective form of extraction rather than any specifically “economic” regulation: “working 1/26 more, and spending 1/20 less, the 1/10 abovementioned might be raised, at least with more ease, than to take up Arms, and resist it (Petty, 1899, p110).”³¹ The solution to a fiscal problem is more effective political management, the judicious application of police power in the face of potential political opposition. The key is a more precise targeting of political power rather than any facilitation of “economic” processes. Petty is clear not to elide “the Wealth of the People, and that of an absolute Monarchy (Petty, 1899, p272).” However, this is not the same as suggesting that the economy constitutes a realm separable from the political.³² The economy does not exist in this discourse as something with immanent qualities but as a latent resource that can be managed for political ends.³³

Finally, “the People,” are not categorized in the document according to any specifically economic rationale but according to a political justification. For the purposes

³⁰ On this biological metaphor see below.

³¹ By having a tax based upon an assessed value on property in addition to a Poll and excise tax on “the People” the necessary sums can be collected (Petty 1899, p112).

³² Hull notes “Petty realizes that national wealth is something different from the revenue of the exchequer. Nevertheless he is unable to divest himself entirely of the cameralistic notions out of which his discussion arose (Petty, 1899, plxxii).”

³³ Including securing the state.

of taxation at least³⁴ they are an undifferentiated category that Petty argues should be subjected to the same proportionate rate of taxation: “of all and every sum to be raised, the Land and Stock [“being the effect of former labour (1899, p110)”] must pay 3 parts; and the People considered without any Estate at all, 5 more (1899, p110).” The People, unified in being “subjects of England (1899, p113)” are all in a passive position of subordination vis a vis Royal authority rather than interdependent agents of production vis a vis a national economy. They are a stock of wealth that can be drawn upon where required in the same way as the land or cattle. In the same manner as land or cattle their worth can also be improved with appropriate care.³⁵ A certain type of knowledge of their activity is thus required to manage them. However, as an aggregate category, there is no need to dismember their internal economic relations. As Tribe notes, in such a system “the presence of the respective classes cannot be registered as a theoretical problem (Tribe 1978, p86).”

As an aggregate “the People” also offer a basis for comparison with other similarly constituted “People.” It is here, in fact, that territory begins to emerge as a logical parameter for measurement. However, territory, in the same manner as “the People,” emerges as a political rather than an economic or even topographical category. Measurement is limited to where the political power to extract can be absolutely (in theory) exercised. In a certain sense, measuring the national wealth constitutes an attempt to map the terrain and extent of disciplinary power. Where that political power to

³⁴ In contrast to their relative contribution to the military strength of the state (as above).

³⁵ Here we can refer to Fourquet (1980): “from a notion that the despot need do not [sic] more than extract from his subjects whatever wealth they might produce, to a notion that the monarch should seek also to renew and even increase such wealth (quoted in Miller 1986, p87).” Note, however, that it is still extraction of wealth by the crown – i.e. increased taxation - that is the ultimate goal.

order and extract ends, so does the measurement.³⁶ Consequently, even while the colonial territories may be noted as part of the “Territories of the King of England (*Political Arithmetick*, p284),” they are not included in the income estimate.³⁷ The income estimate only includes England and Wales, excluding Scotland, Ireland and the rest of the imperial possessions. The Empire is juridically complex, it is not directly amenable to the ordering necessary for the regular extraction of national wealth: “Now it is most manifest, that the afore-mentioned distances, and differencies, of Kingdoms, and Jurisdictions, are great impediments to all the said several sorts of Wealth (Petty 1899, p299).”

It is in light of the above that we can interpret Petty’s observation that while “the Wealth of England lies in Land and People so as they make five parts of six of the whole...the Wealth of Holland lies more in Money, Housing, Shipping and Wares (Petty 1899, p117).” He can compare the two nations on the basis of an equivocation of the value of Land and People with Money, Housing, Shipping and wares: all are vectors through which specie flows.³⁸ Both can be tapped for the purposes of the respective political prerogatives – military, taxation, etc. However, since they are literally “headed” by different political powers the national wealth that can be drawn flows within separate circulatory systems. It is important to take the frequent use of biological analogies here as more than just a useful illustration. For example, Petty, himself a trained physician, refers

³⁶ Here it is also not a case of nascent nationalism colouring the measurement. Consider, for example, Petty’s proposal to move all the peoples of Ireland and the Highlands into England on the resulting calculations of the increased national wealth (Petty 1899, p285-290).

³⁷ The same may likewise be said about the colonial subjects – whose numbers are noted in a comparison with the French Empire along with the comparative size of the imperial trade (Petty 1899, p291). The Empire may represent a source of potential national advantage but currently “instead of being Additions are really Diminutions (Petty 1899, p298)” since England must bear the cost of protecting them.

³⁸ It is on the basis of England’s larger circulation (rather than accumulated wealth) that it is “near twice as rich as they (Petty 1899, p117).”

to Money as the “Fat of the Body-politick (1899, p113).” Consider also the frequently given reference from *The Political Anatomy of Ireland*: “Sir Francis Bacon, in his *Advancement of Learning*, hath made a judicious Parallel in many particulars, between the Body Natural, and Body Politick, and between the Arts of preserving both in Health and Strength: And it is as reasonable, that as Anatomy is the best foundation of one, so also of the other (1899, p129).” The limits of the wealth and strength of England and Holland rest with the limits of the circulatory body of the political domain. Those limits are not “economic” in the sense that they will come to be used; rather, they are circulatory in the same sense as the air within the town is the circulatory limit for a concern with miasma and disease. The limits do not comment on the immanent character of the economic transactions within the respective states, but of the limits of *raison d’Etat*. There is no sense here of a national “invisible hand” co-ordinating the economy, only a visible political one that can order the national domain in a way which either strengthens or weakens it fiscally and militarily.³⁹

In terms of the international environment, trade between states is also an important concern here (Petty notes the importance of the Customs not just for revenue purposes but “to keep an account of Foreign Trade and its Balance (Petty 1899, p115)”),⁴⁰ but only in the aggregate sense of the flow back and forth of specie, the least perishable commodity. Where wealth is drawn off from one to the other through trade it becomes a part of the circulation (and therefore potential resources) of the recipient.

³⁹ According to Miller (1986, p87), “central here was the question of simple physical strength and might in situations of war or potential war.”

⁴⁰ The concern with international “balance” that Foucault talks about is evident here: “The effective preservation of European equilibrium requires that each state is in a position, first, to know and evaluate the forces of the others, thus permitting a comparison that makes it possible to uphold and maintain the equilibrium (Foucault, 2007, p315).”

Internal policy should, consequently, be oriented towards replacing imported commodities with those produced domestically (1899, p119). While the international may not, thereby, have any “economic” characteristics, this is in line with the prevalent conceptualization of the domestic environment. The international like the domestic has political characteristics, although in this case defined by war and competition rather than subjection and extraction.

King:

While Petty can, therefore, be inserted into the discourse of Political Oeconomy or *raison d’Etat*, it is significant that the same types of observations that Tribe makes in his case are found throughout the early archive of national income analysis. Turning to Gregory King’s *Natural and Political Observations and Conclusions upon the State and Condition of England* (written 1696, published 1802), it, at least on the surface, seems a more likely candidate for the national accounting historiography. Like the *Verbum Sapienti*, *Natural and Political Observations* promises to reveal the “Annual Income, & Expence of the Nation as it stood A. 1688 (King 1936, p30).” Unlike the works of Petty (where the *Verbum Sapienti* has one simple arithmetic chart (“Of the Method of apportioning Taxes (Petty 1899, p111)”) and the *Political Arithmetick* none),⁴¹ King’s entire text is laid out in a numerical accounting form.

In terms of its explicit purpose, there is a great deal of similarity between King and Petty. King prefaces his work by noting the utility of this information “at a Time when a long and very Expensive Warr against a Potent Monarch...Seems to be at it’s

⁴¹ Of the numerical figures that Petty does use to estimate components of the national wealth (and he uses many), William Letwin (1963, p134), notes that “Petty’s way with numbers...was utterly cavalier. The

Crisis (King 1936, p13).” King’s observations lead him to conclude that “the Warr cannot well be sustain’d beyond the year 1698 upon the Foot it now stands (King, 1936, p47).” He is also concerned with the issue of taxation, offering “a Calculation of the Poll Bills and some other Taxes and what may be rais’d by some Commodities not yet Taxed (1936, p41)” by which the ability to wage war might be increased. However, where Studenski sees in the resulting charts on national income a division, for example, into “social and economic class,” a literal recounting of the categories used reveals a breakdown along the basis of “ranks Degrees Titles and Qualifications (1936, p31).” The “classes” recorded therefore include Temporal Lords, Spiritual Lords, Baronets, Knights, Esquires, Gentlemen, Merchants, Clergy, Farmers, Shopkeepers, artizans, Military officers, Seamen, Labour, Cottagers, and Vagrants among others.⁴² It was noted in the case of Petty that the people are unified into an aggregate on the basis of their mutual submission as subjects. However, some subjects being more equal than others, the People can also be divided into juridico-political classes. These are not, however, economic classes. By contrast, in the case of the national accounts agents are divided on the basis of the economic character of their labour – household versus business labour, for example, rather than one the basis of their political status.⁴³

facts, whatever they were, always had a congenial way of upholding Petty’s conclusions.”

⁴² It is also notable that while many of the above (including the clergy) are viewed as increasing the national wealth (a category separate from the national income), “labouring People” (who, along with outservants, common seamen, cottagers, paupers and common souldiers amount to fully one-half of the national population) were among those recorded as decreasing it.

⁴³ In this sense, there is a blending of feudal concerns with a nascent concern with the interior of the state. Foucault, in his description of this period of time, at certain points posits too sharp a break: “What interested the sovereign, prince, or republic in the traditional conception, was what men were, either in terms of their status, their virtues, or their intrinsic qualities...What is characteristic of a police state is its interest in what men do; it is interested in their activity, their occupation (Foucault, 2007, p322).” What men do is associated in this mentality with what they are, politically speaking. At a later point Foucault suggests as much “things must be arranged so that people reproduce, and that they reproduce as much as possible. Outside of this variable of number, individuals are no more than subjects: legal subjects and subjects of police, if you like, but anyway, subjects who have to apply regulations (Foucault, 2007, p345).”

In general, then, it is a concern with the limits of the political prerogative, with the limits of extraction, which justifies the enclosure of national income analysis. It is not surprising, therefore, that the first mention of national income comes in a tract, the *Verbum Sapienti*, focused upon the taxation regime and how to make it both more equitable and more effective for the purposes of the crown. Nor is it surprising that the second and subsequent estimates of national income are calculated in the context of estimating the ability of the state to wage war in light of the deprivations and costs to the Royal domain. Territorial borders are commensurate with such a discourse as they correspond to the limits of political will.

Of course there were similar territorial limitations on the ability of a national government to extract in the environment in which the modern national accounts and the modern national economy emerged. In this sense it is not surprising that a calculation of the aggregate tax base is an important component of their development. However, the national accounts were also animated by a different purpose, one that national income analysis could not aspire towards – the recording of an immanent economic behaviour, of economic rather than juridico-political relationships. Even in the strictly territorial sense of preparing the resources of the nation for war, the goal of political intervention in the modern national accounts is not limited to the extraction of taxes or the availability of soldiers, but the full utilization of existing productive capacity. Visualizing production, managing aggregate supply and demand, would seem to require an ability to visualize the international in an entirely different way. Production may be more or less integrated and more or less reliant on developments occurring outside the state.

Stating the obvious?

There are profound epistemological differences between national accounting - and the national economy which it constructs/reveals - and its supposed predecessor national income analysis. Seventeenth century national income analysis aimed at revealing a different type of knowledge and was characterized by different purposes than the national accounting that we examined in the previous Chapter. Moreover, these differences are not merely the reflection of a different underlying economy (as if the economy was *essentially* circulation and juridical class as opposed to production and consumption), but are based upon a different conceptualization of what is economic.⁴⁴ Furthermore, while the orthodox literature suggests an evolutionary progression from past to present enumerations of the economic, read on their own terms it is less than apparent that a clear chain of progressive reasoning exists. In fact, even Studenski's explicitly evolutionary narrative is marked by momentous discoveries which go unappreciated in their own time followed by great periods of "neglect" and then "re-discovery" (Studenski, 1958, p40). These discontinuities must be taken seriously.⁴⁵

Having said all this, national accounting did internalize some of the parameters and trajectories characteristic of national income analysis. However, while these parameters may have been a logical part of the system of thought to which they were originally attached, their incorporation into a new "economic" episteme occurred without a corresponding "economic" reworking of the terms. This is not to say that the terms are wrong, only that they are not commensurate with much of the explicit character of

⁴⁴ Since it is clear that circulation and class both exist and can also be mapped in the present. The fact that they are not suggests a difference of orientation rather than essence.

⁴⁵ If there is progress here, then it is at best associated with the degree of control rendered possible, rather than movement towards any objective economic truth.

modern economic discourse.

Moving forward, national accounting did come to dominate numerical renderings of the economic – particularly after Stone’s model was incorporated into the United Nations System of National Accounts. We will thus return to the events following World War II and see just what the national accounts did render possible in the way of international economic government. We will explore in more detail the character of the international under the “national economy” mentality. What we find is that a particular type of governmentality applied to the “international” realm: A governmentality of Progress developed under the national epistemic watch, one that has continued into the present era of globalization, albeit in the mutated form of competitiveness.

Chapter III

Making Progress in International Comparisons; or the Development of International Space

“Only by the disciplined study of the facts of the present and the past can we make judgements upon the future...comparisons of economic welfare between one community and another, one economic group and another, and between one time and another, are the very framework of economic science.” Colin Clark, *The Conditions of Economic Progress*, pp18, 27.

“To follow the complex course of descent is to maintain passing events in their proper dispersion; it is to identify the accidents, the minute deviations – or conversely, the complete reversals – the errors, the false appraisals, and the faulty calculations that gave birth to those things that continue to exist and have value for us.” Michel Foucault, “Nietzsche, Genealogy, History,” 1977, p146.

In previous Chapters we explored the emergence of the national economy – an economic topography that, according to the more hyperbolic accounts of globalization, has been transcended, or at the very least substantially re-figured. This very particular type of economic reasoning and ultimately practice was rendered objective and governmental via the national accounts – a system of measurement containing specific social and political assumptions, and containing territorial limits corresponding to “non-economic” modes of thought.

We also noted when we examined the CPRB and UNRRA that this state centrality does not imply that other statistically separate national economies thereby had no policy significance. In an international environment that has always been characterized by interaction rather than autarchy there is a need to conceptually order and manage the state’s relationship to other economic spaces - particularly in a common endeavour like the waging of a war. Nevertheless, in the case of the CPRB and UNRRA the figures utilized in managing the economic did not give easy expression to contemporary

governmental desires. Rather than the intended integrated international plan, international economic policy was formulated and practiced as a contingent lashing together of separate economic units. Planning of production was a policy that could be quantitatively realized within a national context. However, the implications of supply, demand, savings and investment, measures that were quite clear within each state, could not be readily extended to offer trans-state guidance. This simply was not a logical part of the accounting apparatus. In sum, under the national accounts transnational economic activity simply was not visible and therefore did not become a target in anything other than a piecemeal, “residual” sense. The national economy forced itself into governmental problematizations even where an alternative might have been better predisposed to deal with the specific circumstances.

Of course the international plan was not the only or even the dominant way of conceptually and analytically structuring the international in the post-War world of national economies. Others have noted a number of additional tropes through which the international economic environment came to be ordered in the post-World War II context. Some of these include the geo-ideological notion of containment that characterized the Cold War (containing a capitalist and a communist world), the functional economic interdependence embodied by Regionalism (a Regionalism that was itself largely animated by geo-ideological concerns), and the discourse of Three Worlds where containment on the spatial level coexisted with “development” on the temporal (Agnew, 1998; Walters and Larner, 2002). In all of these cases it is the relationship of the economy to space that is, at least in part, the target.

In fact, it is the economic imagining of the international in the post-War world

that frames the general questions that this Chapter will aim to explore: In an epistemic environment characterized by separate and autonomous national economic systems, what exactly is it that links the globe together? That is, what is the nature of the international economy? Despite the “objective” economic separation revealed by the accounts, all of the factors of production crossed borders with varying degrees of freedom: nations still engaged in economic intercourse. The question is, how is that intercourse characterized and managed? Where the national accounts function as the premier source of economic reality, how does one quantify, qualify, and organize the economic relationships between states? Is the international an empty space, a market, an unequal structure, or something else altogether?

It is at this point that the quotation from Colin Clark that opened the Chapter is exemplary. It offers an indication of one the key ways in which the international economy was practiced in the post-World War Two environment. Specifically, it is in the term Progress that the characteristics of international economic space were found in the national accounting regime.

What follows, then, uses the comparison exercise articulated around the national accounts to offer a genealogy of progress.¹ What we find is a specific governmental program of progress spreading from the national environment to the international: Chronological series of within-nation national income estimates, series which only began to reach public consciousness in the 1930s, quantitatively “proved” that national

¹ To rephrase a point made earlier, the national accounts did not, per se, create the ideas of Growth, Progress, or Development. These divisions of the globe obviously have complex political etymologies that cannot and should not be reduced to any single cause. However, when it came down to rendering broader political objectives into a specific and quantitative public policy form – where and how to direct scarce resources, for example – it was to the national accounts, with all their enablements and limitations, that policy makers turned. The national accounts showed what economic space actually was. If anything was to be accomplished this reality would, therefore, have to be taken into account.

economies progressed through time. Likewise, and Clark's *Conditions of Economic Progress* is the exemplar of this, the inter-national environment could be quantitatively figured according to similar temporal parameters – albeit with a key difference. Within-state national income analysis revealed that national economies naturally grew over time into the lived present. By contrast, a comparison between national economies on the basis of their income levels revealed that states lower in economic magnitude resembled an earlier period of states higher up. The present was not the point of comparison, but the past of those states whose income levels were qualitatively higher. In essence, time was the common connection between states, not the character of present economic intercourse. The notion of Progress thereby became a visual, theoretical, and analytical orientation, organizing the management of the divided yet common structural-economic plane.

All of this rendered possible a particular type of governmental strategy. While states existed separately on a common temporal horizon, they could advance up or down on that horizon depending on the national policies that they adopted. Since states lower in the economic hierarchy resembled an earlier period of states higher up, where the conditions underlying earlier national economic progress in the one could be identified they could be replicated in the other. Modernization Theory thus fits well within this analytic scheme.

Finally, all of this was a highly political characterization of the nature of the international economy rather than a simple transposition of an underlying economic reality into numbers. We can see this even within the debates amongst national income practitioners themselves, where, from an early point, there were those (like Kuznets) who

suggested that the national income comparison exercise was based upon an unscientific metric. There were also those who challenged the apparent simplicity of the purchasing power parity models upon which national income comparisons were based.

Nevertheless, the accounting-constructed episteme acted to displace efforts aimed at making comparison more local-aware, context specific, and co-present conscious.

Expending significant resources on elucidating local specificity or international interdependence was deemed largely redundant.

In sum, this Chapter will use the national accounts as the wedge to open up a genealogy of economic progress. National progress emerged as a very parochial way of accounting for the economic. A statistical system elided the contemporaneous character of the economic into one in which states existed out of time with one another. While the contemporary story of globalization has re-situated the terrain of progress – with progress mutating into a game that is played by all parties in the present, one that is, moreover, based upon international competitiveness rather than local conditions (Hindess) - the same considerations regarding the parochial and the peculiar apply.

Growth versus Progress:

In the contemporary environment, the idea that an economy progresses through time is somewhat self-evident. Changes in Gross Domestic Product are watched hawkishly for signs of any slowdown. Political leaders, either foreign or domestic, are excoriated whenever the GDP fails to achieve whatever rate of growth is generally perceived to be naturally attainable. Policy makers, for their part, have an array of tools available to manipulate the decisions of individual economic actors in order to increase

savings, investment or consumption and thereby facilitate the smooth progression of the entire national economy regardless of any temporary business cycle that may currently dominate. Progress is the normal state of affairs. Any deviation from this is perceived as an abnormality that is likely caused by some unwarranted or misapplied political intervention.

However, this idea of economic progress is of fairly recent vintage.² It most certainly was not a given in the period in which early national income estimators constructed their accounts. Within-nation measurements of national income were most often constructed as “one shot” deals where the total aggregate income for a given year in current prices was all that was aimed at. As Maddison notes, even where estimates for different years existed, “they were generally spot estimates for a given point in time and it was difficult to link them to measure economic growth, as there was only a limited and belated effort to develop appropriate price deflators (Maddison, 2004, p5).” In fact, in those cases where a single estimator did record an increase in the size of the national income over the course of time, it was growth rather than progress that was recorded. The differences here, at least for our purposes and as we will demonstrate below, are more than just semantic. When early national income estimators recorded growth in the sum total they were at most indicating an increase in the size of the national income as a result of some change external to the normal process of national monetary exchange. Growth was not a *sui generis* tendency of economic activity qua economic activity, but a

² The word progress undoubtedly has a long history of use. However, where in the past it tended to indicate advancement towards something latent – progress towards an end state that is already partially contained in the present - it comes to have a new connotation in the post-War world: a process with no end form. Tucker (1999) can thus easily switch between the use of progress and development in discussing 19th century literature. Development is defined by Esteva (1992, p8) as “a process through which the potentialities of an object or organism are released, until it reaches its natural complete, full-fledged form.” Development is a species of progress. Progress has no end.

consequence of some absolute change in one of the factors of circulation – be it in the population through which circulation takes place, or in the lifeblood of circulation that is gold and silver. Political interventions could facilitate this growth, for example by encouraging exports, but it was not an autopoietic tendency. Progress, on the other hand, denotes a process with its own intrinsic dynamism. There is a clear internal chronological connotation whether it is expressed in terms of more and less advanced, of backward and forward, or of traditional and modern. As such, while growth may be regarded as a pleasant alteration of the status quo, progress imputes the maintenance of the status quo as an unacceptable stagnation.

Noting the relationship between chronology and economic comparison is not novel. There already exists a relevant literature on the discourses of growth (Arndt), decline (Tomlinson), and development (Escobar; Crush; Sachs; Walters and Larner) that covers this theme as it is expressed in various political programmes. The critical geopolitics literature (Agnew; Taylor) has also highlighted a pervasive modern tendency to render space into time insofar as comparing social structures is concerned. Space was an inert platform (Taylor) in the social scientific imagination of the post World War Two era. Time, however, was another matter entirely.³ In the case of economic comparison, it is Progress that gives these space-time discourses a certain unity, whether it be positive progress (growth in occidental countries, development in those deemed oriental), or negative progress (decline).⁴

³ According to Agnew (1998, p45), “the ideal of temporal evolution determining geographical differences won out over the idea of such differences resulting from the contemporary interplay between local societies and influences emanating from over the horizon.”

⁴ Which is not to say that “developed” countries never use the word development to refer to themselves (e.g. regional development). However in industrial states the term tends to be used as a verb rather than as an adjective. In fact, there is a certain racialization associated with this term development – where, for example, post-Soviet bloc states were referred to as emerging markets rather than as developing countries,

While this literature is effective at highlighting both the historical specificity and the political consequences of the modern economy-time-space synthesis, where it is lacking is in extensively documenting the technical changes that underpinned this cognitive reorientation. While national accounting has been mentioned as a significant variable by many of those cited above, other than noting the importance of a particular work (usually Colin Clark's *Conditions of Economic Progress*) the epistemic history of the technical apparatus is often underdeveloped. As such, while many of the conclusions contained within these works are of great utility both here and in extending the narrative of the previous Chapters, they must be fleshed out and resituated if they are to serve our broader purpose of denaturalizing the historiography of the global economy.

That said, and since this section is concerned with growth, H. W. Arndt's *The Rise and Fall of Economic Growth*, is the logical place to begin. In this work, Arndt offers a "history of thought (1984, p2)" on the subject of economic growth. To that end, he traces the emergence of an academic concern with economic growth in the 18th century,⁵ a concern that fades from importance over the course of the 19th and early 20th centuries only to emerge to "preeminence among policy objectives in Western countries between 1945 and 1965 (1984, p1)."

Summarizing the "Pre-History" of his historical narrative, he notes that the promotion of a policy of laissez faire by the classical British political economists (including Smith, Ricardo and J. S. Mill), was in part motivated by a concern to establish an environment where economic growth could be realized (1984, p7). Growth was a public policy concern during this period of time, but it was an active responsibility for

less-developed countries, etc.

⁵ "it was not until the first decades of the 18th century that precursors of the French enlightenment gave the

government only insofar as it was to avoid interfering with the economy (1984, p23). Subsequent to this classical period and its concern with growth, Arndt notes a century long (mid 19th to mid 20th century) preoccupation with other economic problems, “the theory of value and distribution, welfare economics, monetary and trade cycle theory, all these treated almost entirely on static assumptions (1984, p13).” This new period, which he designates as the Static Epoch, emerged as a consequence of the realization of material growth and the adoption of the recommended laissez faire attitude, at least in the case of England. With growth now a given, the focus of economic discourse shifted to “the evils, or at least the blemishes, of the existing system (1984, p14).”

Finally, Arndt notes the presence of direct “Precursors” to the post-War public obsession with economic growth, in the form of both Keynesian theory and “the work of national income statisticians (1984, p21).” With respect to those statisticians, he notes that it was Colin Clark in *National Income and Outlay* (1936) who “was probably the first to think in terms of an annual ‘rate of growth of real income per head of the population’ and to try to estimate this magnitude statistically (Arndt, 1984, p21).” Moreover, Clark’s *The Conditions of Economic Progress* (1940), in revealing the absolute poverty of much of the world, was a significant propellant to the emergence of economic growth and development to the forefront of the public mindset (Arndt, 1984, p22). As he puts it in another article “well into the postwar years, until United Nations data became available, almost every writer on development economics quoted his estimates” (Arndt 1990, p1046)

There is much of value in Arndt’s analysis, especially in revealing the historical specificity of the concept of economic growth, and we will return to it when we examine

idea of progress a specifically economic facet (Arndt, 1984, p5).”

Colin Clark in the next section. However, there are also a number of areas where his analysis falls short whether for reasons of brevity or of methodology. Specifically, where his analysis lacks, at least for our purposes, is in examining just how growth as an end in itself became so authoritative and objective as a public policy goal. He spends Chapters 3 to 5 in discussing why growth emerged as the panacea to all problems (including for reasons of scarcity, poverty, growth theory,⁶ expansion economics (Arndt 1984, pp30-37), a concern with achieving higher living standards, external and internal balance, “defusing the class struggle,” and the Cold War competition (1984, pp42-51)). But this implies that *national growth* is already discernable as a specific objective towards which governmental policy can be oriented. The question is, how and where does national growth become visible in the first place? While he defines economic growth in terms of an increase in “per capita income (commonly measured by a country’s Gross Domestic Product...divided by its population) (1984, p1),” other than a cursory reference to Clark he spends very little time in exploring just how this measure actually emerged and why it differs from what came before. While he notes the importance of “regular and reliable statistics of GNP (1984, p50)” in fueling a cold war era obsession with comparative growth, the bases of the statistics are not elaborated upon. In other words, Arndt may tell us where to look, but he does not adequately explain what we will see.

To a certain extent this is likely a consequence of Arndt relying upon an external materialist logic to explain growth’s variable significance from one epoch to another. Thus he suggests that “people did not begin to think of material progress as desirable

⁶ Arndt, quoting Kuznets, notes that “in some sense the surge of academic ‘interest in problems of economic growth (was) largely an aftermath of current events’ than that the efflorescence of growth theory promoted the rise of economic growth as a policy objective (Arndt, 1984, p35).” In other words, growth as a dynamic end was already in the public consciousness before growth theory.

until events proved that it was possible (1984, p6)” and that “by the mid-nineteenth century...it did not need economists to advocate material progress which was conspicuously under way (1984, p14).” These suggestions are, however, problematic in that they implicitly suggest that there was no material shortcoming or earlier growth prior to the 18th century or in the period before the Second World War.⁷ If these conditions were present, then why did growth not emerge to preeminence as a governmental objective during these periods of time? With the material conditioning the discursive in such a manner, the specificities of the discursive environment can be overlooked.

Arndt also appears to be attributing too much coherence to economic growth as an epistemic framework. Although he characterizes the classical and static epochs as part of the “pre-history” of growth, he does not fully explicate their epistemic differences. Thus while he notes that Smith can be read as implying that “growth must ultimately end in a stationary state because of the satiability of human wants” or by limits of “soil and climate (1984, p8),” and that Ricardo and Mill likewise had their “own reasons for expecting economic growth to end in a stationary state (1984, p9, on Mill, p12),”⁸ he does not explore the significance of these qualifications with respect to economic growth as a *process*. While the above-cited economists may have expressed a concern for economic growth, it does not appear that they were postulating economic progress as the normal or *perpetual* condition. Rather, it was the means by which a lack in the full manifestation of a given economic potential could be eliminated.

As an illustration of the epistemic divide separating modern progress from its

⁷ In the case of the interwar period, full employment rather than growth dominates governmental objectives (Tomlinson 1996).

⁸ Marx’ model also reaches a steady state with the elimination of class contradiction. Growth here is a process, but one designed to realize a specific telos. Progress, by contrast, has no end point.

antecedents, it is helpful to return here to Gregory King, whose income series for the years 1688-1695, with additional speculations up until 1698, were “the first and only such series to be constructed anywhere for the next hundred and fifty years (Studenski 1958, p33).” The first point to note with King is that he makes no attempt to incorporate time as a consequential economic factor into his estimates. Time exists, at least with respect to economic aggregates, as a form of static partition. The national income and its components can vary in size in a given year. However, time does not constitute a dynamic terrain naturally altering economic totals. The most obvious example of this from *Natural and Political Observations and Conclusions upon the State and Condition of England* concerns the value of the unit of measure (Pound Sterling), which is assumed to be constant regardless of the year to which it is being applied. Despite the fact that 10 years of dramatic change (a war is taking place) pass between the first and last years of his series, the price of a Pound is assumed to be unchanging. Something like a system-wide rate of inflation cannot be considered here because it is a characteristic of an economic system where aggregate supply and demand alter price.⁹ Money for King is an unchanging measure. It can increase in volume (he notes the massive increase in the existing stock of gold and silver as a result of imports from America (King, 1936, p33)), or in the number of times it changes hands, but its relative worth is held to be a constant.

That being said, the aggregate amount of money circulating in a given year was something that could change. However, the causes of change are not construed as being immanent to economic transactions qua economic transactions. Rather, the national income could be larger or smaller for a given year depending on both population and

⁹ Individual items can rise and fall in price (he notes the effect of a shortage of live stock on price (King 1936, p49)), but there is no system-wide propensity for this.

trading conditions. In fact, while the aggregate economy was not systemically mapped onto time, population was.¹⁰ On the subject of population King spent 5 of his 12 Sections expounding on the number of people, their demographic composition, and their rate of growth over time. In one Section he suggests that the People of England will increase in number from between 100 and 1000 “8 or 900 years after the Floud” to a projected total of 22 million in “Year of our Lord 3500 or 3600...in case the World should last so long (King 1936, p24).” Population has a rate of procreation: it is an internally dynamic variable to the State and Condition of England. Other things being equal, where population increases so does the national income.¹¹

With respect to the specific national income totals that he constructs for his series, there are a number of variables which account for the change. Starting with the aggregate total for England, King notes that from 1688 to 1695 the national income decreased by One Million Pounds Sterling. The factors recorded as accounting for this decline do not relate to a decreasing productivity or some change in the business cycle related to profitability (as might be suggested in the modern context). Rather, at least with respect to income as opposed to expense or wealth, the only thing that King records as significant in the case of England is a decrease in population of 50 000 (King 1936, p55). For France, whose national income decreased by 10 000 000 Pounds over the same period of time, the noted variables are “the interruption of Trade and the Desertion of the Refugees (King 1936, p50);” the decrease in population here amounting to 500 000 (King 1936, p51). For Holland, whose national income increased by 500 000 Pounds by 1695, the

¹⁰ In the sense of the total mass of people, not in the social sense that Foucault suggests did not emerge until the 18th century.

¹¹ Consider also in this light Petty’s proposal to move all the peoples of Ireland and the Highlands into England on the resulting calculations of the increased national wealth (Petty 1899, p285-290).

relevant factors are an increase in population of 40 000, and more advantageous trading conditions consequenced by “the Losse of so many English East India Ships (King 1936, p53),” during the war with France.

Here I need to add a caveat insofar as King’s specific statistical totals are concerned: it is often difficult to perceive the statistical rationale behind any of King’s specific figures. For example, in the case of the decline in the national income of England, the decrease in population corresponds to a relative worth of 20 Pounds/head of lost population. This figure is more than 2.5 times larger than the average income per head he records earlier. Nevertheless, this same relative worth of 20 Pounds/head when multiplied by the population that was lost in France (500 000) gives the decrease of 10 000 000 Pounds that King records (1936, p55). However, the increase in Holland in national income and population over the same period of time does not correspond to this multiple of 20 (1936, p55), but rather with the increased “Proffitt by Trade Half a Million p ann. (1936, p53).” King is likely working with other unstated figures in order to arrive at his totals.

In a sense, though, determining the exact statistical formula King is using is not the relevant point. The point, rather, is to demonstrate that it is political and demographic factors which determine the terrain of “economic” analysis at the time, not any internal propensity for the economy to grow. The conditions of trade have an impact, population has an impact, piracy has an impact (1936, p50), and the expenses and taxes of government have an impact on the “economic” totals. But these are all exogenous events. With the exception of population, they do not permit a clear statistical relationship between economic size and time to be established.

On this point William Petty is worthy of mention: While he notes “That the Power and Wealth of England hath increased this last forty years,” the “proofs” that he offers in support of this position are ad hoc and additive, representing no real internal cause and effect relationship. Thus he records that “the Territories under the Kings Dominions have increased...the Land in its present Condition, is able to bear more Provision, and Commodities, than it was forty years ago (Petty 1899, pp302-303).” He also notes an increase in population, an increase in trade and shipping (1899, p304), a decrease in interest, etc. There are no trends thereby recorded, only discrete positive differences between England at the time and England 40 years prior.

Returning to King, we can further see the non-systematicity of the relationship between the economic and the chronological in his record and projection of the impact of the War on England’s Condition. King notes that the War was causing national expense to outpace national income and was therefore progressively decreasing the wealth of the nation. While “industry [in this case meaning hard work rather than manufacturing] and frugality (King 1936, p47)” were able to ameliorate the effect of increasing governmental expenditure to a certain extent, the net effect was a decrease in the nation’s wealth. Significantly, this decrease in wealth was recorded in a quite literal fashion: the net reduction in wealth is “chargeable” to a decrease in coined and uncoined silver and gold, Wrought Plate, Jewells, Furniture, tradable goods, and Live Stock (1936, p48). It is the remaining stock of wealth, which King suggests will be reduced to 62 500 000 Pounds by 1698 (in contrast to a figure of 86 000 000 in 1688) which puts an absolute limit on England’s ability to wage war. The projected stock of wealth by 1698 represents a barrier beyond which the war cannot be reasonably sustained (1936, p47). Any further

decrease would either reduce the supply of money to a volume “which cannot circulate the Whole (1936, p48),” reduce the stock of plate and furniture beyond a reasonable level (given that “the bedding of the Kingdome [amounts] to one Half of that Summ (1936, p48),” reduce tradeables to a volume beneath that at which trade can be “carried on,” or, by reducing livestock, promote a famine. Interestingly, this limit is established by the existing physical stock rather than by the “Value of the Kingdom,” which he pegs at 650 000 000 (1936, p30). War represents a drain on existing physical wealth rather than on claims to future economic resources. Time is clearly not a determinative variable insofar as economic analysis is concerned.

That being said, King does offer a number of alternative scenarios whereby the war effort could be financed: “the Yearly Income of the Nation be Incead’d” (exactly how is not mentioned), or “Yearly Expence be Diminish’d” or “Forreign or Home Credit be obtain’d”, or “the Confederacy be Inlarg’d” or “the State of the Warr alter’d” or “a General Excise, in effect Introduc’d (King 1936, p47).” With the exception of the first unexplained alternative, all of these possibilities exist outside of the “economy’s” normal functioning. The idea of promoting certain economic tendencies to produce a desirable result is nowhere found. That the economy can positively produce wartime requirements, that it can finance expenses out of future growth rather than current sacrifice (Mitchell (1998, p91) notes this as a new characteristic of the Keynesian economic imagination), is something that cannot be conceptualized within this episteme.

Finally, and since the figure will become so significant for later renderings of development, it is important to highlight that King does indicate that per capita income levels can differ both in a given year as well as internationally. The people of Holland

and England are on average richer than the people of France.¹² The reasons why the incomes differ, however, are related to conditions of the land (English land drawing an average of 6s2d per acre (King 1936, p35), France 5s per acre (1936, p49), Holland 10s per acre (1936, p51)) and the amount of trade and business carried out. In this context Petty's observations about the greater relative wealth of Holland are also relevant. Specifically, he notes that Holland's wealth is based on "the Situation of the Country, whereby they do things inimitable by others, and have advantages whereof others are incapable (Petty 1899, p255)." Petty goes on to note (1899, pp255-58) advantages in soil (which allows a high population density with attendant cost advantages in other areas), terrain (allowing windmills to be set up anywhere), and access to water (allowing them to dominate trade and defend with little relative cost). It is upon these natural advantages that Holland has "superstructured" an advantageous policy, "and not as some think upon the excess of their Understandings (1899, p261)." Natural advantages are the foundation upon which wealth is built – they are in many senses "inimitable." In this sense, nations are not travelling upon a commonly progressive economic frontier. Even while a national income may increase between one year and another, the economy is not recorded as having a rate of growth or as being common between states. There is no suggestion that one economy is more advanced than another, that the per capita difference represents a chronological relationship.

In general then, for early national income analysis, and for the 17th century in general, growth was not visualized as a self-generating, internally resonating process, even when some increase or decrease in circulation was noted or hypothesized. In his examination of the birth of the economy, Timothy Mitchell comments in passing on an

¹² The relevant figures for 1695 being: Holland 8P2s9d, England 7P16s, France 5P18s (King 1936, p55).

historical variation in the meaning of economic growth between the 19th and 20th centuries. Economic growth shifted in meaning from “a natural process of spatial and material expansion – the opening up of new territories, new cities, new markets, trade, population” to what he calls an “internal intensification of the totality of relations defining the economy as an object (Mitchell 1998, p90).”¹³ In other words, and unlike the case of the 17th century where circulation is visualized as increasing on the basis of some factor external to monetary exchange, growth in the 20th century becomes a property of the economic system itself. In the 17th century, the idea of a relationship between savings, capital investment, productivity, and economic progress is simply foreign to the predominant understanding of what the economy is. In such a context, as we noted in the last Chapter, international comparison of economic magnitudes is not about economic dynamism or competitiveness since these are intrinsic economic properties, but about relative strength largely defined in terms of the capacity to express military power.

The emergence of progress:

The above demonstrates that a quantitative recording of economic growth does not imply the concurrent existence of a quantitative or qualitative notion of economic progress. The question remains, therefore, when did economic progress emerge and how did it become definitive not only for within-nation but also between nation comparisons. Here we can return to Arndt for enlightenment. Again, Arndt notes many precursors

¹³ Although he may be making too much of the difference between the Keynesian and pre-Keynesian era in suggesting that “because the object of economic discourse was not itself a spatially fixed entity, economic growth was not a problematic question (Mitchell 1998, p90).” National income analysis, which feeds into national accounting, had already by the late 1920s established the state as the spatial terrain where

(Marshall, Schumpeter, Robbins, etc) wherein the *idea* of economic progress can be found. However, (although he does not specifically suggest this) what is significant is that economic progress only becomes a public responsibility and a public goal after it is rendered into quantitative terms.

Beginning with what Arndt does observe about the quantitative measurement of growth, he suggests that “as early as 1904 Bowley had begun the task (Arndt, 1984, p21).” In fact, there is an increasing proliferation of national income series over the course of the early 20th century.¹⁴ What these revealed was that national income exhibited regular secular changes that were not directly linked to population growth. This is seen most explicitly in Clark’s *National Income and Outlay* (1936) which, as Arndt notes, “was probably the first to think in terms of an annual ‘rate of growth of real income per head of the population’ and to try to estimate this magnitude statistically (Arndt, 1984, p21).” It is the rate of growth on a per capita basis that distinguishes Clark’s economic progress from King and Petty’s economic growth. Measuring per capita economic growth separates the rate of population increase from a secular increase in economic transactions. The secular changes consequently observed in the data series make it possible to extrapolate the national income as a solely economic measure both backward and forward in time. Rather than being a static measure of potential at a given point in time, a national economy can be quantitatively mapped as an object that advances according to specific rhythms. Statistical trends offered to demonstrate where the economy was in the past and would be in the future, other things being equal. In sum, the aggregate difference between King’s growth and Clark’s progress is that economic

economic magnitudes were to be calculated.

¹⁴ The interested reader can turn to Studenski for examples.

progress can become an end in and of itself rather than a means towards some other goal, such as augmenting national power or fully realizing an existing national potential.

Nevertheless, and regardless of their proliferation throughout the initial decades of the century, the impact of these early national income measures on public policy formation was, as Arndt notes, rather limited.¹⁵ It was not until national accounting became a governmental responsibility in the years surrounding the Second World War that these figures would have much of an impact.¹⁶ While we have highlighted the differences between national income and national accounting, national income was still an important component of the national accounting system. It offered a summary of economic activity even where it did not reveal the economy's internal workings. Where national accounting and its embedded Keynesian identities did alter the governmental role with respect to income growth was in the suggestion that the national economy could be manipulated *internally* to alter its momentum. Economic progress, made visible in national income series, became an end towards which governmental policy could be directly oriented. National accounting coupled with national income series made progress a rational policy objective.

Since our goal here is to document the construction of international economic space as it relates to progress, we will limit our investigation of within-nation measurement to this point. That said, and as we will demonstrate, within-nation measurements of growth were the basis upon which between-nation comparisons were made. We have already noted Arndt's suggestion that Clark's *The Conditions of*

¹⁵ "There is in fact hardly a trace of interest in economic growth as a policy objective in the official or professional literature of Western countries before 1950 (Arndt, 1984, p30)."

¹⁶ It is only beginning in the 1920s that national income estimation slowly began to emerge as a governmental responsibility rather than the project of private individuals (Studenski 1958).

Economic Progress cemented the growth agenda by revealing just how limited the world's productive resources were with respect to the world's existing needs. Clark has also been portrayed as a "pioneer (Stone 1981, p71)" in much of the literature, both "critical" (Tomlinson; Latouche; Escobar) and especially orthodox (Studenski; Kendrick; Maddison; Cairncross). Although Clark's place with respect to growth economics is also frequently noted, his homesteading role is usually expanded upon in the context of his international comparisons. Although there are earlier comparisons of national income, he was the first to use a common unit (rather than presenting results by way of multiple non-correlated currencies or by a single national currency without any explanation of purchasing parity considerations) in organizing the data. For our purposes, the significant point is that his comparison relied upon/produced progress as the legitimating rationale linking countries together. It was because all national economies were part of the same growth trajectory that they were amenable to comparison. They were spatially and structurally separate. Time both explained this difference and allowed this difference to be quantitatively overcome.

Turning to Clark's actual text then, it is noteworthy that he begins his *Conditions* with a spirited defense of the quantitative science of economics, one that should be contrasted to and separated from the more humanistic and speculative social sciences. Economics has a specific role to play in the intellectual division of labour, one concerned "only with those things which can be bought and sold for money (Clark 1940, p1)." In the process, economics allows questions regarding welfare, "defined in the first instance as an abundance of all these goods and services which are customarily exchanged for money (1940, p1)" to be both asked and answered. Were economics to try to incorporate

the concerns properly belonging to other domains of knowledge, it would be distracted from its core purpose and its associated research agenda. As such, he argues that it is best to “let economists get on with their work, and let the students of other social sciences get on with theirs (1940, p1).”

This general defense is underpinned by an empiricist epistemology which argues that accumulated factual evidence rather than logical conjecture is the basis of knowledge. As he puts it, the “scientific approach” on which economics should be based consists of “the careful systematization of all observed facts, the framing of hypotheses from these facts, prediction of fresh conclusions on the basis of these hypotheses, and the testing of these conclusions against further observed facts (Clark 1940, pvii-viii).” His near disdain for the non-empirical in economics is perhaps best reflected in the contention that “there is room for two or three economic theorists in each generation, not more (1940, pviii).” Economics, a discipline “started on the right lines by Gregory King and Sir William Petty (1940, pix)” must rely on accumulated quantitative evidence if it is to successfully realize its scientific potential.

Of course an empiricist epistemological orientation does not directly suggest which facts should be collected in order to answer a given research question. The homage to King and Petty should make it obvious that it is national income data that forms the foundation upon which subsequent hypotheses are built.¹⁷ As he puts it, “this book consists in essence of a comparative study of the investigations which have been made in all the principal countries into national income, and economic factors bearing upon national income (Clark, 1940, pvii).”

¹⁷ Demonstrating the limits of induction, of course, since induction depends upon a prior deduction about what observations are important.

It is on the basis of the accumulated national income facts that Clark's research problematic is formed: the data that he collects reveals "the world...to be a wretchedly poor place (Clark, 1940, p2)." Specifically "about 53 per cent of the world's population, including the whole populations of India and China, enjoys a real income per head of less than 200 I.U...nearly half of the world's whole output [is produced] in four countries (1940, p3)." National income figures indicate the existence of a great material disparity between states. Significantly, those same figures also indicate that currently wealthy national economies have increased in material capacity over the course of time – while they were once materially poor they have progressed towards material affluence. This data structures Clark's overall research question, "to find the conditions under which we can hope for the greatest degree of economic progress in the future (1940, pvii)," in a particularly national-territorial-chronological way. The solution to the research question lies in the "trends which have brought figures of real income to their present levels (1940, p4)." By charting existing national income data over time, and by comparing this data between countries, universally applicable generalizations regarding economic progress can be obtained. Studying within-nation growth trends will reveal the general cause-effect relationships associated with increasing economic welfare everywhere.

There are a number of general structural trends that Clark ultimately identifies/disproves. To list some of them, he statistically disproves the Malthusian contention that income per head is negatively correlated with population growth (at least in the case of industrial states, (1940, p5)), he notes a correlation between investment/savings and economic growth (1940, p6), and he highlights the relationship between the division of labour among primary, secondary, and tertiary industry and a

high per capita income (1940, p6). Having identified the basis upon which past national economic success has been achieved, present political policy can be structured so as to realize a similar economic growth in the future. Here, and although he is director of the Queensland Bureau of Industry, government statistician and Financial adviser to the Treasury (title page), Clark is somewhat implicit in his recommendations. His national income figures do not present the economy with the same degree of systematicity as is present in Stone's national accounts so it is less obvious what is to be manipulated to produce a given outcome. Nevertheless, he does offer some suggestions. For example, "for a community to realize its full productive possibilities...low rates of interest, adjusted to make possible the absorption of the large amount of savings which the wealthy modern community can produce, become one of the main objects of economic policy (1940, p16)."

Nevertheless, simply offering up lists of own currency national income and growth estimates for various countries would not serve much purpose insofar as comparing economic welfare or progress is concerned. The aggregate and per capita measures must be expressed on some common basis. Clark is well aware of the problems associated with economic comparison, both over the course of time in one state and between different social formations at the same time.¹⁸ His solution is to first ensure that the national income data he examines is measuring the same thing, that it is gathered according to a common definition (1940, p29).¹⁹ Where there is some disagreement over what is and is not to be included in the totals he adjusts the figures accordingly. Secondly

¹⁸ "Different communities, or people living in different times, consume different types of goods. Where these differences are very great, quantitative comparisons of real income become very approximate (Clark, 1940, p2)." We will document some of the technical problems associated with comparing national incomes on the basis of foreign exchange rates below.

he constructs a new medium to measure the aggregate and per capita economic output of different states, the international unit; “the amount of goods and services which could be purchased for \$1 in the U.S.A. over the average of the decade 1925-34, or an amount interchangeable with them (1940, p2).” In correlating the international unit with a distinct period of time, chronological variance is acknowledged and incorporated not just in terms of the series of recorded aggregate totals, but in the very unit that is used to construct those totals. Clark is well aware of inflation and its effects, and uses alternative statistical indicators such as price series in order to time-correct historically disparate national income totals (1940, p79). In contrast to King, time is not a static platform insofar as economic measurement is concerned.

In general, Clark maintains that the creation of purchasing power parities²⁰ between the United States of this time period and the countries to be compared permits economic welfare as a general condition to be calculated, studied, and ultimately promoted.

Now there are a number of observations that can be made about *Conditions* on the basis of the summary above. The first has to do with the apparent disaccord between his defense of an empiricist science of economics and the decidedly non-scientific defense he offers against those who might critique his use of national income data to measure relative economic welfare. To those²¹ who “have gone so far as to say that it is impossible to compare the level of income between two communities...[to] deny the existence of any objectively measurable economic welfare (1940, p27),” he replies both by decrying the “intellectual anarchy they will let loose (1940, p27)” and by reiterating

¹⁹ He relies on Pigeou’s definition of national income in *Economics of Welfare* (p18).

²⁰ This term was first used by Gustav Castel in 1918 (Marris, p42).

that purchasing power parity is a legitimate measure.²² In fact, as Simon Kuznets (whose national income estimates are hailed along with those of Clark as representing a “statistical revolution” (Patinkin 1976, 1104)), notes in a later review, a further examination of several of Clark’s figures reveals just how problematic the international comparison exercise is. Specifically, Kuznets (1949) notes that if the average per capita income value that Clark offers for China,²³ a figure amounting to 40 IU, were actually true, “all would be dead by now (p209).” The conclusion that Kuznets draws from this is that Clark’s estimates either fail to record a significant proportion of the goods and services actually being produced, or that “the whole complex of goods produced and consumed is so different that we cannot establish any equivalence of the type represented by Mr. Clark’s international units (Kuznets, 1949, p209).”²⁴ Notably, while Kuznets suggests that both alternatives may contain an element of truth, his response is geared towards the first. Thus among Kuznets’ solutions to this problem, for the short run at least, is an attempt to construct a more accurate measure of national income by treating semi-finished and primary products in pre-industrial countries as if they were fully finished at least insofar as the recorded price is concerned (Kuznets, 1949, p213). This would help account for the productive work being done within the family structure in pre-industrial countries by adjusting the consumption recorded upwards towards more

²¹ No one is specifically named here.

²² We will see below that this type of response becomes a common refrain amongst those attempting to defend international economic comparison, when confronted with the argument that such an exercise is not possible in a quantitative form.

²³ Clark’s total magnitudes are employed rather than per person. Kuznets must therefore take the total national income figure and divide it by the total population to get his per capita figure.

²⁴ Kuznet’s, like many of the individuals actually constructing early national income analysis, is well aware that their quantification efforts rely upon assumptions: “For those not intimately acquainted with this type of work it is difficult to realise the degree to which estimates of national income have been and must be affected by implicit or explicit value judgments” Kuznets (1941), cited in Seers (1976). Seers sees the accounts as reflective of “political needs (p195)” rather than, strictly speaking, objective reality.

realistic life-sustaining levels.²⁵ It is conspicuous that even amongst those recognizing the potentially insurmountable problems associated with international comparison there is a tendency to quantify any response in the form of an international comparison.

Regardless, the point is that the specific scientific apparatus that Clark constructs is not uncontroversial even amongst those sharing his empirical bent. However, offering a defence based upon a fear of anarchy allows Clark to avoid engaging in an analysis of the political suppositions behind his “scientific” starting point.

More generally, since it starts with the “facts,” empiricism tends to neglect the origin and basis of the measures that subsequent analysis relies upon. However, for our purposes it is the political suppositions and the effects of rendering them quantitative that are of most significance. The first of these that we will examine relates to the further ensconcing of national territory as the rational category into which economic analysis, specifically international economic analysis, should be divided. Clark states that he is looking for general structural relationships related to economic progress. These relationships are, however, only expressed within the borders of the territorial state. National growth trends are mapped. National causes for and against economic growth are studied. The implication is that each state grows or declines economically solely for internal reasons.²⁶ Things like the terms of trade, or colonial exploitation and its effects on the structure of the national economy are simply not quantitatively relevant.

Moreover, while national comparisons in international units may reveal the extent of

²⁵ Kuznets (1949, p226) estimates a figure of \$73 U.S. as a result of the simple alterations in what is recorded.

²⁶ In commenting on the theory of comparative advantage, Hindess (1998) notes its implication that all states can grow economically provided that they follow the correct policy. This is in contrast to the current “competition state” rationale where although the entire world economy may grow there is no guarantee that every state will be able to take part in this growth.

world poverty, this poverty only exists as a quantitative difference between states. India and China are poor while the United States and Canada are not. Poverty is an average per capita national issue rather than, for example, a class issue which can transcend territorial borders. Economic disparities across states or international economic linkages are simply not rendered visible.²⁷

This relationship between poverty and territory is given an additional objectivity in the form of numerical charts ranking income by country in ascending order (p54). It is a *country's* position on the chart that matters – ascent up the chart depends upon raising the average per capita figure. There are two implications of this type of quantitative presentation. First of all, high income emerges here as a relative country specific goal. Wealth is something that is uniformly experienced across the territory of the state. This wealth is, moreover a relative measure – relative to the highest state in the chart, not to any absolute or human needs figure. The state and its advance are the referents, not human beings, classes, or absolute poverty. Progress depends upon moving up the chart relative to other states.

With respect to the second implication of Clark's chart, and as others (including Latouche; Esteva) have noted, in defining and recording economic welfare as “an abundance of all these goods and services which are customarily exchanged for money (Clark, 1940, p1),” and poverty as a corresponding lack in purchasing power, both welfare and progress emerge here as quantitative material issues. Latouche in his examination of the emergence of the standard of living (“measured by the quantity of

²⁷ Clark (1940) does suggest that an equal distribution of wealth contributes more to economic welfare than an unequal distribution of wealth. However, he also suggests that this is a qualitative rather than quantitative assertion (p1). While he records a Pareto coefficient for a number of states (p13), this coefficient is still an aggregate national measure.

goods and services which may be purchased by the average national income,”(Latouche 1992, p.800 quoting Jean Fourastie) as *the* measure of well-being and development notes that “one cannot truly enjoy one’s standard of living unless one is conscious of it (Latouche, 1992, p252).” The emergence of per capita income figures expressed in a cross-country comparable way (here he explicitly mentions Clark’s *Conditions* as significant) made relative material disparity objectively visible at the same time that it made that quantitative total the terrain on which self-worth and personal well-being came to be defined.²⁸ While it is possible to define well-being in less materialistic/monetary terms (consider the Human Development Indicator here),²⁹ the standard of living made an economic measure, an increase in quantity rather than quality (1992, p251), the “objective” axis around which debate was framed. While pursuit of material increase may in fact result in a decrease in the quality of life as measured by other indicators,³⁰ only quantitative increase has meaning where debate is framed around GDP per capita.

That said, while Clark’s data and analysis are largely state-centric he does highlight certain important international processes related to the terms of trade (Clark, 1940, p14). He observes, for example, that “the activity or otherwise of international lending determines both the terms of trade and the aggregate amount of world trade (1940, p15).” However, even in this case economic causality progresses from inside the state outwards, where “great attention must be paid to causes within those [creditor] countries as factors determining the world economic situation (1940, p58).” In contrast to much of the imagery of globalization, it is specific national trends that are responsible

²⁸ Latouche (1992, pp255-256) situates this development in the longer run historical/philosophical trends of the West.

²⁹ Although this is still a rather material frame of reference.

³⁰ Since economic growth can despoil the environment, or be correlated with an increase in human rights

for “international” developments. There is no quantification of the international economic currents which may interpolate specific national developments.³¹

On the basis of the above it is apparent that Clark’s statistics, and the construction of the international economy that results from them, are territorially constrained. And yet this is an exercise in comparison, where a plane of commonality must exist despite the evident separation into national economic units. It is only possible to compare objects if they are of a similar order. This brings us to the second political rendered quantitative supposition, that time is the essential link through which states are connected, not present economic intercourse. In briefly commenting on Clark’s earlier *National Income and Outlay*, we have already noted the effect of recording a rate of growth for the national economy insofar as its abstraction and objectification are concerned: the national economy emerges as an object with its own immanent tendencies realized over the course of time. This “rate of growth of real income” is also a significant aspect of Clark’s comparative work in *Conditions* (Chapter IV) in that it allows him to chart and plot each state’s relative size not just at one point in time but over the course of time and in terms of its relationship to every other state. The relative difference in magnitude between states becomes part of a process (progress or a lack thereof) rather than constituting a mere discrete and concurrent difference. Maddison, whose own work is largely directed towards making calculations of the national income of societies (some of whom are literally pre-historical)³² lacking such data puts it thus: *Conditions* “created a framework

abuses. The Soviet Union under Stalin offers an excellent example of this.

³¹ Interestingly, Kuznets (1941, p34) criticizes along these same lines although his own work on national income replicates the problem: “Greater attention to theoretical analysis might have pointed to the interdependence of the various parts of a country’s or the world’s economic system, and to the probable conclusion that high income in some industries or some countries is possible only in conjunction with and because of low levels of income and productivity in other industries and other countries.”

³² In *The World Economy: A Millennial Perspective*, Maddison traces the growth of the economy in many

for comparative analysis of performance in space and time which was to revolutionize the possibilities for comparative economic history, and analysis of problems of growth and development (Maddison, 2004, p12).” Time, either the future or the past, is what is made visible through Clark’s comparative method. An historical trajectory is what is made common between states. While they may be located on different levels of that trajectory, the journey itself is common to all states.

The temporalization of the relationship between states is perhaps best revealed through the graphical forms in which some of the statistical data are presented. Revisiting Clark’s chart on relative income levels per capita per nation, we have already noted how the relationship between states is defined by ascending quanta. Ascent up the chart over time defines the relative success of a national economy. However, it is not in the numerical chart but in the linear graph where this chronology becomes most visible. For example, in one chart (Clark, 1940, p145) Clark transposes his magnitude and rate of growth data into country-specific horizontal lines charted on an X/Y axis. In so doing, all data points are connected producing a seeming momentum in one direction or another for each state. While Clark does not extend his graph beyond the present,³³ having the data presented in such a form permits the analyst to both extend the graph into the future as well as to compare sections of the slope of one state with another in order to identify parallels in historical experience. The question then becomes what were the conditions under which the more advanced state progressed. Economic trends can be quantified, plotted, and transferred from one state to another. They are separately experienced but

parts of the world from the years 0 to 1998. He relies on International Comparison Programme data to construct purchasing power parity between states/eras in the form of 1990 International Dollars (Maddison, 2001).

³³ Although he did write the futurist book *The Economics of 1960* in 1942

potentially replicable by all states. If the United States can be demonstrated as growing from smaller to larger as a result of certain trends, than China, having an income corresponding to an earlier stage of time, must naturally grow if the conditions through which past growth in the U.S. existed can be replicated. The trends may need to be freed from political or social interference, but once let loose nations can expect to flow upwards on the same progressive stream.³⁴ The parallels here to modernization theory are obvious: It is not surprising that Walt Rostow's *The Process of Economic Growth*, which explicitly constructs a stagist model on the basis of an examination of development trends in the industrialized world, draws upon Clark in the Appendix "Illustrative Statistics of the Pattern of Growth: the United States and the United Kingdom (Rostow, 1960, pp349-358)."³⁵

Finally we come to Clark's unit of comparison, the international unit. First of all, to note that it is literally a U.S. centric measure almost goes without saying. The purchasing characteristics in the U.S. during the period 1925-34 are normalized as that which all national economies naturally emulate. All states, despite their varying degrees of welfare, experience a similar type of economic reality insofar as consumptive patterns and relative values are concerned. However, this is not the main point to be made here.

Rather, even where Clark does recognize that consumptive patterns may be different both

³⁴ To take one specific example, Clark (1940) notes that high national income levels tend to correlate with an alteration in the division of labour favouring tertiary industry. This shift in labour is part of an historical process where "in every case [as incomes rise] we find the proportion engaged in primary industry declining and in tertiary industry increasing. The proportion of the working population engaged in secondary industry appears in every country to rise to a maximum and then to begin falling, apparently indicating that each country reaches a stage of maximum industrialization beyond which industry begins to decline relative to tertiary production (p7)." Tertiary industry is, other things being equal, more productive than primary. Accordingly, states wishing to raise per capita income can consider "transferring labour from less to more productive spheres (p11)."

³⁵ Rostow, of course, being a central figure in the development of the American mindset towards the "third world" as well as in the character of the American foreign aid regime (See Ish-Shalom (2006)). Consider

historically and internationally and adjusts his quantitative measures accordingly, the same type of chronological reasoning presents itself. For example, in the 3rd edition of *Conditions* Clark suggests that while the International Unit should be used in the case of comparisons amongst high income states, the Oriental Unit – “defined as the quantity of goods or services exchangeable directly or indirectly for one rupee in India in 1948-49 (Clark, 1957, p20)” - should be used in the case of comparisons of low income states.³⁶

In addition to providing a different metric, the definition of what to include in national income is also subject to a degree of alteration³⁷ to better reflect the circumstances of low-income countries. What is noteworthy is that in the process of constructing this new measure the relationship between high and low income countries is equated to a historical similarity rather than a concurrent difference. Consider the following justification for the O.U.: “as we go down to lower real incomes, either examining the poor communities of the present day, or going backward in time, we find that the I.U. becomes less satisfactory as a unit. This is because the whole scale of relative values alters. (Clark, 1957, p18).” The first thing to note is the equation of the poor present with a condition located “backward in time.” The 3rd world emerges here as somehow separate from the 1st in the present, and yet it is a part of that same world’s past. Time is the variable stream connecting national economies, not production, interdependence, or exploitation.

In the same way that linking economic processes to territorial borders through a

also Irving Kravis (1957), which, in describing the differences between market and non-market societies uses a typology closely reflecting Talcott Parsons’ pattern variables.

³⁶ The parallels this draws to Said’s *Orientalism* are almost too obvious to warrant mention here. Consider also Sandra Halperin’s (1997) discussion of the “third world” characteristics of the “first world,” a history characterized until after the second world war by dependent development rather than autonomous development – colonialism, dualism, dependence on foreign capital, inequality, unstable democracy, etc.

³⁷ For example, Clark (1940) excludes government expenditures because in low-income countries “most government expenditure is, at best, necessary expenditure for the preservation of law and order; at worst, the provision of jobs for the relatives of ministers and Parliamentarians, a system of distributing real

statistical apparatus has political effects, linking discrete data measurements to time has non-statistical consequences. In the most general sense, rather than documenting a condition, a statistical series documents a position, commenting on the nature of history itself. In the case of national income analysis, economic progress emerges as a natural and thereby non-political objective – something mandated by forces beyond human control. Events, objects and policies which stand in the way of progress can be rendered as “special interests,” parochial, or traditional, seeking to divert history from its natural course. James Ferguson, in commenting on the formation of international development policies in Lesotho, has labelled this type of technical reasoning as part of an “anti-politics machine,” one that removes political questions, choices, and implications from the policy equation (Ferguson, 1990). For the policy maker that relies upon this type of model, local conditions are treated as an expression of the pre-existing technical measures; technical measures are not constructed on the basis of local conditions.³⁸ The conditions of growth as reflected in and measured by the technical indicators determine economic reality regardless of the economic reality.

Of course, to suggest that Clark cemented time rather than production as the distinguishing characteristic of the international economy could be dismissed either as author specific and therefore of limited impact, or as specious interpretation. We have already noted the impact of Clark’s figures on those developing the system of national accounts and on later development economists. Clark had a clear and traceable effect on the evolution of international economic analysis. Of course, even though Clark was

national product rather than adding to it (p22).”

³⁸ In Ferguson’s (1990) case he demonstrates how the numerical presuppositions led to an analysis of the economy of Lesotho by the World Bank that did not accord well with its internationally mobile (to South Africa) labour force.

intellectually influential, we do not want to assign him too foundational a role. He did not work in a vacuum and must have been drawing on earlier currents of thought. To put it another way, the environment must have been receptive to Clark's message for it to be so readily accepted. Perhaps it is best to say that he embodied and then quantified existent modes of thought on the relationship between the economy and space, and between "advanced" and "traditional" societies. This quantification subsequently produced new effects on an existing discourse, as we will demonstrate below.

As far as the issue of interpretation is concerned, the same type of reasoning that we see in Clark is made readily apparent in the work of a number of other national income statisticians writing in the period immediately following *Conditions*. For example, Studenski notes that as influential a figure as Kuznets suggested a method which "would involve the measurement of the national incomes of the industrially less advanced countries in terms of the national income of the more advanced country during an earlier stage of its development (Studenski 1958, p226)." In so doing, the statistics would explicitly link current country-specific conditions with those of advanced industrial states in the past. Likewise, Tibor Barna, in commenting on the effect of "structural differences in price" between national economies and the effect that this might cause on international comparison, defines this difference according to "the stage of economic development of the country (Barna 1953, p151)."³⁹ In other words, by the time Kuznets and Barna are responding to the international comparison issue (early 1950s) the past-present equation between states with differing economic magnitudes has already largely defined the parameters of debate. Alterations to the metric may have to be made

³⁹ Another possible explanation for the difference is "the pattern of institutions."

to better reflect purchasing power parity, but the possibility of comparison and the nature of the relationship between states had already been established.

New Realms of Visibility - Progress and Development:

The very exercise of comparison brings to light new problems and new solutions on the basis of what it makes visible. To put it another way, efforts aimed at making economies comparable both animated and enabled programmes that were not directly suggested by those who designed the data. In the case of the synchronization of national accounting data according to a common unit, we have already discussed the obsession with a quantitative national “standard of living.” Once growth was rendered technical, numerical, and subject to extrapolation, its extra-statistical suppositions – the meaning of economic welfare as material accumulation, or the national rather than class basis of poverty, for example - could vanish. Material increase becomes an uncontested goal when it frames the terms of debate. Disagreement can be had over which is the best policy to realize progress, but where there is a need to be scientific and quantitative the figures themselves must be used.

There also exists a substantial literature focusing on how a particularly economic development discourse was assisted into being by the “comparative statistical exercise (Escobar 1990, p23 referencing Sachs.)” that we have noted above (Escobar; Crush; Sachs; Munck and O’Hearn; Arndt).⁴⁰ Making economic progress visible creates a clear connotation of more and less advanced, of backward and forward, of traditional and modern on the basis of differing relative magnitudes. Earlier tropes

⁴⁰ Although the exact date of its public emergence differs between those who locate it definitively on January 20, 1949 with Truman’s inaugural speech (Esteva, 1992, p6), and those who consider it to have

certainly divided the world between modern and advanced, but the terrain of proof was qualitative and the divisions in many ways absolute. Divisions between tradition and modernity were defined by civilization, religion, language, or race, rather than by the objective and incremental measure of economic size within a given territorial space. According to Escobar, prior to the statistical alteration in meaning “the concern with poverty was conditioned by the belief that even if the ‘natives’ could be somewhat enlightened by the presence of the colonizer, not much could be done about their poverty...The natives’ capacity for science and technology, the basis for economic progress, was seen as nil (Escobar, 1990, p22).”⁴¹ By contrast, in the age of accounting the discourse of progress becomes quantitative, material, and incremental rather than spiritual, biological or absolute: all can take part in what results regardless of their historical development up until that point in time.

This alteration in the meaning of development has a governmental impact associated with it. Development in the imperial age was “calculated to educate the natives and to teach them to understand and appreciate the benefits of civilization (Tucker 1999, p5, quoting *The General Act of the Berlin Conference*).” Development was the responsibility of a concerned and paternalistic colonizing state; the parental responsibility was as much qualitative and spiritual as material. National accounting, by contrast, reorganized the discourse of the Other into a quantitative, scientific, and objective form. With the national accounts development assistance becomes not just a mechanism for projecting a latent sense of political/cultural/moral superiority (which it still implicitly does), but an active technocratic obligation for governments regardless of

older roots in the 19th century (Cowen and Shenton (1995); Arndt (1981)).

⁴¹ Escobar is drawing here on Adas (1989).

their location. Those who are “advanced” have a governmental obligation to help ameliorate the conditions of those less developed. This was realized in the form of International Development Organizations (both private and public) and in national foreign aid policies. Likewise, those governing less developed states have an obligation to themselves to emulate and replicate the paths that lead inevitably to progress, they must govern themselves correctly – in fact it is the internalization of the governmental role that Escobar (1995b) suggests marks the difference between pre and post 1949 development thought. With comparable national accounts the existing modern-traditional dichotomy can find a new organizational, managerial rationale, a new governmentality, where every party has a responsibility to take part in the scientific solution.

Even in the “modern-developed” world this quantification of state power changes the relationship between economic areas. With economic comparison one state’s internal economic performance could now be gauged against that of every other state. Tomlinson, in his exploration of the discourse of declinism in the United Kingdom during the 1950s and 1960s,⁴² notes the importance of (among other data) internationally comparable national income statistics. As he puts it, “the key statistics were those that place British performance in an international context, because declinism drew upon *relative* measures of that performance (Tomlinson, 1996, p735, italics in source).” In having the growth of economic output situated relative to other states (rather than just within a given state over time), a new form of international competition – economic dynamism rather than aggregate national power - was rendered possible. Political resources would have to be targeted against those domestic forces which prevented the

⁴² “The declinism of the 1950s was different from the varieties evident in the previous 80 years. It was much more unambiguously economic, rather than strategic or military (Tomlinson, 1996, p753).”

realization of whatever success the rest of the world (or at least its most dynamic elements) was perceived to be experiencing. While there is an implicit privileging of those behavioural tendencies dominating in that state with the greatest rate of growth, the competition itself does not discriminate on any other basis but relative size: adoption of whatever will increase the size of the economy is the implicit message.

A simple comparison exercise can, therefore, produce profound political effects. New modes of visualizing, conceptualizing and managing were brought into being where the relationship between states was quantified in the form of national income comparisons.

The Politics of Overlooking:

These are not the only political stories to be told with respect to the national income comparison issue, however. We noted above that there were objections made to the specific comparison metric being used by Clark by others who were engaged in the national income comparison project. This section will attempt to document the politics of overlooking that followed the normalization of Progress as the basis of international economic comparison. Where efforts to make comparisons more context-specific were initiated, attempts which might have undermined the structural commonality of national economic spaces, there was little incentive to adopt them. Since they did not speak to the common episteme they could be discounted as either irrelevant or dangerous to the very comparison exercise.

Comparison requires the existence of at least two areas of commonality to be successful. In the first place the objects themselves must be of a similar species, that is,

the researcher must ensure that she is measuring the same type of thing. This is the apples and oranges issue. Secondly, where the objects are comparable they must be measured by the same type of instrument. It would be of little use comparing the weight of two apples if one were measured in pounds and the other in kilograms and there was no accepted means of translating from one measurement into the other.

With respect to the first criteria, and moving from private efforts like Clark's to official public efforts, comparability was realized by the adoption of a common national accounting framework by most states. Subsequent to the official promulgation of Stone's accounting framework in both the Organization of European Economic Cooperation and the United Nations System of National Accounts (1953), most states presented their national accounting data in a similar form. While there were differences between states in the specifics of what was recorded and utilized for internal policy decisions,⁴³ this data would be rearranged according to the accepted standard when it was presented to and presented by the relevant international organization.⁴⁴

Not only was the accounting framework made common in a strictly mathematical sense, but there emerged a degree of consensus over what exactly it was that was being measured in the process. The majority of national income analysts accepted that it was

⁴³ The most significant exceptions here are the Soviet bloc states which relied on a Material Production accounting system that did not recognize the economic significance of services. Consequently, and in addition to their doubtful veracity, it was difficult to directly compare the economic magnitudes and growth rates of communist and capitalist countries. However, even amongst capitalist countries there were some differences. Barna (1953, p143) notes that "important European countries, notably France, West Germany, and Italy, although they may submit their estimates on an internationally comparable basis, for their own purposes continue to use concepts which differ from the Anglo-American definition, mainly in the treatment of the government sector." Nevertheless, and as we will discuss in the Post-Script, these differences have declined over time (McNeely, 1995).

⁴⁴ Kendrick (1972, p215) notes that "[a]fter the SNA was published in 1953 [by the United Nations], the handbook, *Methods of National Income Estimation*, was prepared as an aid to preparing national income statistics, with the needs of LDCs given particular attention. Subsequently, the UN not only has published a *Yearbook of National Accounting Statistics*, but has also provided a survey of National Accounting practices, with a view to their ultimate improvement through analysis and comparison."

welfare that was being measured: Studenski notes that comparing welfare “is generally the only purpose of such [national income] comparisons (Studenski, 1958, p218).” For Rao “it is comparative levels of economic welfare which we seek to investigate when we institute a comparison of their real national incomes (Rao, 1953, p.193).” Other than for reasons of development, knowing comparative welfare allows for equitable burden sharing in common efforts through common institutions – United Nations dues and NATO defence obligations are gauged on the basis of comparable national income figures, for example (Kravis 1984, p4).⁴⁵ By the mid-1950s, therefore, broad agreement existed not just on the technical apparatus that should be used to measure the national economy, but also on the purposes that could be served by national income comparison.

Moving on to the second element, and once it is determined that a similar recording system is being used, that the same type of economy is being measured in all states, comparing national economies may seem like a relatively trivial statistical endeavour. After all, even where national economic totals are recorded in dissimilar monetary units, those units have publicly available relative values in the form of foreign exchange rates. It would be a simple matter to convert totals from one currency into another on that basis. And yet doing so can give results that are nonsensical when considered even superficially. Consider this frequently given example: “exchange rate conversions indicate that Japan’s per capita GNP was 47 percent higher than that of the United Kingdom in 1978 and 5 percent lower than the U.K. level in 1980.” This despite the fact that “Japanese constant price series for GNP shows an increase of about 8 percent on a per capita basis while the U.K. constant price series shows an approximate decrease of one percent (Kravis, 1984, p2).” While domestic figures reveal that Japan “grew”

⁴⁵ Kravis notes that the organizations rely on nominal rather than “real” income in making decisions.

economically in the period and the U.K. “declined,” foreign exchange figures reveal the opposite. Clearly there are technical problems associated with relying on foreign exchange values. Accurate comparison appears to require a greater appreciation of local factors than the currency markets can provide.

Kravis puts the general problem thus: “The problem posed by the existence of different currency units is simply that exchange rates do not usually reflect the relative purchasing powers of currencies (Kravis, 1984, p2).” This is a problem to which there is no accepted statistical solution: Gilbert and Kravis’s empirical study of price structures in certain European countries and the United States leads them to conclude that “the differences between exchange rates and real purchasing power equivalents...are too fundamental to be reconciled by any simple statistical manipulation (Gilbert and Kravis, 1955, p116).” There are a number of technical reasons why this is the case (Studenski 1958, p224). In the first place, exchange rates only reflect those goods and services that actually enter into international trade. Where a good or service circulates entirely within a state, or where high transportation costs affect price, currency rates do not give a sufficient indication of relative purchasing power. Secondly, structural differences in prices can mean that a different exchange rate is appropriate for different segments of the economy (Barna, 1953, p151). Goods may have a different purchasing power parity than services, for example.

Clark provided one mechanism to overcome this issue with his International Unit. In fact, a similar type of methodology – in this case based on binary comparisons of purchasing power - was adopted in the first official OEEC publication dealing with the

problem of comparison (Gilbert and Kravis 1954).⁴⁶ Both methods required an extensive collection of “appropriate quantities, prices, values for as detailed a breakdown of GNP as possible (Gilbert and Kravis, 1954, p17)” in the nations to be compared. In other words, they mandated an intensive examination of local conditions.

However, Clark’s later public impact on the form in which international economic comparison took place came about not so much as a result of his specific comparison metric, the International Unit, but in his arrangement of national economies as similar objects separated in time. Once it was clear that economies could be compared, the U.S. dollar exchange rate seemed to offer an acceptable comparison metric. As such, rather than stimulating a concerted and unified public effort towards a more accurate purchasing power indicator, the international comparison exercise after Clark followed two different trajectories: To list the minor trajectory first, there was a subsidiary push for further investigation since existing purchasing power parity measures did not provide much more than an approximate measure of the comparative economic capacity of a given state. There were thus a number of private and public efforts aimed at making comparison more accurate. Among these efforts the International Comparison Programme is that which both received official international sanction and ironically demonstrates best the politics of ignorance.

The ICP was formed in 1968 by the United Nations Statistical Office in conjunction with the University of Pennsylvania to “establish a methodology for international comparisons of real product and purchasing power (Kravis 1984, p24)”⁴⁷ To that end it engaged in a number of “rounds” aimed at obtaining purchasing power ratios

⁴⁶ Maddison (2004, p17) suggests that this OEEC effort is technically similar to Clark’s.

⁴⁷ I derive this history of the ICP from Kravis (1984).

between states, with the results being published in intermittent years.⁴⁸ However, by 1999 a United Nations Statistical Commission sponsored evaluation of that programme would state that ICP estimates lacked credibility (United Nations Economic and Social Council 1999, p8): “not only is its lack of timeliness deplorable, but its results are not generally accepted in the same way as such key statistics as the CPI or the gross national product (p11).” Detailed estimates of purchasing power gathered on the basis of intensive local data collection did not generate any public enthusiasm for the Organization or its mandate.⁴⁹ In other words, the self-acknowledged irrelevance of the ICP reveals just how unimportant local conditions became for international economic policy making.

This leads us to the second and predominant trend amongst those relying on international comparisons; not towards a greater adoption of local pricing structures but towards the more simplified comparison metric of foreign exchange. According to Robin Marris “from the late fifties onwards...interest in this [purchasing power parity] work seemed to flag and, increasingly, international organizations compared per capita incomes by converting local-currency nominal GNPs at official or market exchange rates (Marris, 1984, p42).” Thus Kravis notes that “the World Bank’s *Atlas*, probably the most widely cited source of international comparisons of GDP, also relies on exchange rate conversions (Kravis 1984, p2, note 4).”⁵⁰ The very demonstration of comparability

⁴⁸ “Beginning with the third phase...a five-yearly schedule for new benchmarks was adopted (United Nations Economic and Social Council, 1999, p15).

⁴⁹ Part of this lack of enthusiasm relates to the perceived lack of quality of the numbers (discussed below). However, rather than intensifying efforts to improve the results, the response has been the near abandonment of the project.

⁵⁰ As of 1995 World Bank publications have been using ICP derived PPP figures in addition to exchange rate conversions based on the US dollar. There has, in fact, been an increased use of PPP in economic comparisons – perhaps precipitated by the emergence of a new global economy image that we discuss in Chapter V.

created an institutional lethargy insofar as additional measurement precision was concerned. In many respects it was simply easier to rely on foreign exchange values rather than going to the considerable expense of relying on up to date purchasing power indicators. Once it was demonstrated that national economies could be compared on the level of Gross Domestic Product, that economies were structurally similar if located separately in time, there was little incentive to refine measures to take greater account of contemporary local specificity. As such, despite widespread recognition of its technical problems and “inaccuracy,”⁵¹ the foreign exchange method of comparison became used extensively in most public international organizations.

Institutional lethargy and expediency are not the only reasons behind this neglect, however. We have already noted the fear of “anarchy” that formed the basis of Clark’s response to those suggesting that national income comparisons were not possible. In fact, the type of defence that Clark offers is prevalent throughout the literature on international comparison. The potential for anarchy is best revealed here by adding some general difficulties associated with international comparison to the technical problems that we have already noted with respect to purchasing power. To begin with, any monetarily denominated international comparison “must proceed as if the subjects all had the same tastes; i.e., nations are treated as a set of quasi-persons with a common preference map (Marris, 1984, p48).” Cultural differences, which are assumed away, may skew the correlation between income and welfare – if wants and needs are different, than their

⁵¹ This statement should be qualified: “The purchasing power theory of exchange rates in its absolute form holds that exchange rates will be determined by the purchasing power of currencies (Kravis, 1984, p2).” However, the mere existence of the ICP demonstrates that this is not generally accepted when the issue is pressed. Kravis goes on to note that exchange rate comparisons can be useful for monitoring “trade flows, debt ratios, and capital flows,” but “for the assessment of economic performance (p4)” require more detailed price comparisons.

satisfaction may not correlate in the same way with increasing income.⁵² As far as the institutional response to such potential problems is concerned, the response to S. Herbert Frankel's article in Series III of the International Association for Research in Income and Wealth's *Income and Wealth* journal is typical.⁵³ In the article Frankel makes the case that income comparisons cannot give us any meaningful indication of relative welfare between developed and underdeveloped states since it implies that their value systems are interchangeable.⁵⁴ In his establishment response, Frederic Benham, while acknowledging the problem, suggests that "surely it would be foolish to throw up our hands in despair and to say that no comparison is possible (Benham 1953, p171)." Likewise, J. L. Nicholson's review of Gilbert and Kravis's *An International Comparison of National Products and the Purchasing Power of Currencies*, the first major OEEC publication to deal with the comparison issue in quantitative terms, suggests that while the authors note the existence of comparison distorting factors they nevertheless imply that "we must ignore all these complications,...or we may find that we are unable to make any comparisons at all."⁵⁵ In other words, at least amongst those engaged in refining national income comparisons by refining the metric, even where there is an acknowledgement of a potentially crippling problem with the comparison exercise, there appears to be more concern with maintaining order than with defending the scientificity or accuracy of what results. Acceptance of a particular type of comparability regardless of the assumptions

⁵² Rao notes these differences but suggests, at least on the issue of a fundamental cultural difference between a consumptive society and one believing in a "limitation of wants" that "I do not believe that this so-called difference in attitudes to wants...really exists on the scale imagined (1953, p198)." The same is true in the case of climatic differences, where less income is required to satisfy a given need – the requirement for heat and shelter, for example, differs between hot and cold climates.

⁵³ This is the main international professional body for those studying national income issues.

⁵⁴ "The creation of income takes place within a social framework and a social situation. What 'income' is and how it is valued is determined by the social circumstances and surroundings in which the individual finds himself (Frankel, 1953, p157)."

required to uphold that comparability is a prominent theme in the literature.

Other than for reasons of lethargy, expediency, and fear, there are also pragmatic political reasons for “overlooking” context-sensitive refinements. To put this another way, there are immediate political implications associated with a given technical solution to the comparison problem. Kravis notes, for example, that relying on International Comparison Project data rather than on foreign exchange conversions for 1975 would reduce the gap between developed and developing country national incomes from 10.1: 1 to 5.8: 1. In other words, “the gap between the poor and rich countries is smaller than the nominal comparisons suggest (Kravis, 1984, p28).” It is not surprising therefore that developing country support of international purchasing power efforts has been limited. In the ICP evaluation mentioned above, the author notes that “experts in charge go out of their way to make such statements as: ‘the statistics resulting from the PPP project are not used to affect World Bank lending conditions’... While understandable, this strong disclaimer has the effect of reducing the relevance of the basic information (United Nations Economic and Social Council, 1999).”

In general, then, while the international comparison exercise may have generated a technical trajectory concerned with refining the basis on which the relative capacity and welfare of states was determined, this trajectory had little traction in the post-war years either with the interested public or with policy makers. With the frame of comparability established by Clark, there was little incentive to invest resources in an effort which may have undermined the very comparison project. Foreign exchange conversions of GDP were sufficient to make visible where on the temporal horizon of progress a given state could be situated; more than this required a superfluous knowledge of local conditions.

⁵⁵ This critique is mentioned in Studenski (1958, p226). The review is Nicholson (1955).

Conclusion:

Recall that national income comparisons were used to inform the resource sharing necessary for collective endeavours whether for the prosecution of the war effort or for relief and rehabilitation needs. When these same comparisons revealed manifest disparities in national income, particularly national income per capita, there was a clear governmental interest in finding out why. Why were some national economies wealthier than others? Why progress in some national economies but not in others? Given the form in which the statistical comparison exercise took place, a form characterized by structurally similar but geographically distinct national economies, the notion of a concurrent development/underdevelopment framework was not intuitively operationalisable. Each national economy was statistically *sui generis*; that is, economic processes were largely autopoietic. Economic activity was characterized by the same motives and the same structural propensities despite taking place in different national economic settings.

However, while the structural characteristics or the character of international economic transactions could not thereby offer an explanation for the geo-economic divide, the differing magnitudes in and of themselves offered a solution. Since national income series revealed that national economies grew over time, the international environment could likewise be structured in the form of a temporal horizon. The inscription of economic magnitudes onto time morphed into an obvious explanation of differences in economic aggregate or per capita totals across space.

This inscription of time onto economic space produced a number of effects

insofar as the governance of international and domestic space is concerned. Whether it is the fixation on quantitative welfare or the obsession with national growth or development, the statistical apparatus informed a very specific type of policy environment. The rendering of time into space also contributed to a certain politics of overlooking which discounted statistical refinements requiring a greater local sensitivity.

In sum, and to relate this Chapter back to the overarching theme of this dissertation, there are several points to note. In the first place, the orthodox narrative of globalization as a linear progression from local to national to global economy fails to capture elements of the actual content that was projected onto the international during the so-called era of the national economy. Read in their own terms, technical indicators constructed a very different type of policy environment than the merely “inter-national” – albeit one that was every bit as political and contestable as the simple national economy image.

Secondly, we come to the issue of progress. Progress is not a self-evident economic category – it has a history that we can trace. It is based upon presuppositions – related to territory, welfare, and the future - that do not, as such, directly reflect an external and objective reality.

Finally, we can relate the category of progress directly to the global economy: the notion of progress continues to inform governmental problematizations in the context of globalization. Here, however, it is the notion of competitiveness that is most significant. One strand of the globalization literature (that associated with “competitiveness” or the competition state)⁵⁶ suggests that the pursuit of progress in the national economy still matters to the global economy, albeit in a modified form. Competitiveness in this context

refers to a state's ability to structure governmental interventions in such a way that national progress can be achieved in the context of a new globalized economy.⁵⁷ What we see is a mutation of a prior statist orientation of progress from within the discourse of Globalization – states oriented towards making themselves more attractive to “footloose” capital and thereby perpetuating further “globalization.” We see the earlier theme of national progress and even earlier theme of national competition rearticulated into a new discursive structure,⁵⁸ albeit one that is every bit as contestable as that associated with national progress.⁵⁹

This is not the end of the story insofar as national income analysis and the global economy is concerned. There remains two other tales to tell about the economic imagination of the global economy in the present: one that can only be revealed through an examination of the discourse of the 19th century economy, and one based upon the rise of a new and global economic space.

⁵⁶ See, for example, Cerny (1997).

⁵⁷ The literature and project of “competitiveness” should be taken as a reminder that “Globalization” is neither a monolithic nor a homogeneous characterization – attached to the notion of a global economy are competing narratives associated with disparate political projects.

⁵⁸ Reinert (1997) argues that there is a 500 year tradition of thought on national competitiveness. He suggests that both the German and American traditions of political economy are important in this regard (List; Hamilton; etc.). However, there is a significant difference between the nominally nation-centred notion of competitiveness and the mercantilist notion of competition which precedes it. Competitiveness fixates on which state is best at articulating itself into global networks rather than which state can best isolate itself from external influences. Thus, to quote Fougner (2006, p170) “a quick look at bibliographies of literature on international competitiveness reveals that writings on the issue were very limited prior to 1980...During the first half of the 1980s, however, a flood of literature on international competitiveness began pouring out of business schools, government offices, think tanks...and that flood has yet to show any sign of abating.” Competitiveness is a creature of globalization, unlike national competition, which is a creature of mercantilism.

⁵⁹ Krugman (1994), for example, suggests that the analogy between the competitiveness of a corporation (which is meaningful) and that of a state (meaningless) is fundamentally flawed. To give just one of Krugman's objections: “So if Pepsi is successful, it tends to be at Coke's expense. But the major industrial countries, while they sell products that compete with each other, are also each other's main export markets and each other's main suppliers of useful imports. If the European economy does well, it need not be at U.S. expense; indeed, if anything a successful European economy is likely to help the U.S. economy by providing it with larger markets and selling it goods of superior quality at lower prices...asserting that Japanese growth diminishes U.S. status is very different from saying that it reduces the U.S. standard of

living--and it is the latter that the rhetoric of competitiveness asserts (p44).”

**Chapter IV:
Giving Birth to the Economy: The Living Economy in the Nineteenth Century**

“Put in terms of the current debate, the process of imperial expansion can be thought of as a phase in the history of globalization, though it has to be said that little thought has yet been given to the content and chronology of this history. However, a provisional taxonomy suggests that, during the period under review, European history can be divided into three broad and overlapping stages: a phase of proto-globalization between 1648 and 1850, followed by the era of modern globalization from 1850 to 1950, and then by post-colonial globalization from 1950 to the present day.” Cain and Hopkins, *British Imperialism: 1688-2000*, p662.

“In the presentist fallacy, the historian takes a model or a concept, an institution, a feeling, or a symbol from his present, and attempts – almost by definition unwittingly – to find that it had a parallel meaning in the past.” Dreyfus and Rabinow, *Michel Foucault: Beyond Structuralism and Hermeneutics*, 1983, p119.

There is a problem of perspective in much of the existing literature on globalization. In some cases there is no history: historical perspective is entirely lacking. Present economic trends are taken to be entirely without precedent. Society itself is deemed to be entering a comprehensively new phase of development as a consequence of such factors as the internationalization of production (Ohmae 1990). In other cases there is no present: all contemporary difference is effaced via the use of historical analogies drawn to other, far distant, periods of time (Krasner). If the past can be shown to resemble the present, then there is no need to examine that which is specifically novel. A third type of account, of which the above quotation (taken from P. J. Cain and A. G. Hopkins’ extensively researched investigation into the origin and causes of British Imperialism) is a species, is that of the long historical origin. Cain and Hopkins’ book, covering roughly the same period of time as this dissertation, has a great deal more nuance than many other authors’ claims regarding the historical parameters of

globalization.¹ However, as the use of the term globalization to describe otherwise highly differentiated periods of time demonstrates, it still suffers from a presentist reading of the economic record. This type of approach suggests that an examination of the past can reveal trends which are only now reaching fulfillment. Today's Globalization represents the realization of a long historical telos.

This Chapter opens with the third projection because it most clearly contains a notion that is implicit in all three: the idea that the dominant categories of today can give us a sufficiently objective purchase on the flow of history itself – whether this means that the present is wholly unique, that the present merely replicates the past, or that the present is the fulfillment of a long historical promise. History is clearly important for perspective. However, the use of history on the subject of globalization has to this point been thoroughly un-historical. The past, and correspondingly the present, have not been understood on their own terms, but rather on the basis of the social categories of the present, categories whose histories have themselves not been explored.

Cain and Hopkins are not alone in suggesting that globalization “has origins that long antedate the 1990s (Cain and Hopkins, 2002, p662).” Accounts of origin vary considerably from those who identify a continuity stretching back as far as 5000 years (Frank and Gills, 1993),² to those like Cox who suggest that the 1970s might be the more

¹ They note that “there is also an important contrast to be drawn between...modern globalization, which was closely associated with nation states and empire-building, and the post-colonial forms that are found today (Cain and Hopkins, 2002, p664).”

² Lest the claim of 5000 years seem fantastic, consider also that the initial spread of the human species has also been identified as the origin of globalization: “We suggest instead that the globalization processes that have caused so much concern have long pedigrees. Their pace and scale may have accelerated, but they are anything but novel. Maximally, they have been ongoing ever since *Homo sapiens* began migrating from the African continent ultimately to populate the rest of the world. Minimally, they have been ongoing since the sixteenth-century's connection of the Americas to Afro-Eurasia (Gills and Thompson, 2006, p1).”

appropriate time frame.³ While disagreement might exist on the exact date of birth, elements of the existing historiography suggest that the processes associated with globalization are not unique to the previous decade or, possibly, even the previous century.⁴

Nevertheless, amongst those relying upon a semblance of historical-statistical reasoning – the subject of much of this dissertation and the object of particular relevance to this Chapter - it is usually in the womb of the 19th century that the critical evidence is located. Consider, for example (as Cain and Hopkins do), the work of O'Rourke and Williamson who identify globalization's "big bang (O'Rourke and Williamson, 2002, p37)" in the 1820s, through a tracing of "the international dispersion of commodity prices or what might be called commodity price convergence (2002, p26)" amongst other econometric factors.⁵ From a skeptical angle consider also Hirst and Thompson who point to the significant proportion of trade and capital flows relative to Gross Domestic Product that are characteristic of the half century immediately preceding the First World War (Hirst and Thompson, 1996). From either standpoint, the 19th century economy is pointed towards as the critical case to examine for an informed understanding of the present.

While such historically informed accounts do help to render pedestrian the fetishization of novelty associated with many present-day narratives on globalization,

³ See also the post-Fordist literature here: Bob Jessop; William Robinson.

⁴ See also the series of essays in Hopkins (2002), which attempt to demonstrate not just the antiquity of globalization, but also that it (in its various historical forms) involved numerous areas (Chinese, Islamic) with their own internal dynamics. Globalization involved negotiation and mutual adaptation around these dynamics rather than the simple imposition of "Western" power.

⁵ They maintain that this is the only way to isolate globalization as such - to identify an "integration of global markets (O'Rourke and Williamson, 2002, p26)" rather than the much more historically common international trade driven by the desire to capture rent. In locating the "big bang" moment for globalization in the 1820s, they note that it is subject of course to a later "globalization backlash (p46)" – an interruption

they have the additional effect of sweeping away the specificities associated with a given historical moment. The ways in which the past imagined itself dissipates under the weight of an inexorable metanarrative which makes every moment another expression of a pre-given tendency – whether that of continuity or reflection. The history of the categories by which the present and the past are described is likewise rendered opaque.

This historical amnesia is particularly noticeable where quantitative indicators are utilized in order to validate a particular claim. As we have noted in previous Chapters, the problem with the imposition of modern data collation methods on past economic datum is that it obfuscates both the development of the modern collation method as well as the meaning that the original data had at the time in which it was collected. Cain and Hopkins, for example, claim to rely on “testable propositions” to eliminate “presuppositions (Cain and Hopkins, 2002, p58),” in part through the use of economic indicators.⁶ However, such a check against modern prejudice would seem to be of little avail if the presuppositions contained within the tests are themselves not examined. If the numerical indicators are themselves informed by non-numerical presuppositions it would seem to suggest that the trends and parallels the indicators imply be approached with a suitable degree of caution and contingency. The numeric mechanisms used to reveal the flow of history, whether that of the past or that leading into the future, have a history of their own that needs to be explored.

It will not be the goal of this Chapter to interrogate in depth the historiography of globalization. Rather, this Chapter will attempt to allow the statistical community of

in the inexorable course to the present.

⁶ Cain and Hopkins rely on, in addition to other evidence, a presentist use of the economic statistics of today for a study of the past. To take just one example, Table 3.1 *Rates of growth of output and productivity, cyclical peak to cyclical peak: United Kingdom, 1856-1913*, records this as a percent of GNP

what Cain and Hopkins call “modern” globalization” to speak for itself. As the existing literature suggests, the 19th century was a period of time when national borders played a less significant role in containing economic transactions – both empirically and conceptually. Given this, an examination of the statistical discourse in that most “globalized” of economies, the United Kingdom at the turn of the last century would seem apropos. Accordingly, we will attempt to document the epistemic context of the dominant numerical indicators of the late 19th century United Kingdom, particularly as those indicators relate to the character and limits of economic transactions. In doing so, this Chapter will be guided by the question of whether - given a tangible increase in economic transactions across juridical borders - there is anything inevitable about viewing the economy in terms of economic “interdependence” and the end of territory, as much of the globalization literature seems to suggest.

What we in fact find is that the numbers that quantified this past period of internationalization were organized in a manner that appears quite dissimilar from the point of view of the present. What the statistical indicators in conjunction with the broader political-economic discourse suggest is that for 19th century participants the economy is more a naturalistic than it is a juridical or self-referential creature – biology rather than production tends to be the organizing metaphor.⁷

Moreover, the 19th century economy is also characterized by a certain fluidity in so far as its territorial limits are concerned.⁸ Economy and territory are frequently related

and GDP, despite the fact that these measures did not exist at the time (Cain and Hopkins, 2002, p108).

⁷ Within the discourse of political economy proper (rather than in the statistical literature), there is also a tendency to draw upon metaphors taken from physics. See, Mirowski (1989).

⁸ Of course modern economic discourse is not monolithic either. If one were to trawl long enough many types of economic limit would likewise arise. However, it is the fact that the dominant strain of discourse is naturalist and imperialist that is significant here.

in discussing specific policy issues. In fact the state frequently forms the unit of analysis for a given economic concern. However, the empire, the race, or even the world can as easily form the referent and economic limit. In each case there is an underlying naturalism present. Thus when the focus is on quantifying economic trends within the Empire, the primary divisions are racial rather than political. Where the international emerges as an object worthy of study in and of itself, one that is cast in a positive light, it is construed in terms of a cosmopolitan organism, with the international functioning as a circulatory system linking functionally related parts. Where the international is cast in a pessimistic light, we witness a concern with geographic closure,⁹ and naturalistic competition. In each case what we witness is a discourse characterized by way of an application of the sort of biological reasoning that we briefly explored in the case of Petty and King, now extended to commerce on a number of different levels – national, imperial, and global.

Finally, the impact of this form of reasoning is not just literary but also governmental. These statistical indicators played a role in assembling a very specific type of “reasonable” economic policy in the 19th century: At the very least they lent objective authority, even if only implicitly, to the political projects of the day. Thus when “protectionism” is pursued as a policy alternative, it is of a form where the unit to be protected and promoted is the white Empire rather than the “national economy” taken in its modern sense. Moreover, the dialogue in the 19th century, being informed primarily by externally-oriented statistics (like the balance of trade), produces externally-oriented policy solutions, concerned with managing borders rather than with managing the interior of economic space.

⁹ The term is Kearns’ (1993).

In sum, the objective of this Chapter is to demonstrate, somewhat paradoxically, that a fixation on the international is not wholly unique to our present “global” economy, while concurrently demonstrating that the past cannot be reduced to an earlier stage or a mere reflection of the present. At least as expressed on its own terms, the world economy of the 19th century does not resemble that of the late 20th either as an object or as a target of political intervention. What we see is not an earlier form of globalization, nor a prior period of inter-nationalism, but an economic rendering containing largely incommensurate idiosyncrasies – naturalistic rather than productionist, imperial more often than international. The narratives in both periods are underpinned by different types of objective evidence and, accordingly, occasion different parameters in so far as what is viewed as being both reasonable and possible. International interdependence can be measured and practiced within a context of economic-racial parameters as easily as that characteristic of post-Fordist production.

The Scope of Study

Academic histories of 19th century Britain and its Empire are multitudinous. The primary material from this period is likewise extensive. It is clearly beyond the scope of this Chapter to cover this material in anything approaching systematic detail. To an extent, however, this is not a critical shortcoming to what follows. Rather, and given that the overall objective here is to trace the genealogy of a particular type of territorial-economic image, globalization, we are able to focus our research somewhat. Specifically, since our intention is to reveal how statistical-economic discourse operated in 19th century Britain, we can limit our search to those who were in fact part of the

statistical community or who relied upon the figures that that community generated. In this case our job is made easier by the fact that the statistical apparatus for economics was so rudimentary at the time.¹⁰ John Wood notes that

“it is difficult to envisage in our documented age, how little statistical information was available to Government departments, economists and commentators in the closing decades of the nineteenth century...Apart from export and import figures which were known from the customs returns, there was little reliable data on production, investment, employment, capital flows and consumption.(Wood 1983, p172-173)”

The contention is supported by Aaron Friedberg in *The Weary Titan*, who remarks that while a variety of “raw measures of economic activity” were available “virtually the only statistics kept over a long period of time were the Customs Department’s record of imports and exports (Friedberg, 1988, p44).”

Sir Robert Giffen’s *Statistics*, written between 1898 and 1900, illustrates this point. Giffen, whom Studenski calls “the leading British statistician of the last quarter of the century (Studenski, 1958, p117),” set as his purpose “an examination, one after the other, of various leading branches of statistics which have come to be of visible importance (Giffen, 1913, p4).” These branches, as indicated by Chapter headings, include area and population, births and deaths, judicial, and educational statistics, in addition to what might be considered the more properly economic branches of imports and exports, agricultural, mineral, fishery, manufacturing, railway, financial, money

¹⁰ Although statistics gathering in general proliferates widely during the 19th century. Hacking (1991, p186) notes that “[b]etween 1820 and 1840 there was an exponential increase in the number of numbers that was being published.” He notes, as an example, Charles Babbage’s publication of numbers ranging from “familiar enough material, astronomy, atomic weights...to the number of feet of oak a man can saw in an hour, the volume of air needed to keep a person alive for an hour, the productive powers of men, horses, camels, and steam engines compared.” However, official government record keeping on what we would consider to be economic matters lacked systematicity and regularity until the period surrounding the Second World War (Carincross, p13).

market, prices and wages, among others.¹¹

While there were clearly many areas which were subjected to statistical record keeping, it is in the area of “manufacturing,” an area in which one might have expected an elaborate statistical apparatus given Britain’s “workshop of the world” reputation, that Giffen notes the greatest shortcoming. Thus he comments that while “there is a very complete record of the movements in our foreign trade... Yet there is no similar record of the movement of goods in the home trade (Giffen, 1913, pp5-6).”¹² He notes further that “the statistics of the different branches of production cannot be gone into systematically...in most countries official statistics are deficient as to almost all other branches of production besides those of primary production (Giffen, 1913, p158).” Perhaps a legacy of mercantilist concerns,¹³ much greater effort is expended upon revealing commercial conditions at the border (the “most important (Giffen, 1913, p60)” statistic of production and trade being import and export figures), rather than those obtaining within.¹⁴ The use of “official values” rather than market prices in determining the import-export figures suggest that the figures themselves did not aim at “economic” accuracy.¹⁵ In fact, lacking widely accepted aggregate internal indicators, the import-export figures were frequently used as barometers of the “general well-being of the

¹¹ The order in which Giffen discusses the economic branches is perhaps significant: Imports and Exports are discussed first, followed by agriculture, mineral, fishery and only then manufacturing statistics.

¹² Note that he is comparing *trade* between foreign/domestic agents with *trade* between domestic agents. There is no suggestion that there is any qualitative difference between the two.

¹³ Giffen (1913, pp61-63) notes the mercantilist concern with ensuring a positive flow of gold and silver, in addition to other possible reasons including the early use of duties for taxation purposes and the ease of collection given existing frontier defences.

¹⁴ Giffen (1913, p60) seems to reject the preeminence attributed to these figures: “it is difficult to give a strictly logical reason for this excessive importance assigned to statistics of foreign trade. Before trade itself, that is, the exchange of goods, we must have the production.” Nevertheless, his own work follows the conventional outline of importance.

¹⁵ Until 1854 official values were recorded, values which “had been settled as long ago as 1692.” From 1854-71 values were established by an expert committee. From 1871 on values were established by the “method of declaration by the merchants (Giffen 1913, p77).”

country (Giffen, 1913, p65).”¹⁶

In sum, statistical reasoning did play a role in economic discourse – later examples will demonstrate this. However, the statistics themselves did not cover the interior of the state with anything approaching systematicity – since the statistics that did exist were not linked together in any coherent fashion, what a given statistical indicator implied about the state or the “economy” as a whole was ambiguous.

In addition to the fortuitous lack of official statistical measures on the economy, sorting through the relevant primary material is greatly simplified by the fact that there were a limited number of well-known and academically respected statistical practitioners. To put this another way, while use was made of “pure” statistics during this period and while statistical economics did have its adherents, it did not form the bedrock of professional economic discourse, which was primarily deductive in tone. Accordingly, it is possible to get a sense of the statistical-economic discourse by focusing on a limited number of individuals and without trolling through the works of the dominant economists of the period.¹⁷

All of which is not to discount the significant impact that statistical figures had upon the political-economic imagination in the late 19th century. Despite its fragmentary character (fragmentary that is when viewed from the present), and despite the diminishing professional influence of inductive economics,¹⁸ during the late 19th century

¹⁶ Other things being equal where trade was increasing internal well-being was likewise (although the correlation between the two is not always correct). According to Friedberg (1988, p80), “it was perfectly possible that exports could grow while in other respects the British economy languished.”

¹⁷ As a consequence it is less necessary to cover the thought of the dominant economists of the period – particularly Alfred Marshall. See Koot (1987), for a discussion of the disagreements between inductive and deductive economists.

¹⁸ There are a number of accounts (see Koot (1987), for example) that document the professional conflict between Marshall and Cunningham revolving around the direction of academic economics at Cambridge. The end result was the victory of Marshall’s marginalism and the marginalization of historical economics

statistical reasoning became more and more authoritative in setting the parameters of public debate on policy issues.¹⁹ For his part, Friedberg notes that the economic depression of 1872-96 “marked the emergence and general acceptance of certain statistical indicators of economic performance that were to dominate subsequent discussion (Friedberg, 1988, p35).” Coats also suggests that “the views of such ex-Chancellors of the Exchequer...*leading statisticians like Robert Giffen and Charles Booth*, and, behind the scenes, permanent officials of the Treasury and the Board of Trade, usually carried more weight than academic opinion (Coats, 1968, p185, *my italics*).”²⁰ Debate on just what the statistics indicated was often fierce,²¹ but the statistics themselves had a new public salience.²²

On this basis, then, it is possible to limit our research to a number of prominent figures. The primary research in this Chapter will largely focus on the most significant of these,²³ Sir Robert Giffen whom we just encountered. Giffen was chief statistician of the Board of Trade (1876-1897), President of the Economic Science and Statistics Section of the British Association in both 1887 and 1901, and assistant editor of the *Economist* from 1868-1876 (Koot, 1987, p76). Besides his institutional prominence, Giffen is also significant for the public prominence of his figures in the Tariff Reform controversy of the early 20th century. In terms of his intellectual and political orientation, Koot notes that “Giffen designed his historical research to illustrate the truth of the orthodox

to its own sub-field. See also Kadish (1989).

¹⁹ Compare this with the free trade reasoning of Cobden which makes a moral as well as general economic argument.

²⁰ Coats (1968, p185) goes on to note that “nevertheless the academic economists’ advice was eagerly sought.”

²¹ See the discussion of the Tariff Reform Debate below.

²² In this sense, it does not disprove the significance of the statistical literature to note, as Coats (1968, p214) does, that “official statistics were soon shown to be an unreliable basis on which to judge the contending claims of free traders and fiscal reformers.”

conclusions of political economy (Koot, 1987, p76).” In this sense he was a defender of the policy of Free Trade.

The Living Economy

All this said, it is not enough to consider these authors in abstraction: the statistical-economics community clearly did not work in a vacuum. It was embedded within (while contributing to) the dominant intellectual currents of the time. Here we can return to John Agnew for helpful guidance on the epistemic context of the era.²⁴ Agnew characterizes the period 1875-1945 as one of “Naturalized Geopolitics.” By this he means to suggest that the dominant way of narrating the ebb and flow of world politics was via naturalistic metaphors and allusions: “geopolitics was now largely determined by the natural character of states that could be understood ‘scientifically’ akin to the new understanding of biological processes that also marked the period (Agnew, 1998, p95).” This naturalism was expressed in a number of ways: looking inward the discourse stressed a racial “distinction between imperial and colonized peoples (1998, p97),” a distinction that ultimately drew upon the Darwinian notions of competition and natural selection as a justification for the domination of one people over another. Secondly, states themselves were anthropomorphized and given biological attributes, needs, and desires (1998, p99).²⁵ Paralleling the human need for food and shelter, the state had an

²³ Wood (1983, p4) notes both, in addition to 11 others, as being significant for the period 1870-1914.

²⁴ Here we must be careful. Agnew is characterizing an entire historical age - a form of periodization - rather than tracing the genealogy of a particular problematic. This has the effect of homogenizing an entire society, wiping out alternative narratives that coexisted at the same time. Nevertheless, as we will see in our later examination of the primary material, this naturalism was prevalent in the statistical-economics literature, at least.

²⁵ Although this anthropomorphization has earlier links associated with the idealism of Hegel and Fichte (Agnew 1998, p100). For its lingering effect on the contemporary discourse of International Relations see Palan and Blair (1993).

organic need for resources and territory that oftentimes could only be met through imperial expansion. Militaristic competition between states became analogized as part and parcel of the natural struggle for survival between species (1998, p101) – an unavoidable and arguably positive feature in that it would permit the fittest to survive. This also suggested that juridical borders did not necessarily coincide with the natural limits of the state (1998, p102). Rather, the legitimate (versus existing) boundaries of the state were often defined in naturalistic terms, whether ethnic (the state should encompass all those who form part of the nation even where they live outside the current borders), resource-based (the state should encompass resources suitable for self-sufficiency), or geographical - Agnew notes, for example, the existence of contemporary claims arguing that topographical features such as mountain ranges set the natural limits (1998, p102).²⁶

In general terms Agnew's description of the era is persuasive – the language of naturalism does appear to saturate the discourse of the time. This is the case not just on the level of political rhetoric, but also on the level of “scientific” and quantitative categorization. Taking Robert Giffen as just one example of this tendency, the entire corpus of his work is coloured with a naturalistic – and particularly a racial - hue. In “On International Statistical Comparisons,” first published in 1892, he sets as his objective to “raise explicitly for discussion some of the principal dangers in the handling of statistics...through the too ready comparison with each other of figures which apparently are applied to facts of a like kind but which really cover dissimilar facts (Giffen 1904a, p42).” Discussion in this essay begins with “considerations which no one will dispute” relating to “the foundation statistics of all – those of population (1904a, p43).” Here

²⁶ “Swedish conservatives, such as Kjellen, argued against Norway's independence partly because they claimed that the Scandinavian mountains were not a natural boundary (Agnew, 1998, p102).”

Giffen notes that:

“for very few purposes can the populations of different countries be placed together as if the units were the same. The peoples of Europe and the United States are as a rule units of a very different value from the units of population in Hindoo, Chinese, negro, and aboriginal communities. Even among European peoples themselves there are enormous differences (Giffen, 1904a, p43).”

Given that the comment comes in a section on “Population Statistics” this type of sentiment is perhaps unsurprising. However, for Giffen the pitfall to be avoided lies not solely on the level of the physical characteristics of populations, but also their social and economic properties. Of specific relevance here, he imbues the racial divisions with economic meaning. Here he bears quoting at some length:

“The plain of Bengal, say, supports some seventy million Hindoos – the population, in numbers, of the United States. But if the consuming power of the Hindoo were at all like that of the average man of the United States, how many could Bengal support? The same, mutatis mutandis comparing even a French or German with a United States population. The units in the different cases are entirely different. The area of the United States might suffice with the same total value of production that it now has for the support of perhaps twice as many French or Germans as it could support of people of the actual type of those now planted on the soil of the United States...Along with the increased capacity of consumption there may, or may not, be an increased capacity of production. If there is such an increase of the capacity of production, or even a greater proportionate increase than there is of consumption, it might well be that on the area of Bengal there could be planted an even larger population than there now is, yet with the average consuming power of the people of the United States (Giffen, 1904a, p43-44).”

Economic categories like consumption and production are aligned within racial categories. The economic capacity of a given area is a function of the type of persons that live within – defined here on racial lines rather than on the basis of accumulated skill, education, or access to capital.

Recall that the purpose of this essay is to warn against the careless use of

statistics. The analyst must be certain that the statistics used actually support the conclusions arrived at. The danger to be avoided here is not racial bias in the numbers, but the lack of it. To arrive at “true conclusions (Giffen, 1904a, p76),” racial truths, amongst others, must be incorporated into the analysis.

Of course the very fact that Giffen has to warn against the “amateur partisan (Giffen, 1904a, p77)” use of statistics without their appropriate racial qualifications suggests that the statistics themselves were not always explicitly or even implicitly racialized. However, a further examination of his work reveals additional racial categorizations – categorizations where race could be made internal to a quantitative economic magnitude, and thereby become intrinsic without requiring any external reminder. Turning to “The Relative Growth of the Component Parts of the Empire,” first aired in 1899, we can see this in action. In this essay Giffen intends to “call attention to the growth of the Empire in detail – to compare the progress in one part with the progress in another (Giffen, 1904b, p222).” It is the nature of the division into the component parts that is interesting here: Giffen differentiates one area of the Empire from another on the basis of race. Thus he records that in terms of the population of the entire Empire “50,000,000 are of English speech and race, the ruling race...and the remaining 350,000,000 to 370,000,000 are the various subject races, for the most part in India and Africa (Giffen, 1904b, p223).” The Empire is then grouped into two separate tables: in the first are gathered three divisions, United Kingdom, British North America, and Australasia. In the second are assembled South Africa, Other parts of Africa, India, and Miscellaneous Possessions. The division between the two tables aligns with the earlier division on the basis of race. The categorical divide also aligns partially with the

categories “self-governing” and “non-self-governing.”²⁷ Note, however, how the category Southern Africa is explained: “Next comes Southern Africa in a group by itself, which is generally placed along with the portions of the Empire consisting of subject races, but which is really of a mixed character, being self-governing politically but peopled for the most part by coloured races among whom the white population is only a small minority (Giffen, 1904b, p225).” South Africa is placed apart from table one. It is also placed apart from the rest of Africa. However, the predominant racial rather than political character of the state is what determines its tabular position amongst the “subject races.”²⁸

It is within the two separate tables that the characteristics significant for understanding the attributes of the Empire can be visualized. Within the tables Giffen records the respective growth in population, revenue, and import/export figures. On the basis of the magnitudes revealed, it is readily possible to perceive “different rates of growth of the different portions of the white and subject races respectively (Giffen, 1904b, p225).” In the first place the author notes that amongst those grouped in Table 1 the colonies are growing at a faster rate than the United Kingdom (Giffen, 1904b, p228). This is an internal comparison where the objective is to reveal how the United Kingdom is faring in contrast with its English colonies. However, with respect to the data revealed by Table 2, it is significant that Giffen’s commentary is oriented at an external rather than internal comparison: “the increases, with the exception of the ‘miscellaneous possessions,’ are greater than in the English-speaking portions of the Empire (Giffen,

²⁷ Language is also mentioned as a division.

²⁸ Likewise with the category “miscellaneous” which “with the exception of one or two detached positions, comprise a coloured population (Giffen, 1904b, p225).” Note the contrast here with the tabular categorizations of a modern historian: For Cain and Hopkins (2002, p201) for the same period of time

1904b, p229).” Note the comparison here with the “English-speaking portions” rather than with the United Kingdom. While there might be cause to examine the differences between the English and white component parts of the Empire, no such necessity is attributed to the various areas within table 2 nor to a comparison of table 2 with the United Kingdom itself. A comparison of the “Totals” between the two tables is the more relevant measure.²⁹

On the basis of the comparisons Giffen can note some concerns: “Is the central force of the Empire, the power to hold it together, increasing as rapidly as the Empire generally?” What is this force? “It would be a serious matter if the Empire were to be increasing beyond the force of the race by which it is held together (Giffen, 1904b, p234).” As serious a matter as it is, these concerns can be assuaged to an extent by the knowledge that “the proportion of the governing race to the subject races, barring annexations, will rather increase than diminish (Giffen, 1904b, p234).”

The Empire also had to confront external challenges in addition to those that were internal. Specifically, other empires presented a threat to the British Empire’s ability to cohere. On this front some comfort could be taken in the knowledge that previous challenger France “with a stationary white population...takes on herself the burden of a large Empire (Giffen, 1904b, p235).” However, the growth in relative power of Germany, Russia, and the United States, all of them possessing large “mainly...white (Giffen, 1904b, p236)” populations, does present some concern for the future.

In general, Giffen’s tabular grouping of the data reveals very specific information relating to the growth and direction of the components of empire – the racial divisions

“South Africa is included in British white colonies and newly settled countries.”

²⁹ To an extent this is an artifact of Giffen’s interpretation of the data rather than intrinsic to the data itself.

lead to very specific questions being asked and very specific answers being provided. Race is embedded within the numbers: the magnitudes that it underpins are indicative of the future strength and vitality of the Empire. Competition, growth, and ultimately success are mapped onto racial spaces. The economic is not excluded from the racial in this statistical categorization. Giffen may have been a free-trader by temperament, but, as our later discussion of the Tariff Reform debate demonstrates, by racializing his statistical categories he contributed quantitative authority to a specific type of racial-economic competition.

Having said all this, the racial is not the only categorical divide. In fact, as we will see shortly, there are a number of spaces onto which the economy is numerically mapped in the statistical measures of the day.

The limits of the living economy – Part I: is there a national economy?

“Naturalism”, and specifically racism, does therefore capture something of the tone of the time. However, a number of Agnew’s conclusions about the tenor of the era are contestable. There are two that are particularly problematic for our purposes. First is his claim that “the state was seen as defining the basic unit for economic transactions (Agnew, 1998, p102),” at least if one considers that unit as a self-contained, territorially coherent, and juridically homogeneous entity. While it is true that there was a concern with the national economic condition (going back all the way to mercantilism), the “national economy,” at least in the 19th century, was not itself taken as the foundational unit of analysis in *explaining* economic developments. A self-sufficient “National economy” often (but not always) formed the goal of political intervention. It was viewed

The primary division into racial tables is not artifactual, however.

as something that could be forced into being. However, it was not a natural or obvious reality from which other aspects of economic reality could be inferred. Juridical borders and economic processes were not self-evidently or naturally aligned. The natural limit of economic space was ambiguous. In fact Agnew seems to suggest as much at a later point when he quotes Friedberg's discussion of the debate over free trade at the turn of the century: "Both sides adopted the language of national interest and shared a belief in the importance of 'national economic power' but they lacked agreement on exactly what the concept meant or how it should be measured (Friedberg, 1988, p79, quoted in Agnew, 1998, p103)."

It is here that an examination of the statistical discourse of the period is most revelatory. Specifically, if we examine the headings under which economic statistics were gathered we witness a considerable ambiguity on the issue of where the limit of relevant economic transactions lay. Thus in "The Relative Growth of the Component Parts of the Empire" that we have already examined, we note the concurrent existence of measurement limits at the racial (white and coloured), geo-regional (Africa, British North America, Australasia), state (the United Kingdom), and ultimately Empire levels (the British Empire in contrast to other imperial contenders). The categories are "economic" in some respects, juridical, geo-political, and biological in others.

Nor is such reasoning isolated to this one work. We can find another example in "The Wealth of the Empire, And How It Should Be Used," read before the Economics and Statistics Section in 1903. To begin with, Giffen parenthetically notes a point that should perhaps be stressed: "We are apt to think in such matters [wealth] of the mother country only, or even of the separate units of the mother country itself, for the simple

reason that the statistics are not uniform (Giffen, 1904d, p363).” Statistics were, at the time, by and large gathered at the national and sub-national level. Whether it was the case of population or coal production or the balance of trade, the state was frequently the limit of measurement.³⁰ However, there was nothing about the character of the statistics gathered that prevented them from being accumulated on a larger than national level.³¹ Neither the statistics nor the economic imagination they helped to underpin were self-referential within the bounds of the state. Numbers in an accounting framework are self-referential; in statistics they can be added where necessary to other numbers. Thus while Giffen notes the national income and capital of the separate states of the Empire at one point, he is able to simply add the figures together into a sum total at another when discussing what should be done with the aggregate wealth (Giffen, 1904d, p366). The resulting fluidity in the numbers permits a variety of comparisons to be made in the same breath:

“It must be admitted at the outset that the figures are enormous, and no such economic force has ever been in the possession of a single state or empire...France and Germany have each probably not more than a third or a half of these figures. Although they approach the United Kingdom alone very closely, they have neither states of their own kith and kin beyond the seas to be added to their home strength, nor an empire like that of India, with many valuable possessions besides (Giffen, 1904d, p367).”

³⁰ See, for example, Giffen, 1904e, first published in 1882, where the balance of trade figures are recorded on a UK level – although the figures are also grouped by empire in Appendix II. Giffen goes to some length to demonstrate that the figures as stated are inaccurate since they do not record the UK’s invisible exports, specifically in the form of the carrying trade on UK ships.

³¹ In the same paper Giffen proves his point (that protectionism is not the correct policy to pursue despite the apparent excess of imports) by summing together the world-wide import/export figures. This demonstrates a world-wide excess of imports of 162 million that could only be accounted for by a “common cause (Giffen, 1904e, p312)” – in this case invisibles like shipping and interest are not being recorded in the official figures. By taking the size of the English mercantile fleet as a proportion of the world-wide fleet (and subtracting for “miscellaneous charges and commissions (p319)”) the world-wide excess import figure can be apportioned to where it belongs. Adding this figure to the UK’s export figure would considerably reduce the apparent shortfall.

Note first that “economic force” is a “possession” rather than an autonomous dynamic. Note in addition that this force can be coherently possessed by a state, an empire, or “kith and kin beyond the seas.” Indeed, if one were to examine the world as a whole one would find that “the two Anglo-Saxon states or empires more than outweigh in economic force the whole of the rest of the world (Giffen, 1904d, p367).”

Of course the territorial ambiguity could be dismissed as artifactual in that the author is explicitly setting out as his goal a discussion of the characteristics of empire. However, this is perhaps to miss the point: the national and the imperial were inextricably bound together in the public imagination. The economic-territorial ambiguity, the easy shift between state, race, and empire, the lack of a self-evident “national economy,” is an embedded feature of the time.³² We can see this clearly when we examine what looks on the surface to be “mercantilist-type” reasoning: the economy was not perceived as wholly national even where protectionist policy - policy that on the face of it would seem to most evidently align with “national” economic reasoning - was being promoted. Here some historical context is necessary: While the United Kingdom remained officially committed to free trade from the repeal of the Corn Laws in 1846 until 1931, there were periodic rumblings from amongst certain segments of society for a level of trade protection - especially in an environment where, from the 1870s on, the rest of the world was turning increasingly protectionist. These rumblings gained significant political traction at two specific moments: in the 1880s, and in the early 1900s (Cain and Hopkins, 2002, p190). In the later case in particular, “Chamberlain’s spectacular attempt to convert the country to tariff reform dominated the British political stage from 1903 until the general election

³² According to Cameron and Palan (1999b, p41), cross border economic flows were conceptualized as part of the national economy in the 19th century: “‘national’ economies were essentially located in urban centres

of 1905 (Coats, 1968, p181).” Accordingly, it is with the later period that we will focus our efforts.

At its root, the tariff reform controversy was about how best to protect the relative prosperity of the United Kingdom and the British Empire in a context where Germany and the United States were rapidly asserting themselves both economically and geopolitically.³³ While the state ultimately remained committed to free trade, an influential faction of the governing party, led by Joseph Chamberlain, agitated for a change in policy to better deal with the apparent threat. The controversy was frequently simplified into a debate between free trade and protectionism.³⁴ However, there were, in fact, a number of policy schemes suggested during the course of the debate. According to Coats, “the unfortunate layman who sought to inform himself of the issues at stake was immediately confronted with a bewildering variety of policy recommendations, for although the schemes could be grouped under four headings – free trade; imperial preference; retaliation; and protection – many subtle variations on these themes were heard, and there was considerable terminological confusion (Coats, 1968, p197).” Andrew Thompson, for his part, notes that several different types of tariff were proposed: “protective, retaliatory, revenue-raising and preferential...to serve different functions (A.S. Thompson 2000, p82.)”

Nevertheless, and while there were several aspects to the debate, the most politically significant contour was not over protection for the United Kingdom in contrast

and could encompass imperial territories far beyond the territorial boundaries of the metropolis.”

³³ According to Friedberg (1988, p23), “At its most important level, the debate over tariff reform involved an effort to assess Britain’s economic performance and to compare its power and prospects with those of other states.”

³⁴ “To the propagandists the central issue was simple – it involved a choice between free trade and protection (Coats, 1968, p183).”

to unmitigated free trade, but over the economic character of the British Empire itself.³⁵ Free traders, for their part, were not, with certain exceptions,³⁶ arguing for the dismantling of the Empire. Rather, the argument was that protectionism would not produce the integrationist results that its protagonists were hoping for.³⁷ In the case of protectionism, there were undoubtedly those arguing for United Kingdom specific industrial protection (Thompson, 1997, p1041). However, the dominant stream of protectionist agitation was not oriented towards a closing off of the United Kingdom from competition, but a reorientation of trade and markets to where they naturally (racially) belonged– the Empire. In a study of the Tariff Reform League, an organization that he calls the “most influential organization in the tariff lobby (Thompson, 1997, p1033),” Andrew Thompson notes that “[n]ot only did the Tariff Reform League oppose pure protectionism, it sought to establish tariff reform as the principle scheme of imperial federation (Thompson, 1997, p1041).” The policy pursued by Chamberlain himself came in the form of a preferential tariff whereby “foreign” goods exclusively would be taxed at the protectionist rate. Goods from the empire would not be subject to this restriction.

³⁵ Andrew Thompson (1997, p1052) argues that “the historiography of tariff reform places too much emphasis upon the domestic aspects of Chamberlain’s programme. An examination of the activities of the Tariff Reform League makes it clear that the leadership of the tariff reform movement was much more empire-minded than many historians have allowed.” He also notes that “the primacy of imperial motivation among tariff reformers was widely recognized at the time (Thompson, 2000, p82).”

³⁶ Those referred to derisively by Giffen, himself a free-trader, as “little Englanders.” Giffen, 1904f, p387, first published in 1902

³⁷ When we turn to the primary literature, in particular Giffen’s “The Dream of a British Zollverein,” we notice some familiar themes. To begin with, Giffen’s purpose is to make the case against protection, in particular the idea of promoting further imperial union through either an autarchic customs union or through the use of preferential tariffs. For Giffen, while “the necessity for Imperial Federation is so great and overwhelming that all good citizens should join in promoting it (Giffen, 1904f, p387),” the policies being recommended to expedite its fulfillment were counterproductive. With respect to a customs union, the problems were many, both constitutional and practical, including the physical distance and “the variety of race and business which makes it expedient for different parts of the Empire to have each its own tariff...if it is to raise revenue by indirect taxes, which all must do (Giffen, 1904f, p392).” With respect to preferential tariffs, the difficulties were equally pernicious, including foreign retaliation and the inability of the Empire to supply the imports or absorb the exports from the UK. Note the parameters of the debate

The hope was that such concessions to the empire would be reciprocated in turn, fostering a greater sense of cohesion within the Empire - or at least a sense of cohesion within the racially appropriate areas of the Empire (Semmel, 1968, p83).³⁸ In this light it should be noted that “the whole emphasis of Chamberlain’s proposals was upon the ‘white Dominions’ (A.S. Thompson, 2000, p104).”

Moreover, while a preferential scheme might have benefited UK manufacturing disproportionately,³⁹ the tariff itself was not designed to prevent the rest of the empire from eventually industrializing and challenging UK merchants. The self-governing colonies had long been able to set their own tariffs against goods from abroad – even those originating in the United Kingdom.⁴⁰ The objective of a preferential tariff was not to eliminate this ability by forming a free trade area that would be parasitically dominated by the UK,⁴¹ but merely to reorient and strengthen that trade that did take place in favour of Empire producers (A. S. Thompson, p1043).⁴² The colonies would still have the freedom to establish tariffs for revenue and development purposes.⁴³ However, goods

here: the case is over the nature of the Empire. Protectionism is counterproductive. Free trade and empire are, however, perfectly compatible.

³⁸ Colonial receptiveness to a preferential strategy is documented in Thompson (2000, pp90-97). In fact, preference to the UK had already been granted by several of the colonies.

³⁹ Friedberg (1988, p83), for example, suggests that “Chamberlain’s schemes required, in effect, that the colonies continue as providers of food and raw materials for Britain while purchasing an increasing portion of its manufactured products.”

⁴⁰ From 1859 “the British government had recognized the right of the self-governing colonies to levy protective duties on British produce (Trainor, 1970, p82).”

⁴¹ According to A. Thompson (1997, p1042), “the League was at pains to distance itself from the idea that tariff reformers were merely trying to capture colonial markets for the benefit of British producers.”

⁴² While a customs union was Chamberlain’s initial goal, “the colonies advocated a system of mutual preferences which would allow them to protect their own industry. Chamberlain and his supporters fell back upon their proposals as being the most politically plausible. The hope was that, if the electorate could be persuaded to accept them, a united empire would eventually arise which would compensate for Britain’s own economic decline (Cain and Hopkins, 2002, p192).” Thompson notes that for the influential Compatriots Club “the power and wealth of Britain depended upon the maintenance of empire. Britain, in turn, had a duty to pursue a fiscal policy which would increase the economic, and especially the industrial strength, of the Empire as a whole, without retarding the development of its component parts or consigning the colonies to agricultural production (Thompson, 2000, p87).”

⁴³ A free trade empire was the eventual goal, however: Wagner (1932).

from the Empire would be treated preferentially to those from the outside. In such a scheme the UK would benefit, but it would benefit as part of an Empire.

At the highest political levels then, protectionism was pro-Empire integrationist: it was not agitating for the elimination of foreign competition per se, but the promotion of commercial ties within the white Empire. While such a scheme was viewed as beneficial to the United Kingdom,⁴⁴ it was the Empire, not solely the United Kingdom, that was the economic object around which debate and action centred.⁴⁵ On the economic character of the Empire Chamberlain put it thus “here we have an Empire which with decent organization and consolidation might be absolutely self-sustaining... There is no article of your food, there is no raw material of your trade, there is no necessity of your lives, no luxury of your existence which cannot be produced somewhere or other in the British Empire, if the British Empire holds together (quoted in Kennedy, 2002, p105).”⁴⁶

One should not, of course, try to overstate the case, as if the Empire were the only economic object at play or as if the Empire did not, for some, constitute an instrument for UK domination. On the issue of motives and discursive parameters it is difficult to be precise, and opposing interpretation of the same evidence is possible. It is a challenge to speak of a dominant stream of thought when so many voices were being heard. Nevertheless, the very fact that the economic utility and at least potential cohesiveness of the Empire was one of the loudest of those voices speaks volumes about how easily the limits of the economy could be stretched – with the self-governing races forming one of those parameters.

⁴⁴ In that it was designed to “obviate the danger of complete industrial dependence on foreign nations (Wagner, p71).”

⁴⁵ Thus even Giffen’s opposition is within the parameters of what the Empire can and cannot do: the Empire cannot absorb all the UK’s manufactures (Giffen, 1904f, p397).

In any event, and returning to one of the central themes of the Chapter, the statistical evidence was significant in how the debate played out. Much of the modern commentary on the Tariff Reform debate stresses that a slowing in the relative growth of the British economy was the material impetus behind the emergence of this controversy – even while acknowledging the absence of any contemporary statistics that could definitively demonstrate that this was the case.⁴⁷ However, the character of the response is not one that can be directly attributed to a decline in economic growth rates as such, as if contemporary observers were able to intuit something that would only become quantifiable to later generations. In fact, to understand the nature of the response we must examine the actual statistics that were used in setting the terms of the debate. Statistics were to be the arbiter of policy direction. In fact, the government’s response to the tariff agitation was to convene a commission of inquiry to gather the statistical evidence necessary for providing clarity to the debate.⁴⁸ Of these statistics, it was recognition of material changes in Britain’s relative *trade* position that precipitated the tariff opening.⁴⁹ The trade statistics demonstrated both a shortfall between what Britain imported and exported and the fact that other states were increasing their export levels at a faster rate than the United Kingdom. Accordingly, the trade statistics helped to colour the type of response considered. Their effect on the actual policy proposed, pursued, and even rejected is significant. Here an extended quotation from Friedberg makes the case:

“The [trade] returns also had a subtle impact on the way in which economic

⁴⁶ Quoting a speech by Joseph Chamberlain made on 6 October 1903.

⁴⁷ Even Friedberg (1988, p25) notes that “although contemporary observers had no way of knowing for certain, Britain’s rivals were now growing at an overall rate far faster than its own.”

⁴⁸ Although the commission was stacked with tariff supporters making its conclusions for some a foregone conclusion (Coats 1968, p205). See *British and Foreign Trade and Industry: Memoranda, Statistical Tables, and Charts Prepared in the Board of Trade, with Reference to Various Matters Bearing on British and Foreign Trade and Industrial Conditions*, Cmd. No. 1761, 1903

⁴⁹ “it was the trade statistics that drew the most attention (Friedberg 1988, p70).”

questions were formulated and analyzed. By focusing attention on international exchange they reinforced an already existing tendency to translate all doubts about industrial performance into questions about trade. In so doing they strengthened a proclivity for finding the source of Britain's problems outside its own borders. What could have developed into a broadly drawn discussion of the nation's economic future became instead a debate about export growth, and that, in turn, devolved into a disagreement about the alleged harm of foreign protectionism. By their very nature the trade returns encouraged Englishmen to look outward instead of inward and to find fault with their neighbors rather than with themselves (Freidberg, 1988, p80-81)."

Trade statistics provided an external orientation to the controversy, a focus on what was outside the state rather than what lay within.⁵⁰ The fact that the statistics were ambiguous, that opposing sides could point towards them as supporting their position, is beside the point.⁵¹ If there was no immediate need for action it was because the trade figures did not accurately record some export from the UK – Giffen, for example repeatedly stresses that “invisible exports” must be included if the entire balance is to be revealed.⁵² If there was a cause for panic then it was either because the rest of the world was not receiving its fair share of exports because of tariffs,⁵³ or because the rest of the world was exporting too much via dumping. With the trade figures dominating the controversy, external competition was the focus: there was no quantitative indicator like trade as a proportion of GDP which would internalize the debate to the British economy itself.⁵⁴

⁵⁰ There was a statistical breakdown in terms of what was being exported/imported. While this indicated a decline in the rate of growth of manufactured goods, much of the debate was on the seriousness of the apparent shortfall – was the UK, for example, living off of its capital by importing more than it was exporting (noted in Giffen, 1904g). On this line responses were divided between those like Giffen who did not find the threat very serious since it did not include invisibles, and those who suggested that the situation was even more dire since the existing trade figures included coal as a raw material when it was really part of the capital of the nation.

⁵¹ See Coats (1968, p206) on the debate.

⁵² Giffen, 1904e.

⁵³ Here we can note the stress on retaliatory tariffs, a stress that was especially evident in the 1880s (Coats).

⁵⁴ Giffen (1913, p101) notes somewhat cryptically that the existence of an internal measure would radically

The contrast of the Tariff Reform debate to later debates on economic competition is clear. In a comparison of the discourse of the British business community between the early 1900s and the First World War period, Frank Trentman notes a marked shift in the language surrounding the free trade/tariff reform issue, particularly as it respects the nature of the firm and industrial concentration.⁵⁵ With respect to the first period he records that “the conflict between free-traders and protectionists addressed the question of an external buffer, not the internal order of the economy...protection was intended to remove a ‘handicap,’ to prevent ‘dumping’ and to restore a ‘fair’ playing field, not as a stepping stone towards reorganization (Trentman, 1996, pp1025, 1027).” The foreign threat was constructed in terms of dumping by large protected firms, not in terms of those firms’ potentially greater efficiency. It was the barrier and the unfair trade it permitted, not the heightened competitiveness of the foreign firm or the foreign economy that was the target. By contrast, in the later period, and in a context where war-time scarcity had restricted production in many ways, “tariffs were no longer legitimated as a conservative measure to countervail foreign subsidies but as part of a modernizing project for internal reorganization and horizontal rationalization (1996, p1040).” Firms began to push for protection and industrial cooperation as a means to rationalize and coordinate their own production, where excessive competition between small firms was seen as wasteful and unable to produce sustained investment in new technologies (1996, p1037). Bringing the competition discourse up to the present, in the context of “globalization” and where the interior of the state is “visible” (and while acknowledging that the discourse of “unfair”

change the debate: “there is a total omission of any consideration of the question of the simultaneous development of our home trade, although this may be after all the most potent reason for the non-development, or the smaller development, of our foreign trade itself.”

⁵⁵ His overall objective seems to be in establishing when “a profound awakening to the organizational

trading still plays a role), it is the competitiveness of the national economy itself (rather than firms) that is at issue.⁵⁶ In any event, where only the border is discernible, where import/export figures provide the parameters of visibility, “informed” discourse is unlikely to agitate for an internal change associated with national production.⁵⁷

Finally, what was recorded in the trade statistics was more than just an aggregate trade deficit with the rest of the world. The trade figures were broken down into deficits/surpluses with individual countries. In this way, the economic issue became both the aggregate rates of growth of trade in specific states in comparison with the United Kingdom⁵⁸ and of Britain’s trade balance with specific countries - even though the later measure is not economically meaningful.⁵⁹

In sum, then, given the external orientation of the economic evidence, the solution to the dilemma of a lack of balance was to find some way to trade more: either eliminate unfair barriers to trade (retaliatory tariffs) or expand the economic territory within which and through which the United Kingdom could fairly compete (the white Empire). Since the economy was not immanent to the territorial limits of the UK, the territorial limits

imperatives of modern capitalism (1996, p1038)” began in the UK.

⁵⁶ See Cerny; Fougner.

⁵⁷ Here we come to a conclusion opposed to that of Agnew (1998, p103), that “in a ‘closed world’ a premium would be placed on relative national efficiency. States must therefore organize themselves to increase their productivity relative to their rivals.” Although Giffen does talk about the benefits of improved education in increasing economic well-being in the Empire: “More efficient workers will produce more, and in that way supply the funds for extending and increasing the educational means of improvement...An increase of industrial force among these subject races is essential to the due development of the British Empire itself (Giffen, 1904d, pp378, 379).”

⁵⁸ Giffen (1913, p100) characterizes the debate as focusing on “the alleged progress of one country at the expense of another in its foreign trade.” However, he suggests that it is based upon “imperfect” use of the statistics to demonstrate “that the progress on the one side and the smaller progress on the other are due to our failure in a competition.” The invisibles have to be included and all other internal factors considered for the debate to be appropriately characterized in the form of a national competition.

⁵⁹ Giffen (1913, p91) finds this fixation problematic given that “every one is more or less familiar with the idea that there is no necessary connection between our imports from a particular country and our exports to it...one country imports what it wants from another and pays for it by exporting to all other countries, the balance in favour of one country being settled by bills which are obtained in its dealings with other countries where the balance is a different way.”

within which action could be reasonably be taken were malleable – they could include the white self-governing dominions, already part of a natural economic alignment, as part of a closer economic-political unit.

The limits of the living economy – Part II: Is there a global economy?

Having mentioned the ambiguities associated with the limits of the economy at both the state and imperial level, there is another level to consider – the global. In fact, an integrated “world” economy was also an occasional topic for debate during the 19th century. It is here that the second shortcoming of Agnew’s model emerges - his concurrent fixation on the Darwinian elements of naturalism and his limitation of that naturalism to the nation. Agnew suggests that a characteristic feature of the period in question was “a ‘closed’ world in which one state’s political-economic success was at another’s expense (Agnew, 1998, p96).” Indeed, Dane Kennedy notes that “while the first generation of social Darwinists stressed the struggle among individuals within society, late-Victorian social theorists like Karl Pearson and Benjamin Kidd shifted the focus of analysis to the struggle between societies themselves, which they defined in national, racial and other corporate terms (Kennedy, 2002, p23).”

Nevertheless, by fixating on the competitive aspect of the biological metaphor, an alternative, less zero-sum, form of naturalism that covered the international environment is under-stressed. As we noted in the introduction, and as the Tariff Reform debate demonstrates, in the late 19th century economic transactions crossed borders with increasing frequency and with an increasing public awareness. While competitive Darwinian notions were certainly one way of expressing the telos of such an increase, in

the statistical journals one can also find mentioned a spatial extension of the biological metaphor world-wide in the form of a cosmopolitan commercial organism. It is this literature on cosmopolitan commerce that, at least superficially, has the greatest affinities with globalization, since it attempts to describe the character of the international as international. What emerges is an image of the World Economy as a biological organism in and of itself. It does contain divisions. However, at least as economic divisions, these are largely functional rather than juridical.

Here we can turn to William Cunningham, who was President of the Economic Science and Statistics Section of the British Association in 1891 and 1905, as exemplary. Cunningham, one of the leading historical economists of the late 19th - early 20th centuries is significant here not so much for his statistical work (while he was President of the Economic Science and Statistics Section he was not a statistician), but for his encapsulation of the “cosmopolitan” view of the international economy at the end of the 19th century – this despite the fact that Cunningham is usually characterized as a mercantilist oriented nationalist.⁶⁰

Specifically, in his Presidential address before the 1891 meeting of Section F of the British Association, “Nationalism and Cosmopolitanism in Economics,” Cunningham attempts to document the historical evolution of the English economy⁶¹ (at least insofar as the direction of economic policy was concerned),⁶² and the effect that recent changes should have on the science of economics. The evolution he documents takes the form of

⁶⁰ Semmel (1968, p180) notes that his obituary describes him as “‘a great National Economist,’ in the tradition of Thomas Mun and William Petty.”

⁶¹ He refers to England’s progress as the “stages of her development (p647).”

⁶² The qualification is an important one to make since the “economy” is not entirely autonomous from the political in Cunningham’s account, as his description of the national stage shows: “The whole economic skill of the day was devoted to the task of building up the nation as an independent economic organism (Cunningham, 1891, p649).”

a progression towards an ever “larger economic organism (Cunningham, 1891, p649),” from municipal to national – although in this case the national includes the empire, where “if we planted a colony in some distant region, the trouble and expense were gladly undertaken in the hopes that the products of the new land would render us independent of some supplies of foreign sources, and thus subserve the economic self-sufficiency of the English nation (Cunningham, 1891, p649).” In other words, the national economy, if we can use this term, did not align with the national territory.

However, it is when Cunningham attempts to describe the character of the present that some interesting parallels to the literature on globalization are established. Specifically, his evolutionary dynamic extends the economic unit beyond even imperial borders: “So far as our economic scheme is concerned, we regard England as part of a greater whole – not as an independent national organism, but as one portion of a cosmopolitan economic organism (1891, p650).” Note that while he calls this a scheme, implying an element of political intentionality, this cosmopolitan organism is not something that is restricted to England or her free-trade policies. It describes a tendency that has captured other national organisms in its wake: “even those countries which would fain pursue the old nationalist economic scheme cannot escape the new influence; international and cosmopolitan forces are gradually breaking down national exclusiveness in all parts of the known world (1891, p650).” What are these international and cosmopolitan forces? Cunningham lists several. In the first place, and relying in part on Mr. Giffen’s calculations, Cunningham notes the presence of available capital in the UK, which “is ready to flow into any channel where there seems a reasonable chance of profit. It is not confined by national barriers...space is ignored, patriotism is left out of

sight (1891, p651).” This same capital has assisted in altering the “industrial life” of much of the rest of the world, as industrialization has replicated a particular class structure with its common (and internationally-oriented) class identities such that “in the world of labour, as in the investment of capital, national differences and peculiarities are ceasing to be of much importance (1891, p651).” In fact, “for many items there is now a world-wide market...in actual commerce in the present day we find what may be termed cosmopolitan speculation, which disregards all national differences and takes account of the world as a whole (1891, p653).” To all these tendencies can be added more frequent immigration and technological advances, wherein “[n]ational barriers offer no practical resistance to the passage of news or the driving of bargains; mail steamers and telegraphs have combined to produce many changes in the habits of business men in the present day (1891, p652).” Taken together these tendencies create a present that “so far as industrial life is concerned...is, on the whole, becoming more and more cosmopolitan and international, and less and less fettered by national barriers all over the world (1891, p653).”

There are, therefore, some similarities to the literature on globalization here, particularly the notion that “we need to think more of the world as a whole (1891, p656).” There are also clear differences, however. Cunningham’s observations are only indicative in this article, but the biological nature of his metaphor – organism – is suggestive. Given the naturalism of the day, an extension of the life of the economy outwards was not out of order.

Nevertheless, this internationalism was not the dominant stream of economic discourse – Cunningham himself would later become one of the most vocal defenders of

preferential tariffs and the organic nature of the British (and imperial) economy (Semmel, 1968, p183). It does, however, suggest an additional element of fluidity to the economy-territory-biology image which is characteristic of the time.

The limits of the living economy – Part III: Is there an economy?

There is one final point to make about the character of economic discourse in the economic-statistical literature of the period, one that has been intimated several times: while it is clear that something like an autonomous economy is beginning to emerge in discourse,⁶³ it is not yet something that is entirely self-referential. In this light consider Agnew's final element of naturalism, an "emphasis on the determining character of geographical location or environmental conditions (1998, p104)." In this case "the Great Power potential of states was a function of their industrial prospects which, in turn, could be traced to their natural resources (particularly energy resources) and ability to exploit them (p105)." We can see this in W. Stanley Jevons' influential *Coal Question* of 1865, which situated the relative economic superiority of the United Kingdom in terms of its ready access to coal. Once this supply was exhausted – an eventuality that Jevons saw as immanent - the United Kingdom would see its economic lead overtaken.⁶⁴ Alternatively, in his "On the Study of Periodical Commercial Fluctuations," Jevons used "sophisticated

⁶³ See Breslau (2003) which argues that the statistical models of Fisher and Mitchell in the 1890s played a role in "disembedding" the economy from society.

⁶⁴ Giffen takes issue with this point: "The industry of the world having become more and more manufacturing and, if one may say so, artistic, and less agricultural and extractive, the natural advantages of a fertile soil and rich mines are less important to a manufacturing community than they were at any former period of the world's history, because of the new cheapness of conveyance. Under the new conditions...climate, accumulated wealth, acquired manufacturing skill, concentration of population, become more important factors (Giffen, 1904c, p127)." At least as far as popular opinion is concerned, his is a heterodox (although increasingly less so) position.

statistical methods” to correlate business fluctuations with sunspots.⁶⁵ Economic success is referential to a natural origin, not the economic process itself. The national economy does not form an autocentric whole – this is a condition that only gradually emerges with the statistical/accounting transformation of economic measurement.⁶⁶

Statistics, the state, the empire, and the globe:

There are clear differences in how participants in the late 19th and late 20th centuries articulated themselves into a coherent Historical narrative: in the case of the late 19th century, while there is a clear sense of trepidation regarding the new century, the tenor of economic discourse lacks the same sense of novelty that is a feature of the late 20th. Commenting on the underlying zeitgeist of the era, Teich and Porter note that, “For decades fin de siecle implied a ‘go to the dogs’ feeling that was thought to pervade European ‘civilised’ society in the years around 1900...Underlying it was a cocktail of lamentations for the past and fears of the future, countenancing the notion that human progress was being brought to a halt, if not to an end (quoted in Kearns (1993, p9)).” Regarding the economy, the lack of fixation on the novel is perhaps unsurprising: Since there was no prior “national” economic imagination, at least in the sense of a self-referential and autopoietic system contained within the territorial borders of the state,⁶⁷ the internationalization of trade and capital flows in the 19th century did not produce the same type of epochal end of territory suggestions. An alteration in the character of economic transactions did not require a fundamental displacement of the terrain of the

⁶⁵ Both of these pointed out by Koot 1987, p26.

⁶⁶ Refer back to Chapter II and IIA. Walters notes that Jevons provided “one of the last economic non-economic explanations of unemployment as a solar phenomenon (personal communication)”

⁶⁷ See Chapter II.

economy since territory and economy had not yet been rigidly aligned.

Nevertheless, the economic and the territorial did have a relationship in economic discourse, even if this relationship was not rigid. In fact, when we examine the “economy” in the late 19th century we note several territory-economy alignments, most of which are highly affected by the prevailing naturalism – particularly racism – of the time. Moreover, this naturalism is something characteristic even of the “objective” quantitative indicators of the day, indicators increasingly relied upon to determine public policy. The consequences of this naturalism on policy are most apparent upon an examination of the link between economy and protection, where economic-territorial borders could align racially as effortlessly as juridically – they could as easily be imperial as national. Imperial preference, the dominant political opposition to free trade, was prefaced upon maintaining and strengthening natural economic linkages within the borders of the white empire. Fast forwarding somewhat, we can see the same type of logic at play, albeit in a somewhat more perverse form, in the notion of lebensraum or pan-regions where “dominant and subordinate races joined together territorially (Agnew, 1998, p100).” The limits of “reasonable” economic policy did not align with what might be regarded as reasonable from the standpoint of the present: Increasing trade interdependence or declining relative growth rates did not produce national economic introspection as a response. Rather, relying upon externalist indicators it suggested protectionism and preference within the Empire as the most reasonable economic response to the status quo.

In sum, the presentist narrative of globalization must confront the evidence that the past neither imagined itself nor constructed its political projects according to the “economic reality” which present statistics suggest about it. The proto-Globalization that

present categories reveal is thus an artifact of those categories rather than reflective of the governmentality of the time. If there is some kind of underlying economic force, it is apparently one that can be ignored and even overcome, not just by the numbers but by those relying upon those numbers to guide policy: Interdependence can be measured and practiced within a context of economic-racial parameters as easily as those characteristic of “post-Fordist” production.

Finally, it is once again necessary to add a qualification: The above is not suggesting that the naturalized imagery characteristic of 19th century discourse was solely a function of the statistics. Given the limited influence of the statistical apparatus and the wider pervasiveness of naturalism in many different areas this would be too strong a claim to make. Rather, the statistics played a more indirect role, helping to organize and objectify specific racial-economic images. Moreover, because the statistical indicators were not part of a coherent system they did not acquire a mutual-referentiality: Individual indicators could be readily added or extended to encompass a larger than state unit where the investigator was so inclined. The same cannot be said for the system of national accounts which so successfully quantified the “national economy.”

That said, neither the natural economy nor the national economy forms the taken for granted starting point for the dominant stream of contemporary economic discourse. Accordingly, in an attempt to document the emergence of the global economy the next Chapter will examine the development of a statistical trajectory that emerged apart from the system of national accounts only to be integrated in the 1968 revisions of the UNSNA – input-output accounting. It is with input-output accounting that increases in discrete measures of economic relationships across borders can be given a systematicity – that the

international can constitute more than a residual and become part of an integrated economic process where territory loses its significance.

Chapter V

Global Models, Global Problems

“The world economy, like the economy of a single country, can be visualized as a system of interdependent processes. Each process...generates certain outputs and absorbs a specific combination of inputs.” Wassily Leontief, *Structure of the World Economy*, 1974, p823.

In the last Chapter we examined contemporary statistical ruminations on trade patterns in the late 19th century. In the process we demonstrated both that a recognition of the movement of goods and capital across national borders is not unique to the late 20th century, and that there is no simple and easy correlation between levels of trade interdependence and the discourse which orders that interdependence. For much of the 19th and early 20th centuries the imperial economy or even the racial economy could as easily form the marker for economic policy as the national or international economy. Moreover, the world economy also formed a cohesive economic unit for a number of analysts at the time. Moving into the mid-20th century, the link between territory and economy was more concretely fixed in that the national economy was, until recently, the object around which mainstream economic discourse and policy were oriented. There were alternatives to this model.¹ However, at least as relayed by the dominant practitioners of economic analysis, the economy was neatly contained within territorial frontiers. State and economy aligned in a more or less coherent fashion, with any interaction externalized in the form of exchange between otherwise self-contained units. Where the international was ascribed an economic content, Chapter III offered that it was chronologically construed rather than on the basis of present transactions. Moreover,

¹ Those like Prebisch, Cardoso and Falleto, and Frank, who argued that national economic developments were conditioned by a state's position in an international division of labour – this position will also affect

both Chapters II and III demonstrated that this alignment was as much the result of a particular statistical ordering associated with J.M Keynes, Richard Stone, and Colin Clark as it was representative of objective economic “reality”. In sum, what our historical survey has demonstrated thus far is that the relationship between territory and economy in public and scholarly discourse has been multifaceted, politically invested, and non-linear. The (obsolescent) national economy, progress, and interdependence are not ahistorical categories. Nor does the development of the economic-territorial discourse related to these terms appear to proceed in an evolutionary and progressive manner. Even when these categories are numerically expressed they appear as political projects having their own histories and non-numerical assumptions embedded within them. In other words, the key categories by which we understand the global economy, whether its presence or absence, have descended from a variety of what might be regarded as rather peculiar projects and circumstances.

Nevertheless, it is the very idea of a linear progression in the relationship between economic processes and territoriality that has underpinned the most recent alignment of territory and economy. Considered as a discourse it is evident that “globalization” has had a public salience commensurate with that of the “national economy” in the post World War II years. The origins of this discourse, as opposed to the supposed structural beginnings of the economic process it attempts to describe, are usually traced back to the 1970s (Scholte, 2000). There were, as we have seen in the last Chapter, voices highlighting cross national interdependencies far earlier than the 1970s.² However, it is at this time that a global as opposed to an inter-national or chronological orientation to

Leontief.

² See also Malchup’s (1977) description on the history of thought on integration for other attempts into the

economic processes begins to have, if not a dominant voice, at least a wide public and academic echo.

So what changes in the 1970s to facilitate the coming into being of the world economy as a coherent economic unit and as one of the dominant markers for economic policy making in the 1980s and 1990s? One might be tempted to point towards the growing importance of trade linkages, the end of the dollar-gold standard, or even the oil crisis as the structural tremors forcing a change in the superstructure of economic discourse. Yet none of these factors would seem to necessitate a change in economic discourse in and of itself. In the realm of trade, by the early 1970s, and especially when compared to trade levels in the early 20th century, the linkages were hardly of sufficient magnitude to render the national economy a non-sequitor (Hirst and Thompson, 1996). For its part, the end of fixed exchange rates was as easily rationalized as emanating from the profligacy of one national economy as it would later be associated with quicksilver capital.³ And as far as the oil price shocks were concerned, while they did illustrate the dependence of industrialized economies on a foreign natural resource, the Marshall Plan would seem to have similarly demonstrated the strong links of dependence which can historically link one economy to another. In other words, there were several significant international economic events in the early 1970s, but nothing of an unprecedented scale or scope.

Nevertheless, the self-evidence of the “national economy” does slowly peter out leading into the 21st century. In fact, and sticking with our quantitative theme, when

1930s, 40s and 50s.

³ Especially given US spending abroad on the Vietnam war, coupled with “Great Society” spending domestically. See McKenzie (1991) on the expression “Quicksilver capital.” Analysts like Peter Gowan (1999) have described the end of the gold standard in terms of a reassertion of dollar hegemony (i.e.

examining the dominant academic and popular currents of the early 1970s, one of these is associated with the widespread proliferation of models attempting to document the structural conditions characteristic of the globe as an object in and of itself. The question, then, is how does the globe as an economic object in and of itself become so important at this specific point in time? Why is the globe viewed as requiring new forms of quantitative analysis? Moreover, why did the global-level have such public tractability now when earlier analysts had likewise called for an analysis of extra-national interdependencies?⁴ Since the global problematique had a specific origin in time and space coincident with global modeling, the origins and effects of these global models seems a logical point of entry with respect to these questions.

It is at this point that the quotation which began this Chapter bears further scrutiny. The quotation, drawn from Wassily Leontief's acceptance speech for the 1973 Nobel Prize in Economic Science, outlines Leontief's initial attempt, under United Nations auspices, to construct a quantitative accounting structure for the world economy. Such an account was deemed necessary in light of wider public concerns associated with the environmental limits to growth earlier demonstrated and proselytized by the Club of Rome. The title of the speech, "Structure of the World Economy" parallels that of Leontief's seminal work of 1941, *The Structure of American Economy, 1919-1929*. This is not a coincidence. In fact, that Leontief was chosen by the United Nations for such a project is in part due to the method that underlies both works. This method is one that was initially used to document the inter-industrial structure of a national economy. Its obvious utility to national income analysis was deemed so apparent that it was

national economic assertiveness) in the context of a decreased merchandise competitiveness.

⁴ Other than what we have briefly examined in Chapter IV, consider also the literature on imperialism and

incorporated into the United Nations System of National Accounts in 1968.

Nevertheless, the method has a structure and limits that are markedly different than those characteristic of the national accounting model of Meade and Stone that we have already examined. As we will see, it is with Input-Output accounting that the territorial cohesiveness of the national economy as a coherent accounting entity loses its rigidity. It is with Input-Output accounting that the interdependencies of the global economy become quantitatively visible. It is with Input Output accounting that a global environmental concern for the future, highlighted by a private international body, can be translated into a global economic concern bearing official sanction and representing present reality.

Accordingly, it is the aim of this Chapter to trace both the origins of that method as well as its consequences on the economic imagination.

The Environment of Global Modeling in the 1970s:

Given its public elaboration at the 1973 Nobel Prize ceremony, it might be supposed that Leontief's World Economy model represented the culmination of a "beautiful mind" reflecting upon and surmising economic trends that were only nascent in 1973. Moreover, since this was done at the behest of a multilateral institution, the United Nations, a global orientation might appear self-evident.⁵ Two observations belie these suppositions: In the first place, and as we have already noted, the United Nations was/is also responsible for the "nationalizing" system of national accounts. Being a

other linking mechanisms.

⁵ The association of the UN with a global image is common: In their discussion of the emergence of a *world* environmental regime, Meyer et al (1997) suggest that two factors were determinative: "the long-term expansion of rationalized and authoritative scientific interpretation...and the rise of world

multilateral institution does not guarantee a geographically holistic orientation to world affairs. Secondly, it is not in the United Nations that the primary trajectory of global modeling in the 1970s begins. There were a number of prominent global models constructed in the early 1970s of which the UN model was only one – written as much to respond to earlier global models as to uniquely establish the world’s economic condition. So where does the impetus for the abundance of global modeling emerge? According to Taber, “a profusion of global modeling projects emerged in the 1970s and 1980s, most in response to the controversial first report of the Club of Rome... This report, published under the title *Limits to Growth*, predicted global disaster if population and economic growth did not cease (Taber and Timpone, 1996, p48).” Likewise, Fontela notes that the resulting controversy over this report “in itself served the purpose of diffusing the Club of Rome idea of the World Problematique (Fontela, 2000, p2).” Nor was this “problematique” limited to a select audience of academics, statisticians, and computer programmers. Alker records that “The Limits to Growth became a bestseller in the United States, Western Europe, and Japan (Alker, 1977, p30).”⁶ Meadows et al note that it “sold more than three million copies and was translated into twenty-three languages (Meadows et al. 1982, p23).” Richard Ashley suggests that “almost overnight the M.I.T. study receives worldwide publicity... within months the idea of world modeling (once considered thoroughly audacious if considered at all) becomes imaginable to governments and general publics, as well as to professional social scientists. (Ashley, 1983, p496)” Arturo Escobar goes so far as to imply that “the category ‘global problems’” was precipitated “by the Club of Rome reports of the 1970s (Escobar, 1996,

associational arenas – principally the United Nations (UN) system (p623).”

⁶ The future it offers brings to mind Solyent Green, although I do not know if there was a direct relationship

p49).”⁷ The resulting discourse was thus both academic and public in the sense of having a resonance beyond the cloistered halls of academia. Consequently, if we are to locate the origins of a public and quantitative “world problematique,” we must begin with the Club of Rome and its concern with the impact of industrial society on the sustainability of the species.

As for the Club itself - an organization which is still extant - it was not a formal inter-governmental organization. It bore no particular institutional seal of approval. Instead it was established at the behest of “an Italian industrial manager,” Dr. Aurelio Peccei, in April 1968 (Meadows, 1972, p9).” Jay Forrester describes it as such: “The Club of Rome is a private group numbering some 75 [now 100] members from many countries who have joined together to find ways to understand better the changes now occurring in the world. The members act as private citizens. They are not in governmental decision-making positions (Forrester, 1971, ppvii-viii).” Nevertheless, according to Alker, and this particularly in the context of the impact of the Limits to Growth on public discourse, “the Club of Rome is itself a transnational actor, visibly affecting policy announcements (Alker, 1977, p30).” Onuf notes that it “occupies a shadowy but definite place among contemporary institutions that make up the intellectual and normative infrastructure of industrial civilization (Onuf, 1983, p121).” Its current membership, as the Club describes it, is constituted by “scientists, economists, businessmen, international high civil servants, heads of State and former heads of State who pool their different experiences from a wide range of backgrounds to come to a

between the two.

⁷ He notes this in the context of the invention of “sustainable development.”

deeper understanding of the world problematique.”⁸ This suggests that it is closer to a hybrid public-private organization in the mold of the World Economic Forum or Trilateral Commission than a purely public or private body.⁹

As for *The Limits to Growth* it is a follow up on an earlier (1971) Club of Rome supported project relying upon a similar methodology (systems dynamics) and producing similar conclusions, *World Dynamics* (Forrester, 1971).¹⁰ Both were part of the Club’s broader “Project on the Predicament of Mankind” which aimed at outlining the “world problematique, as the Club of Rome calls it (Meadows 1972, p10).” This Project dovetailed with the Club’s primary aim to “foster understanding of the varied but interdependent components – economic, political, natural, and social – that make up the global system in which we all live; to bring that new understanding to the attention of policy-makers and the public worldwide; and in this way *to promote new policy initiatives and action* (Meadows 1972, p9, my italics).” Accordingly, *The Limits to Growth* was deliberately designed as much to be a work of political persuasion as an objective social-scientific treatise. The technical analysis which it generated was designed to add “objective” authority to pre-existing subjective concerns.

In any event, in its scope the study was designed to be holistic: Success on the global activist front could only be achieved where policy makers understood that there

⁸ <http://www.clubofrome.org/organisation/index.php>. It is difficult to ascertain its current influence given its stated “desire to operate discreetly.” <http://www.clubofrome.org/about/methodology.php>. As early as 1982 Onuf notes that its orientation has evolved in a more liberal, system managing direction (Onuf, 1982, p138).

⁹ On the Trilateral Commission see Gill (1990). One general point to note here is that the construction of the international is not limited to formal International Organizations. The current global governance literature is also at pains to make this point, whether referring to credit rating agencies or private judicial bodies, such as those housed by the International Chamber of Commerce: Sinclair (2005); Stone Sweet (2006); Porter (2003).

¹⁰ Interestingly, Forrester was “the inventor of the magnetic core for mainframes in the 1950s (Chadwick, 2000, p58).” Being able to combine the ideational with the material via the technology of the computer

were problems which “occur to some degree in all societies,” that “the whole is more than the sum of its parts, that change in one element means change in the others (Meadows 1972, p11).”

Turning to the specifics of the study, it sets as its task to explore “the five basic factors that determine, and therefore ultimately limit, growth on this planet – population, agricultural production, natural resources, industrial production, and pollution (Meadows 1972, pp11-12).” In order to track the broad direction of change in what it calls “the world system,” quantitative measures for each of these factors were obtained and inputted into a computer model containing mathematical relationships (“[one] hundred or so (Meadows 1972, p121)”). These algorithms modeled the reciprocal feedback of each factor on all the others, thereby allowing system wide trends to be observed.¹¹

Significantly (demonstrating once again the political nature of quantitative measures) the authors note that “we are primarily concerned with the correctness of the feedback loop structure and only secondarily with the accuracy of the data (Meadows 1972, p122).”

The model is designed to illustrate the consequences of a system characterized by exponential growth in certain areas - specifically “exponential growth of population and of industrial capital (1972, p156)” - on a by definition limited environment. The model dictates how the system will end, regardless of the specific quantities that are inputted into it. As they put it, “numerical changes may well affect the *period* of an oscillation or the *rate* of growth or the *time* of a collapse, but they will not affect the fact that the basic mode is oscillation or growth or collapse (Meadows 1972, p121, italics in original).”

In light of the structure of the model and of the dystopian nature of its premises

would have given his models the appearance of objectivity.

¹¹ See Chapter III of *Limits*: “Growth in the World System,” pp88-128.

(this is, after all, a study which is concerned with identifying those factors which “ultimately limit growth on this planet”), it is of little surprise that the study demonstrates that “the limits to growth on this planet will be reached sometime within the next one hundred years (Meadows 1972, p24).” In fact, the model demonstrates that, given present trends, the future will not arrive gradually and smoothly, but as a catastrophic system-wide “collapse into a dismal and depleted existence (Meadows, 1972, p127).” In simulation after simulation, each relying upon different assumptions about technological responses to exponential growth in population and capital, collapse results, albeit as a result of different limitations in different cases (food, pollution abatement, resources).¹² The only changes that can avert this future¹³ are technological changes combined with deliberate alterations in social structures and social values to the effect that growth in *both* capital and population ends prior to its being forced to end (Meadows 1972, p163). Thus with respect to the world economy, the ultimate point of interest in this Chapter, the study notes that there must be an end to economic growth and the establishment of global equilibrium if human society is to be sustained.¹⁴

The Limits to Growth was not, of course, the first to bring to light the environmental limits to exponential human procreation.¹⁵ Nor was it the first to invoke the specter of *global* environmental despoliation. In fact, Stevis suggests that “the environment was cast in global terms at least as early as the late 1940s (Stevis, 2005a, p323).”¹⁶ While a global orientation to environmental problems might seem self-evident

¹² See Chapter IV of *Limits*, “Technology and the limits to growth,” pp129-155.

¹³ Reflecting the activist orientation: “The objective is to use one’s understanding of the global system to identify strategies that can lead to more favourable futures (Meadows et al, 1982, p29).”

¹⁴ See Chapter V, of *Limits*, “The State of Global Equilibrium,” pp156-184.

¹⁵ Most notably, Malthus established this linkage for population in the 19th century.

¹⁶ Stevis mentions several relevant works including *Our Plundered Planet* (Osborn, 1948); *Spaceship Earth* (Ward, 1966). He notes in another article (Stevis, 2005b) that the globe was construed in geopolitical terms

in the present, (particularly given the fixation on global warming), it is in fact just one way of scaling the issue – with regional or local scales being appropriate depending upon the ecosystem being studied (Stavis, 2005a). However, even where the scale of environmental impact is international or global in scope, this does not automatically suggest that a conceptual or political framework commensurate with that scale will arise (Meyer et al. 1997, p628). For example, Meyer et al note that “massive environmental degradation has been occurring for a long time without much corresponding mobilization: for example, world croplands doubled between 1700 and 1850 and nearly doubled again by 1920, with devastating losses to biodiversity. This problem did not ‘cause’ much world-level action until the 1990s...Even now, poorly understood but potentially disastrous problems such as those posed by industrial gas ‘cocktails,’ barely appear on the global agenda (Meyer 1997, p627).”

Having said this, the period covering the late 1960s/early 1970s is marked by a rather intense global activism centred on a global environmental front. On the level of international institutions, for example, the Stockholm Conference on the Human Environment brought together “114 governmental representatives (Meyer et al. 1997, p624)” to discuss common environmental problems in 1972. Out of this process the United Nations Environment Programme was established. Moreover at the state-level the conference also precipitated the formation of national environmental ministries¹⁷ and state-level efforts to collect environmental statistics.¹⁸ Even at the level of “civil

(“a predecessor to the environmental conflict and security research agendas”) during much of the period of the mid-1940s until the late 1960s, although there was also an eco-political stream (where “the ecosphere was seen as a factor independent of resource scarcities”).

¹⁷ “The first national environmental ministry appeared in 1971. There were 52 ministries by 1989...and 57 more by 1996 (Meyer et al. 1997, p638).”

¹⁸ “Serious work on monitoring environmental change did not commence in most countries until after the 1972 Conference on the Human Environment in Stockholm. This work followed the adoption of a

society”, the early 1970s sees the formation of “global” NGOs like Greenpeace.¹⁹

It is in this epistemic context that *Limits to Growth* was received. Likewise it helped to ensconce and establish certain epistemic particularities going forward. In the first place, in common with much contemporary environmental commentary, *The Limits to Growth* is constructed on an explicit and specific scale – it is not a record of limits in general, but of limits that will be faced by the entire globe as an object in and of itself. There is no geographic breakdown of the “world problematique” – it is constructed at a high level of aggregation in which “national boundaries are not recognized. Distribution inequalities of food, resources, and capital are included implicitly in the data but they are not calculated explicitly nor graphed in the output (Meadows 1972, p94).” This does not mean that the method and model cannot be used on a less aggregated level of analysis,²⁰ only that “questions of detail, of individual nations...can be asked much more sensibly when the overall limits and behavior modes are understood (Meadows 1972, p96).” This is, therefore, a model that is geographically holistic in the sense that global trends are determinative of developments on all other levels of analysis.²¹

Secondly, and perhaps more significantly, this global unit is treated as an integrated *socio-economic system*, rather than as a mere stimulus-response environmental

resolution at the summit that recommended that all countries begin collecting environmental statistics (Ward, 2004, p212).”

¹⁹ “Starting around the time of the Stockholm Conference...we see the rise of environmental organizations with a globalist rhetoric, prominent among them being Greenpeace [1971] and Friends of the Earth (Stevis 2005a, p328).”

²⁰ They note that “we have built numerous submodels ourselves in the course of this study to investigate the detailed dynamics underlying each sector of the world model (Meadows 1972, p94, note).” A subsequent Club of Rome publication, *Mankind at the Turning Point*, 1974, did provide a geographic breakdown into “regions.” According to Chadwick (2000, p61), “national interest in the use of this type of model dictated that such users be explicitly represented. For example, no nation could control global population growth, but their policies might have some impact on themselves.”

²¹ Of course in doing so the model also effectively “remove[s] resource conflicts from any particular local or political context (Sachs, 1992, p28).” The resulting problematique, as critics have noted, is one in which we are all in the same boat – the historical responsibilities for resource exploitation, the disparities in

system; understanding future trends requires understanding the population, resource, pollution, and *production* characteristics of the globe as such, and the manner in which they interact and feed back upon one another. What is recorded and tracked are the “average characteristics of the whole world (Meadows 1972, p104)” along a number of lines, including the ability of the economic system to react back on environmental limits. One must, therefore, understand the characteristics of the global economic system (as one component of the social system) to accurately characterize the future. When introduced into an epistemic environment characterized by the “territorial trap (Agnew, 1994)” of the national economy, this undoubtedly produced a certain dissonance.²² *The Limits to Growth* thus constructs a planetary economy as much as a planetary ecology.²³

The third epistemic effect occurs via the use of quantitative modeling for the “five basic factors” in light of their supposed limits. This lent itself to a debate that was mathematical and socio-technical rather than normative or ethical by way of response – concern was over how and what to measure if realistic global trends and hence global futures were to be obtained. *The Limits to Growth* was so influential in part because it carried the veneer of scientific authority in the form of quantitative output produced through computer analysis.²⁴ This led to a response that was equally quantitative: The

resource access and use between “north” and “south” do not figure as relevant. See also Galtung (1973).

²² Ward (2004) notes that “classical economists such as Adam Smith and David Ricardo...gave considerable thought to the environment, especially to the question of the land and its value...But their economic ideas dealt mainly with *steady-state systems* and marginal changes in these static states (p208, my italics).” By contrast, *Limits* is written in the epistemic context of economic progress which must confront physical scarcity. See Chapter III for more on this issue.

²³ While earlier works on the environment did not entirely overlook the economic context, (e.g. *Our Plundered Planet*, 1948) “only in the last few decades has the important intersection between the economy and the environment been studied *in any detail* (Ward 2004, p204, my italics).” In commenting on the conceptual history of the environment, Stevis notes that “questions of international political economy...were not addressed systematically (2005a, p21).”

²⁴ I use the term veneer because most of the technical analysis is only implied in the report itself: “much of the criticism focused on the fact that the team, with strong urging from the Club of Rome, elected to publish a popularized version of their work before the details had been subjected to scrutiny by the

growth of quantitative modeling on the issue was so pronounced that by 1983 Ashley can remark that “where once the idea of developing computer-based models capable of forecasting long-term global futures might have been widely received as fantastic, today just the reverse is the case (Ashley, 1983, p496).” Karl Deutsch (1978) would go so far as to describe this as “a new stage...in the study of world affairs (quoted in Ashley, 1983, p496).” Highlighting this development in the decade after *Limits to Growth*, Meadows, et al., *Groping in the Dark*, summarizes seven of these models.(Meadows et al., 1982) Ashley, for his part notes ten models bearing the acronyms “WIM, MOIRA, LINK, SIMLINK, GOL, FUGI, IEES, IPS, SARUM, GLOBUS, SIPER, (Ashley, 1983, p496).” He also records (even if he regards the effort as being ultimately unsuccessful) that concern was frequently over how to incorporate political variables and political choice into the models as quantitative variables. In any event, in establishing a quantitative basis for the debate, the issue was entrenched as a technical discussion of the actual characteristics of the global factors;²⁵ this in light of the physical sustainability of the world system rather than, for example, its ethical-moral legitimacy.²⁶ As both Escobar (1996) and Sachs (1992) have noted, this ultimately opened the way for a managerial discourse directed *at* the environment, one associated with establishing better control²⁷ -

scientific community (Meadows et al, 1982,, p23).” The entire quantitative model was subsequently published: Meadows, et al (1974).

²⁵ Alker suggests that “both Forester and, perhaps even more, some of his technically advanced critics lean toward a more technocratic epistemology (Alker, 1977, p26).”

²⁶ With the exception of the Bariloche model which *Groping* suggests is “the most explicitly ideological of the seven models we are considering (p45).” They note that the Bariloche Model developed as a response aimed at “sketching a way of arriving at the final goals of a world liberated from backwardness and misery” rather than arriving at a global equilibrium that would favour the currently wealthy (Bariloche Group, quoted in Meadows et al., 1982, p44).

²⁷ Commenting on systems theory Sachs (1992, p32) notes that “Once identified, the way is open to condition these mechanisms so as to alter the responsiveness of the system...[it] implies either the intention to gage nature’s overload capacity or the aim of adjusting her feedback mechanisms through human intervention. Both strategies amount to completing Bacon’s vision of dominating nature, albeit with the added pretension of manipulating her revenge.”

in contrast to that stream of ecological thought attributing an intrinsic value to nature in and of itself.²⁸

Of course all this is not to suggest that every global modeling effort mirrored the Club's work or its conclusions.²⁹ While many of the most prominent of the early global models were animated by a concern over environmental sustainability in a global context, this is not true across the board.³⁰ Moreover, the political implications of the Club's model (a declining birth rate coupled with an end to economic growth) were viewed as particularly problematic from the standpoint of the "undeveloped" world (Meadows et al, 1982, p24) - despite the author's concern that "a brake imposed on world demographic and economic growth spirals must not lead to a freezing of the *status quo* of economic development of the world's nations (Meadows 1972, p194)."³¹ Finally, not all of the global models responding to the "world problematique" relied upon the "systems dynamics" approach promoted by the Club of Rome.³² Nevertheless, the *Limits to Growth* took its place at the fulcrum of a debate on how to quantitatively measure the future of the world system. It established the globe as a legitimate level of analysis for tracking "population, agricultural production, natural resources, *industrial production*, and pollution." For our purposes, in publicly charting the terrain of the global,

²⁸ Sachs (1992, p27) suggests that "attributing absolute value to nature for its own sake, as environmentalists in the tradition of Thoreau, Emerson and Muir did, would have barred the way to continuing, albeit in a more sophisticated and flexible manner, the exploitation of nature."

²⁹ In the first place it was not the first global model. According to Richard Chadwick (2000, p51) "there is reason to extend this date [global modeling] back to the turn of the century...as applied to several global systems, war, and weather...begins with the work of Lewis Fry Richardson." It was, however, amongst the first to achieve widespread public recognition.

³⁰ Arms control, peace, WOMP, etc. Chadwick (2000) gives a good overview of several of these models.

³¹ This concern with the developmental implications of a "global equilibrium" comes to define the stance of less-developed states towards the environmental issue. Stevis (2005a, p327) records that "not only was the North assumed to be the cause of environmental harm but, also, that any global environmental policies would require significant transfers to the South and strong consideration of the South's special circumstances."

³² Meadows et al, (1982, p20) lists the following methodologies as being used by at least one of the seven

particularly as it relates to the economy, the self-evidence of the national economy came under scrutiny. Trends in the global economy as a system rather than a mere resultant of national economies became a public concern, stimulating further academic effort.

Leontief's model

So how does a very public “world problematique” dominated by images of a catastrophic collapse in worldwide economic growth in the near future get transformed into a very public global problematique thoroughly grounded in optimism over future progress? The Club of Rome may have established the *public* debate on global economic futures, but it clearly did not determine the future course of its evolution. So what did? In part we can trace the evolution of this discourse through the work and influence of Wassily Leontief.

While highlighting a *unique* causal connection between *The Limits to Growth* and Leontief's world economy model is perhaps to overstate the case,³³ we can see evidence of linkage between the two particularly when we review Leontief's 1977 United Nations world economy model. Peter Petri, one of the co-authors of the report, notes that “[t]he famous Meadows Club of Rome study was, no doubt, partly responsible for the U.N. decision to sponsor this new global model (Petri, 1977, quoted in Meadows et al, 1982, p86).” Moreover, its primary objective, “to investigate the interrelationships between future economic growth and prospective economic issues, including questions on the

studied models: systems dynamics, optimization, econometrics, classical economics, and Input-Output.

³³ As noted above, environmental “consciousness” was not solely a product of the Club of Rome. In fact, Leontief himself had previously published on the environment: Leontief (1970). Moreover, the 1977 report notes as its context, among other things, the 1970 International Development Strategy that itself expressed a concern with “the ecological balance on which human survival depends.” *International Development Strategy: Action Programme of the General Assembly for the Second United Nations Development Decade* (United Nations Publication, Sales No. E.71.II.A.2), para. 72, quoted in Leontief et al, 1977, p1.

availability of natural resources, the degree of pollution associated with the production of goods and services, and the economic impact of abatement policies (Leontief et al., 1977, p1),” closely parallels the objectives of *Limits*. Finally, Meadows et al note that “magazine articles still appear occasionally which report that the model ‘discredited’ *The Limits to Growth* (Meadows et al., 1982, p86).” While other influences were also significant in affecting the final shape of the study (particularly, as we will see, the discourse of development),³⁴ the model as a whole was given public impetus and public reception as a creature of the “world problematique,” as defined by the Club of Rome.³⁵

Like *Limits*, Leontief’s work was also highly influential. He received, as already mentioned, the Nobel Prize in Economic Science in 1973 – an award bringing both academic and public recognition. He was, therefore, particularly well placed to make a concurrent contribution to academic and public discourse. Moreover, his work on the world economy in the 1970s was recognized as being highly significant at the time. In addition to the obvious public impact of the 1973 Nobel speech, Meadows et al note that Leontief’s subsequent 1977 study on the world economy “received front-page coverage in the New York Times (Meadows et al., 1982, p86).” Carter and Petri, who co-authored the 1977 report, note that “the work attracted wide public attention and stimulated a number of subsequent global modeling efforts” including work at the “World Bank, UNIDO, the U.S. Government, and in various private and public research institutes

³⁴ Especially calls for a New International Economic Order. Stevis (2005) notes that “this connection of environment and development was very much evident before and at the Stockholm Conference [1972]” particularly from the South. This concern would, as we will see, also complicate the global unit of analysis into a regional one.

³⁵ There is a certain parallel here to what Foucault (2007, p243) says of Machiavelli: “[Machieveli] is not at the centre of the debate insofar as it takes place because of what he said, but insofar as the debate is conducted through him. The debate does not take place because of what he said, and an art of government will not be found through or in him. He did not define an art of government, but an art of government will be looked for in what he said.”

(Carter and Petri 1989, p24).”

It is in his Nobel acceptance speech that Leontief initially comments on the characteristics of the world system, so it is here that we will begin. The speech itself outlines Leontief’s tentative modeling of the *Structure of the World Economy*. As he puts it, the model is part of a United Nations’ sanctioned effort (of which the 1977 Report is the finished vision) to “construct a data base for a systematic input-output study not of a single national economy but of the world economy viewed as a system composed of many interrelated parts (Leontief, 1974, p823).” This project was viewed as being necessary because of the potential limitations to economic development implied by the then current environmental anxieties and growth limits typified by the Club of Rome. The prospectus issued by the UN puts its mandate as such:

“studying the results that prospective environmental issues and policies would probably have for world development in the absence of changes in national and international development policies, and secondly, by studying the effects of possible alternative policies to promote development while at the same time preserving and improving the environment. By thus indicating alternative future paths which the world economy might follow, the study would help the world community to make decisions regarding future development and environmental policies in as rational a manner as possible (United Nations, 1973, quoted in Leontief, 1974, p823).”

With these goals in mind, the primary task that Leontief sets out for himself in this speech is to outline “a framework for assembling and organizing the mass of factual data needed to describe the world economy (Leontief, 1974, p824).” It is the manner in which the data is to be collated, the accounting system, that is being highlighted. A world economy can only be measured within an appropriate accounting system: Only then can the “*structure* of the world economy (1974, p824, my italics)” be understood. This framework, input-output accounting, had previously been developed by Leontief -

although it had to this point been used almost exclusively in a national context.

The above being the case, it is perhaps easiest to summarize the speech by highlighting its data structure. As he puts it, “[t]he state of a particular economic system can be conveniently described in the form of a two-way input-output table showing the flows of goods and services among its different sectors (1974, p823).” In a eulogy written for Leontief in the *Economic Journal*, Sajal Lahiri succinctly describes the method:

“The basic theme of IO analysis is the interdependence in production, i.e. to produce a good one needs other goods as inputs. It conceives production as a system made up of interdependent parts, the so-called sectors of production. Each sector is both an origin and a destination of product flows. The destination of products other than the sectors of production are brought under a single account called ‘final use’ or ‘final demand’ (Lahiri, 2000).”

In the case of this particular project, the “economic system,” the world economy, is figured in the form of two regional input-output tables labeled Developed Countries and Less Developed Countries (Leontief, 1974, p824). Data for each region is organized into a matrix containing rows and columns, where each row and column represents a sector of the economy. Most rows have a corresponding column measuring the same sector, allowing inter-sectoral flows to be visualized. Traveling along a row reveals how the output of the corresponding sector “has been distributed among all the other [sectors] Leontief, 1953, quoted in Studenski, 1958, p216).” Traveling down a column reveals the inputs “absorbed” by that sector from the corresponding row intersection (Leontief 1953, quoted in Studenski, 1958, p216).³⁶ The sectors recorded include extraction industry, other production, pollution/abatement, employment, and other value added. There is also

³⁶ To use more conventional terminology, a row measures sales by an industry while a column measures purchases (Kendrick, 1972, p59).

a consumption column added, divided between domestic and trade. The two regions are linked together into a world economy via measurements of trade flows between the regions.

What is revealed by the tables are the specific quantitative interdependencies between sectors and regions of the economy. In addition to the absolute magnitudes (measured either as physical quantities or as monetary prices (Leontief, 1974, p825)), these interdependencies can also be expressed as numerical coefficients. These coefficients describe the relative proportion of each input required to produce one unit of a given sector's output: For example, in dividing the total output of "other production" by the "employment" absorbed figure, we come up with a number indicating (proportionally) how much labour is embedded in the output of that sector of the economy (Leontief, 1974, p825). Taken together these coefficients offer a unique set of input-output "recipes" describing the structure of an economy (Leontief, 1974, p825).

The system thereby described allows Leontief to depict the contours of the world economy in the future, given different assumptions about future physical and price levels. The model does not predict the future as such, only what the overall economy would look like given certain (user-defined) changes.³⁷ By assigning a future value to (among other variables) extraction levels, economic growth, pollution abatement levels, and productivity,³⁸ the model, via its coefficients, can illustrate how that change will both directly and through indirect input-output requirements feed back into the entire

³⁷ One of the assumptions that Leontief makes is that other production in Less Developed Countries will grow by 6.4% per annum (p829). *Future* puts the process thus: "the inquiry might move not from causes to effects but from desired effects to the causes capable of bringing them about (Leontief et al, 1977, p17)."

³⁸ "We earmark 6 physical and 5 value-added variables as 'exogenous (Leontief, 1974, p828).'" Figures 4 and 5 (pp829, 830) show which variables are held to be endogenous and which exogenous in the three future cases.

structure.³⁹ To that end, Leontief (1974, pp824, 833, 834) constructs a series of tables describing the possible characteristics of the world economy not just in the present (1970), but also thirty years forward (three possible cases for 2000).

There is, however, very little subsequent discussion of the significance of these cases. In part this is a consequence of his focus on method rather than results at this stage. In fact, while the actual quantities he uses to describe the cases are not without some semblance of realism, they “are, strictly speaking, fictitious (Leontief, 1974, p825).” As he puts it, “I refrain from drawing any factual conclusion from the economic projection presented above. The computer received fictitious inputs and necessarily issued fictitious output (1974, p833).”

Given its lack of definitive conclusions, Leontief’s Nobel speech likely did not, in and of itself, radically alter the *direction* of the “world problematique.” It did, however, confirm the world economy as a legitimate target of analysis via the use of a widely accepted and institutionally sanctioned accounting system – Input-Output accounting had been incorporated into the United Nations system of national accounts as a recommended method in 1968. It thereby established an alternative mechanism to both view and to authoritatively pronounce on the future of the world system.

If we want to identify the manner in which Leontief affected the direction of the “world problematique,” then we must consult the 1977 United Nations sanctioned report *The Future of the World Economy*. In contrast to the 1973 musings, the 1977 report does

³⁹ This projection requires that one make the assumption that the input coefficients (at least those that are not explicitly altered “are stable over time and through a range of output levels,” an assumption that Kendrick notes is not accepted by all economists (Kendrick 1972, p87).” *Future* makes an effort to account for change in the coefficients largely by co-varying them with changes in income levels over time (Leontief et al, 1977, p23-24): “as a region becomes richer, it takes on the input-output coefficients characteristic of a higher income region (p25).” This was helped via Kravis et al., PPP calculations: “the actual regressions were often computed on the basis of only eight countries – namely, those for which the Kravis study

offer substantive conclusions on the potential shape of the world economy in the future.

However, before turning to that report, mention should be made of the development of the Input-output method itself.

The Political Inputs in Input-Output accounting

We have to this point described what was included in the world input-output model without describing the history of input-output accounting. The accounting structure did not emerge fully formed in 1973. Along what epistemic trajectory did it arise and develop? Tracing this lineage allows a number of questions to be broached: In the first place, the method was first described by Leontief in 1936. And yet neither he nor the method at that point evidenced a concern with a global economic topography. What, then, was Input-Output designed to measure? On the basis of what assumptions was it constructed? Moreover, given these initial assumptions, why was the method later viewed as being amenable to measuring the “world problematique”? Secondly, Leontief was not working in a vacuum, either intellectually or institutionally. The model did not emerge on the basis of a purely individual insight. Nor was the model propagated solely due to a general acceptance of its logical superiority or closer resemblance to economic “truth.” The question then is along what paths did the model insert itself? How was it rendered into an authoritative account of the economy given contrasting alternative models? In sum, this section is guided by the need to see input-output accounting and the “facts” that it reveals not as scientific objects existing outside of social relationships/bias, but as themselves social objects.

Turning directly to Leontief’s first explicit formulation of Input-Output

provided some basis for an international price standardization (Leontief et al, 1977, p23).”

accounting brings us to the 1936 article “Quantitative Input and Output Relations in the Economic System of the United States in 1919 and 1929.” Here we find the method described as “an attempt to construct, on the basis of available statistical materials, a *Tableau Economique* of the United States for 1919 and 1929 (Leontief, 1936, p9).” Specifically, Leontief aspires towards elaborating on the “general interdependence among the various parts of the economic system” first proposed by Francois Quesnay, but in light of actual statistical data rather than via the use of “fictitious numerical examples, (p9)” as had been required to that point. Doing so would require that “the economic activity of the whole country is visualized as if covered by one huge accounting system (p11).” In certain respects this goal sounds familiar to that being pursued by those developing the National Accounting system along the lines of Meade and Stone. In fact, both streams were, at least initially, relying upon national income statistics as their “ground (p9).” However, there are major differences to which we will subsequently return.

At this point suffice it to say that Leontief’s model calls for a much more refined micro division of the economy. As he puts it “[n]ot only all branches of industry, agriculture, and transportation, but also the individual budgets of all private persons are supposed to be included within this system. Each business enterprise as well as each individual household is treated as a separate accounting unit (p11).” Such a minute recording would be necessary for monitoring the economy considered for measuring purposes as “the flow of commodities and services as it enters the given enterprise (or household) at one end and leaves it at the other (p11).” Once measured the data can be assembled into a two-way (horizontal and vertical) accounting table on the basis of the

following relationship – “each revenue item...of an enterprise or household must reappear as an outlay item in the account of some other enterprise or household (p12).” In other words, and to reiterate our discussion above, one unit’s output⁴⁰ to another unit is correspondingly the second unit’s input⁴¹ from that unit (p12) – the same relationship (which may have a different magnitude) holds in the opposite direction. There exists clear revenue/expenditure, output/input interrelationships between accounting units that can be recorded, for simplicity’s sake, in a matrix form. Each unit can be listed sequentially in a horizontal manner across the top of the matrix and, correspondingly, in a vertical manner down the side of the matrix. Total output for a unit can be tracked along a given row, with each vertical intersection recording the volume outputted to a specific recipient unit.⁴² Total inputs can be correspondingly traced along a given column, with each horizontal intersection recording from whom the input was obtained (Table 1, p13).⁴³ In this way the distinct interdependencies among all units in the economy can be visualized.

Of course visualizing every connection between every unit would not in and of itself be of much practical utility – both for reasons of sheer visual exhaustion and for the purposes of tracing out some of the aggregate interdependencies in the economy. As Leontief puts it “the very size of such a table would constitute a serious impediment to any profitable use of the information contained in it (p14).” Accordingly the accounting units must be grouped together into a more manageable form. The author notes two

⁴⁰ Revenue is generated by sales, which is generated by output.

⁴¹ A firm’s expense (outlay) is correspondingly its purchase for inputs.

⁴² “Each row contains the revenue (output) items of one separate business (or household), subdivided according to the origin of revenue, or, what amounts to the same thing, the destination of its products (Leontief, 1936, p12).”

⁴³ “Read vertically, column by column, the table shows the expenditure sides of the successive accounts...[the divisions] indicate the distribution of these expenditures among all the different sources of

possible means by which this can occur: “The business enterprises can be classified, for example, according to the type of their products and segregated into separate *industries*, or, if location differences are to be brought out, a regional grouping must be applied (p14).” Regardless of the basis of aggregation, the accounting table is modified by summing the revenues/expenditures of the collapsed units – with interdependence within the new unit being in/visible depending upon whether the aggregator chooses a gross or a net basis (p15).

Leontief’s subsequent discussion in the article, including his actual Input-Output charts for the American economy, is based upon an *approximation* to the industrial grouping method. Specifically, he suggests that the theoretically “ideal” classificatory scheme for the study is one where “all production enterprises should be segregated into several homogeneous industrial groups, homogeneity being defined in terms of (a) identity of products and (b) qualitative and quantitative similarity of the cost structure of the firms within each group (p20).” Households should likewise be grouped according to “the kind of services they supply (p20).” However, Leontief notes that his actual study is a “compromise” to this ideal for two reasons: In the first place “the very nature of the actual process of production and consumption precludes a clean-cut differentiation of industries (p21).” Secondly, “a definite departure from the basic functional classification and grouping of industries has been made in dealing with international transactions. The consolidation of all foreign economic units into a single foreign-countries (imports and exports) account is obviously based upon a geographic, i.e., locational principle (p20).” In this respect, the “interindustrial” nature of the accounts is compromised by a non-

supply (Leontief, 1936, p13).”

industrial limit.⁴⁴ Nevertheless, and with these qualifications in mind, his empirical record of the American Economy (Tables 5 and 6) is segmented into 44 row/column sectors, 41 of which are “production accounts,” with additional sectors for foreign trade, consumption, and undistributed – a category which implicitly includes⁴⁵ “distribution, wholesale and retail...banking and finance...all non-rail transportation...the income-expenditure accounts of all public bodies (p21),” among other unknowns.⁴⁶ There are also two summary rows/columns (45 and 46) representing gross and net output and input for the entire economy.

In addition to the quantitative interdependencies that Tables 5 and 6 reveal, Leontief also records in the Tables the “elementary structural characteristics of the economic system (p30).” These input-output coefficients,⁴⁷ discussed above, are arrived at by calculating “all entries...as percentages of the *net* sum totals of the corresponding rows and columns (p30).” They thus authorize summary proportional representations of economic relationships rather than those that are reflective of absolute magnitudes – the economy can be represented as a series of proportions (themselves amenable to speculative alteration) that can be distanced from the tangible flows through which they were initially calculated. As Bledin puts it with respect to Leontief’s later 1947 Table, he

⁴⁴ The term is included in Tables 1, 2, and 3.

⁴⁵ Via the difference between the recorded revenue from every other explicitly included sector and the total output; or the difference between recorded expense on explicitly included sectors and the total outlay. The term implicit is used here because the category is not broken down to reveal the actual quantities corresponding to the aforementioned units.

⁴⁶ Kohli (2001, p195) notes that this column contains “19.8 percent of the total output in the 1919 table, reflecting large lacunae in our factual knowledge of the economy.”

⁴⁷ The coefficients would be refined in later articles “to allow him to understand how the economy would react to changes in industrial productivity and savings (Kohli, 2001 p.195).” Carter and Petri (1989, p11) note that Part II of *Structure of American* (Leontief, 1941) “derived...a complete theoretical system of interdependence constructed on the foundations of the accounting system described earlier. This part also showed how questions related to interdependence – for example, how one industry’s prices or sales are affected by events in another industry – could be cast in concrete mathematical form, and eventually answered with numerical precision under simplifying assumptions.”

“derives a matrix of technical coefficients which isolates the underlying relationships between sectors. With the model in this form, economic activity is characterized by the structure, rather than the magnitude, of intersectoral flows (Bledin and Shewmake, 2004, p467).”

The above is, of course, a somewhat static summary of a method that was not static through time.⁴⁸ There were changes made to the specifics of Leontief’s input-output accounts over the course of years – different units were included in later versions,⁴⁹ aggregate categories did not always include the same items,⁵⁰ coefficients were modified to include new concerns,⁵¹ and an “open” version was created by incorporating the possibility of exogenously specified variables. Nevertheless, the basic matrix form continued to define the specificity of this accounting method.

That said, and moving from description to analysis, one of the objectives of this section is to expose the political assumptions initially embedded in Leontief’s accounting method. These assumptions are most evident in the limits of what is recorded in his Tables. Specifically, in operating in part under what he explicitly notes is a locational principle, Input-Output accounting of this form feeds into and reinforces the nation-centrism characteristic of econometric work in the 1930s and 40s. One “principal” goal is defined as “reveal[ing] the typical productive and distributive interrelations which determine the structure of the *national economy* (p23, italics added).” In including exports/imports as a limiting sector of the economy, in summing into national totals, economic transactions are explicitly divided between those beginning/ending within and

⁴⁸ There are numerous retrospectives of Leontief’s input-output work. The summary relied on here is from Kohli (2001). Others include Carter and Petri (1989); Bledin (2004).

⁴⁹ Most notably government.

⁵⁰ Undistributed, for example.

those beginning/ending without the territorial boundaries of the state.

Nevertheless, even where attached to national totals there is a significant difference between this method and that of Meade and Stone's national accounting. In the first place, imports are explicitly included as an input in each industrial sector absorbing goods from outside the country. Exports are likewise attributed to an industry of origin rather than to the national economy as a whole.⁵² The specific country from which an import originated, or to which an export arrived is not apparent in this version of the model. However, the effect of cross-border flows on the internal structural characteristics of production is. The inclusion of the foreign trade sector into the matrix allows Leontief to explicitly calculate the structural coefficient of imports or exports as a percentage of total inputs or outputs for a given sector or for the entire economic system. It can visualize both direct and indirect relationships of interdependence. It can thereby demonstrate cross-national interdependencies in production and consumption.

The inclusion of foreign trade into the dynamics of the accounting system also subsequently allows Leontief to calculate the relationship between foreign trade and other factors of production:⁵³ the method would later be used to explore quantitatively the relationship between the U.S. economy and international trade - the oft-mentioned Leontief paradox. The paradox relied upon what Kohli notes as "a conceptual distinction

⁵¹ Productivity and savings, for example.

⁵² That said, the specific foreign trade element that is included into the economic system changes over the course of time. In this article, Leontief is, so far as I can tell (since there is little explanation, p24), not recording indirect foreign inputs into each production sector, but partitioning each foreign product into the domestic sector that shares its traits i.e. imports of steel are attributed to the steel sector, etc. These imports then indirectly percolate through the economic system as part of the aggregated output of that sector. Regardless of the specifics of inclusion, however, the external economy is internalized into the dynamics of the economic system

⁵³ The relationship between imports/exports and wages/services (corresponding with "households" and therefore with labour) is not explicitly recorded in the 1936 charts, although there is a blank space available for it. Other changes would have to be made to the method to make this work (see Kohli, 2001).

between competitive imports (which had domestically produced counterparts) and non-competitive imports (which did not) (Kohli, 2001, p204).” In making this distinction Leontief was able to calculate the proportional labour inputs that would have been required had these imports been produced within the United States (Kohli, 2001, p206). This figure could then be compared to the labour coefficient of actually exported goods. The results revealed, in contrast to what was expected by Heckscher-Ohlin trade theory, that “U.S. exports were labor intensive compared with the import-competing goods (Kohli, 2001, p207).” Regardless of the specifics of Leontief’s argument in this case, the relationship between trade and domestic factors of production was thereby made visible.⁵⁴ In sum, in Input-output accounting the “Rest of the World” is not left as an aggregate balancing item, as is the case with the Keynesian-inspired System of National Accounts, but is part and parcel of the accounting system and the economic interdependencies that it is attempting to record.

The inclusion of foreign trade into the elaborated matrix relates to the second significant point: While the national economy frequently defines the limit of aggregation and analysis, it does not define the telos of the input-output method. In the first place, the method is not defined by the goal of obtaining a sum total – although a sum total can be obtained from it. Nor is the method concerned with relating one with another different

Nevertheless, these changes represent modifications to rather than transformations of the accounting structure.

⁵⁴ According to Kohli (2001, p207), “until imports were classified in this manner, it was not possible to measure how trade influenced the employment of factors.” This may well be the case with respect to quantifying this specific trade question. However, from our standpoint the method is already implicitly asking questions regarding how traded goods fit into the general equilibrium of the productive system – it is merely a question of filling in empty boxes or adding new rows/columns to provide more detail. The impact of the Leontief paradox on the general acceptance of Heckscher-Ohlin theory was minimal. Bledin et al (2004, p472) suggest that this is because, given the strength of Leontief’s actor network, it was better to ignore it than challenge it given the resources necessary to mount a successful defence of the status quo model.

methods of aggregating into a national income. Rather, the focus here is on interdependencies in production. In fact, tracking interdependence is how Input-Output is usually defined. According to Kendrick, “the emphasis in input-output analysis is on the interrelations of these producing units (Kendrick 1972, p57).” Thus the “elementary structural characteristics of the economic system (Kendrick, 1972, p30)” are defined by production coefficients, interindustrial relationships, not a priori functional identities designed to define the contours of a national income (as in the Keynesian system).⁵⁵ In fact, much of the data Input-Output provides is superfluous from a national accounting standpoint since it would involve double counting.⁵⁶ As Leontief puts it, “In its actual application, the elimination of the doubly counted items means the suppression from our record of all those statistical data which describe the mechanism of interindustrial relations (Leontief, 1936, p20).”

With this in mind, a better understanding of the economic structure requires a more microscopic recording of the interior characteristics of a given industry or sector. In a later article, “The Theoretical Scheme,” that tries to deflect criticism of the utility of static structural coefficients for understanding future years, Leontief notes that “[t]he assumption of fixed coefficients of production necessarily entails the existence of some disparity between our theoretical scheme and the actual industrial setup it is intended to represent. Empirical investigation alone can reveal how significant this disparity actually is (Leontief, 1953, p40).” The proliferation of micro data, empirical observation of actual

⁵⁵ One of the most obvious differences between Leontief’s and Keynes’/Stone’s systems is that government is not assigned its own account (at least in the initial version). Correspondingly, Stone’s initial account does not include a foreign sector.

⁵⁶ Edey and Peacock (1954, p142) note that “in order to calculate the gross national product, inter-industrial transactions of this sort are not included, because this would involve double-counting. We should be counting ‘inputs’ both when purchased at the intermediate stage and when embodied in final goods and services.”

flows, and the resulting character of internal relationships are thus what drive the development of the model.

Finally, since the goal of the method is to express the characteristics of an interior *relationship*, the limits of the accounts (already acknowledged as territorially arbitrary by Leontief) can be more readily stretched. There is an internal and an external aspect to this. Externally the limits are variable. Leontief says as much in describing, but not elaborating on, a “regional grouping” parameter. We can also see this implicitly in the language by which the relationship between sectors is described: “The structure of the expenditure and revenue account thus described is very similar to that of the balance of trade of a country (Leontief, 1953, p12).” In the “Introduction” to *The Structure of the American Economy*, Leontief suggests that “each ‘industry’ (including households) is treated as a single accounting entity – comparable to a ‘country’ in official foreign-trade statistics...As in the trade between countries, the sales of one industry are the purchases of another (Leontief, 1953, p4).” While the comparison here is metaphoric, it does suggest that “countries” could as easily be inputted into the general equilibrium system as industries. In any event since the method is concerned with revealing the actual flow of commodities/services into an economic sector, the method readily accommodates casting a wider net.

Internally, what is measured is also variable. Specifically, the type of interrelationship observed need not be monetary. The Tables are designed to show interdependence –the exact type of interdependence is left up to the user to decide. While the Tables for 1919 and 1929 quantify units in monetary figures,⁵⁷ later Tables

⁵⁷ Millions of dollars.

also record physical⁵⁸ or even labour requirements revealed by the systems' interdependencies.⁵⁹ Of course, when the sectors are aggregated into system totals like national income, money is used as a common measure.⁶⁰ Nevertheless, it is not required at every stage in the process. It is this flexibility that makes Input-output accounting so useful to those concerned with the physical *Limits to Growth*. Environmental constraints can be modeled into a system which connects up to aggregate figures like income and economic growth (although in the process the non-monetary indicators must subsequently be translated).

The Future of the World Economy

In sum, the input-output model contains political presuppositions in the same manner as the other measuring instruments we have examined. Its structure, however, made it readily amenable to new measuring projects like those concerned with the global environmental-economic system. Turning to that response, *The Future of the World Economy* defines its context equally in terms of "the environmental aspects of the future world economy" as by "the future of the International Development Strategy and ways of implementing the new international economic order (Leontief et al., 1977, p1)." The world economy tracked, therefore, is both an environmental and a developmental object. The environment is accounted for in two ways: in the first place by estimating the physical inputs required by a hypothetical future world economy⁶¹ in light of the ability

⁵⁸ As in Leontief, 1977.

⁵⁹ The Table for 1939 (Table 24), produced for the 1944 article has as its unit "labor inputs – 1 000 man years."

⁶⁰ Studenski (1958, p216), quoting Leontief notes that "only the total inputs 'do not lend themselves to this kind of physical interpretation,' since 'tons of coal, yards of cloth, and man-hours of labor cannot be added for any useful purpose.'"

⁶¹ One that has grown sufficiently to meet the demands of the NIEO.

of that economy and the natural environment to provide those inputs. Secondly, by estimating the pollution outputted by industry in light of the ability of the economy to abate that pollution. Developmental concerns are incorporated, both in the way in which the world economy is partitioned and by setting future economic and population growth rates not just on the basis of the “old economic order” (Scenario A),⁶² but “in such a way as to roughly halve the [per capita] income gap between the developing and developed countries by 2000 (1977, p30)”. Given these animating concerns, the Report models, via multiple scenarios,⁶³ the structural characteristics of the world economy at three points in time: 1980, 1990, and 2000.

Like the 1973 speech, *Future* does not, as such, attempt to predict the future. Rather, the point is to visualize the structural characteristics of the world economic system given certain a priori defined changes. Here an extended quotation best describes the actual agenda pursued:

“With the income targets for 1980, 1990 and 2000 given, the question to be answered is, what would the world economy have to look like in 1980, 1990 and 2000 if it were to attain – while operating within the limits of the given technical and physical constraints – these fixed objectives? In particular, what would the levels of the labour inputs, the volume of investment, and the rate of mineral resource use have to be in each of the 15 regions; and what would the pattern of international trade and payments have to be so as to permit the actual realization of these targets (Leontief et al., 1977, p26).”

Of course to answer these questions requires a method of visualizing the interrelationships between the many components noted. The general technique by which this is accomplished is similar to that pronounced in 1973. There are some differences.

⁶² With the exception of the Middle East, where growth rates are set exogenously (Leontief et al., 1977, p31).

⁶³ “The analysis that follows is based on a detailed consideration of eight alternative projections...Seven of the eight projections are anchored in given sets of developmental targets (Leontief et al., 1977, p18).”

In the first place, in this model the world economy is partitioned into 15 regions rather than two.⁶⁴ Each regional area is itself partitioned into 45 economic sectors including agriculture, mineral resources, manufacturing, and pollution/abatement (among others), which are themselves sub-divided. The regional areas are then connected “through a complex linkage mechanism, including exports and imports of some 40 classes of goods and services, capital flows, aid transfers, and foreign interest payments (Leontief et al., 1977, p2).” Despite these differences, the use of an input-output accounting structure is held in common with Leontief’s Nobel work.

With respect to its conclusions,⁶⁵ the basis upon which Leontief publicly affects the direction of the “world problematique,” the study demonstrates that - at least within the time frame studied - environmental limits do not present a technical ceiling to a continually growing world economy. As the authors put it, “[t]he Principal limits to sustained economic growth and accelerated development are political, social and institutional in character rather than physical. No insurmountable physical barriers exist within the twentieth century to the accelerated development of the developing regions (Leontief et al., 1977, pp10-11).” If the physical requirements of a future enlarged world economy *can* be met without in the process undermining the very conditions necessary for economic growth, then environmental limits and economic growth can co-exist harmoniously. Thus food production can be improved by more extensive cultivation and productivity enhancements.⁶⁶ Resource scarcity can be countered by sustained recycling, exploration, and the more intensive exploitation of mineral deposits – although the

Projection eight, which he labels as “pessimistic,” is based largely upon existing trends.

⁶⁴ Summarized in Leontief et al (1977, p2).

⁶⁵ The summary lists 10 findings (Leontief et al., 1977, pp10-11).

⁶⁶ Chapter IX

relative cost of raw materials will likely rise.⁶⁷ Pollution can be held in check at reasonable levels (defined as “the 1970 standards of pollution abatement in the United States of America (p6))” without absorbing so significant a level of GDP that it would compromise further economic growth.⁶⁸ In general, the above suggests that, given appropriate modifications, economic development need not be limited by environmental constraints – growth *can* continue despite a finite physical environment.⁶⁹

It is within this context that Meadows et al note that “magazine articles still appear occasionally which report that the model ‘discredited’ *The Limits to Growth* (Meadows et al., 1982, p86).” The Report demonstrated quantitatively that there is no physical reason why economic growth cannot continue despite environmental limits.⁷⁰ In doing so, as we will demonstrate, it translated the world problematique from one of global environmental limits into one of the characteristics of growth in the world economy.

At this point let us simply note that the conclusions the authors arrive at are not as straightforward as their summary suggests.⁷¹ In the same manner as with *Limits*, there are a number of political assumptions that are thoroughly embedded both in the framework and in the results that that framework produces. When we examine *Future* we can see

⁶⁷ Chapter X

⁶⁸ Chapter XI

⁶⁹ The necessary changes are a “realistic technical and organizational possibility (Leontief et al., 1977, p5),” which is not the same thing as saying that the necessary changes *will* be made – hence a political choice: “some of the factors upon which the course of future developments can be shown to depend will be controlled by purposeful national or international action guided by more or less rational political choice (p.13).”

⁷⁰ Thus Stevis (2005a, p328) can note that “by the late 1970s scarcity views had lost some of their wind as environment-development issues were rising in prominence.”

⁷¹ The proof relied on certain theoretical assumptions that many in the environmental movement – as we will demonstrate below - would find untenable. Nevertheless, quantification provides an authority which sets the terrain of adjudication in its own terms. If opponents cannot quantitatively demonstrate the weakness of the position, a proposition requiring resources both material and institutional, they are not likely to be heard.

this political planning of the numbers on a number of levels. In the first place, and in contrast to the dominant strain of economic modeling, in explicitly accounting for pollution as an output of production and pollution abatement as requiring productive inputs, environmental factors are measured as an inherent part of the structure of the world economy – they are not unrecorded externalities. Not only is the pollution-production relationship thereby made visible, but the potential consequences of effective pollution abatement on the capital structure of the economy are explicitly modeled.

However, the resulting analysis differs from the “holistic” approach used by *Limits*. Specifically, Leontief’s model makes pollution control into a wholly economic issue, one of the relative costs-benefits to the capital structure of the economy. As he puts it, “the scope of this study lays the basis for a generalized *economic* analysis of the problem (Leontief et al., 1977, p6, my italics).” If it can be demonstrated that an effective (as defined by the user) pollution abatement program can be achieved without absorbing too great a proportion of an economy’s resources,⁷² then growth can continue to define the telos of economic and social activity. Where there is no accepted costing method for a pollutant (i.e. there is no available abatement technology and therefore no way of estimating the cost of eliminating that pollutant) it is not explicitly modeled.⁷³ In so doing, the model effectively reduces what started out as a natural-social concern into one that is entirely economic.⁷⁴ Money defines the language of the environment.

⁷² i.e. it must leave enough capital left over for further investment into new production.

⁷³ “Some forms of pollution were not covered...because data are not available on the corresponding abatement technologies or because such technologies do not yet exist (Leontief et al., 1977, p54).” The exception here is pesticides (p59), which are modeled but not incorporated into the conclusion. The study thus concludes (even while it adds verbal qualifiers) that “even if relatively strict abatement standards [i.e. those approaching 1970 U.S. standards] were gradually applied in the developing regions, the overall cost of pollution abatement is not estimated to exceed 1.5-2 per cent of gross product (p11).”

⁷⁴ “although pollution is a grave problem for humanity, it is a technologically manageable problem...the economic cost of keeping pollution within manageable limits is not unbearable (Leontief et al., 1977, p7).”

In part this conclusion is a product of the Work's starting point: While environment limits (which are embedded by the assumption of exponential growth) are the starting point for Meadows et al., growth (defined a priori) is the starting point for Leontief.⁷⁵ However, it is also a product of the episteme within which the two are operating. *Future* represents an intersection between two separate epistemic trajectories – one economic and relative (i.e. economic cost) and one environmental and absolute (i.e. physical cost). In the case of *Future*, the economic/developmental succeeds in translating the environmental into the monetary accounting terms that it recognizes. Anne Carter calls this process “iterative” - suggesting a rational incremental evolution of thought. She recalls that

“[a]s is often the case in research, the definition of the problem evolved as the work progressed...we realized that we could take account of only a few of the many different types of environmental problems...On the other hand, the model offered a potential for dealing with international trade, investment, and other economic policy issues in a global context (quoted in Meadows et al., 1982, p185).”

Accordingly, only those variables that could readily be translated into an economic language were retained. This permitted an economic logic to define subsequent statements of the problematic: “the model was constructed in the first instance for the study of development in relation to environmental questions...the model is basically a general-purpose economic model and is thus applicable to the analysis of the evolution of the world economy from other points of view (Leontief et al., 1977, p2).” Having redefined the environmental issue into one that is economic, and in having demonstrated quantitatively that environmental constraints are not a monetary cost barrier

⁷⁵ *Limits* assumes continuing exponential population growth while *Future* (due to other socio-economic factors) does not (Leontief, 1977, p4).

to future economic growth, the problematic of global socio-environmental modeling, for those responding to Leontief, is largely resituated as one of global economic modeling.⁷⁶

In fact, this translation of the environmentalist world problematique into a concern over the economic trajectory of the globe is something that becomes widespread as global modeling efforts proliferate. Meadows et al. note that “as the influence of economists in the field of global modeling has grown, concern with broad global issues derived from the problematique of the Club of Rome has diminished (Meadows et al., 1982, p100).”

Consequently, while broader environmental concerns may have provided the public kinetics for the U.N. modeling effort, in an accounting structure where aggregation is ultimately into a monetary unit,⁷⁷ economic expressibility is the ultimate arbiter of relevance.

All this is not to suggest that the environmentalist aspect of the world problematique disappears - rather that it assumes a new form. In fact, the study's conclusions were received in the joint context of economic development and the environment: The New York Times front page review of the study, already mentioned, notes that:

“Ever since 1972, when the private study group called the Club of Rome published its ‘Limits to Growth’ analysis, economists have argued whether its warnings were justified, particularly as they seemed to threaten the hopes of the third world for higher living standards...The analysis [Future of the World Economy] seemed to flesh out the concept recently developed by the Club of Rome, the desirability of ‘organic growth’, which takes account of improving basic quality of human life and avoiding environmental pollution (Grose, 1976, p1).”⁷⁸

⁷⁶ Further work on global input-output modeling by Carter and Petri explicitly excludes the environment “because of data problems (Meadows et al, 1982, p94).” Further work on environmental accounting, particularly when it is attached to the National Accounts (such as the SEEA) also becomes monetized.

⁷⁷ While pollution is measured in physical units, it is the cost of abatement that drives the conclusions.

⁷⁸ The UN report did not predict a cut in the gap but merely suggested that it was environmentally possible. The article notes this even if the hyperbolic title suggests otherwise.

It is a short drive from “organic growth” to the later concept of “sustainable development,” now legitimated by officially sanctioned data. Thus whereas the environmental impetus may have been the *problem* of economic growth, in being translated into economic terms economic growth became the *solution*. Esteva (1992, p52) puts it thus: “Unlike the discourse of the 1970s, which focused on the ‘limits to growth,’ the discourse of the 1980s was fixated on the ‘growth of the limits.’”⁷⁹ Accordingly, by the time *Our Common Future*, with its lionization of sustainable development is published, it is self-evident that “Poverty reduces people’s capacity to use resources in a sustainable manner...A necessary but not sufficient condition for the elimination of absolute poverty is a relatively rapid rise in per capita incomes in the third world (World Commission on Environment and Development, 1987, pp49-50, quoted in Sachs, 1992, p29).” Sustainable development enrolls the environment into the task of protecting “capitalism” from the “externalities” produced in its wake.

Having said all this, it must be stated that the influence is not totally one-sided: The environment also leaves its traces on the economic imagination, albeit in a translated form.⁸⁰ As far as internationally sanctioned measuring instruments in the present are concerned, the environment has a place in accounting for the economy. In fact, the most recent revision of the UNSNA in 1993 saw the concurrent publication of a “satellite” account for the environment (the UN Integrated Environmental and Economic Accounting (SEEA),) designed to provide a guideline for countries wishing to

⁷⁹ He is paraphrasing Wolfgang Sachs, “The gospel of global efficiency,” *IFDA Dossier* No. 68, 1988, pp33-39.

⁸⁰ Leontief was enrolled into a planetary epistemology even while his network translated and enrolled ecological calculation into monetary calculation.

incorporate environmental concerns into their accounting systems in a comparable manner.⁸¹ In this case the intent is to provide a way of measuring environmental costs so that GDP figures are not inflated by what is in fact a running down of stocks of natural capital. Many commentators have suggested that such an accounting form is a markedly inappropriate way in which to account for the environment, a form marked by many of the shortcomings we noticed in the case of Leontief's model. For example, the selectivity bias caused by the monetization problem is something picked up on by critics: "Aspects of the environment, and of welfare generally, whose impact is more uncertain or which are more difficult to value in money terms (such as the impact of global warming) may well be ignored or at least valued particularly conservatively, resulting in enormous underestimation of environmental and social costs, and underestimation of welfare or progress (Lintott, 1996, p187)." Holub et al note with respect to the SEEA that in the attempt to monetize, many of the magnitudes are of necessity fixed by assumption: "Prevention and restoration costs and especially contingent valuations based on surveys are exclusively theoretical constructions...there is no simple justifiable valuation system for environmental accounting, such as the market prices employed for SNA (Holub et al, 1999, p333)." Lintott suggests further that in being latched onto national income totals as one cost among others, the system "essentially assumes complete substitutability between manufactured and natural capital (Lintott, 1996, p179)."⁸² Moreover, given the practical use of national income figures as a measure of growth, progress, and welfare, even where

⁸¹ This system has since been updated as SEEA 2003: see Smith (2007). The influence of Leontief's method is evident here: Ward (2004, p207) notes that "the initial draft of the SEEA was very much based conceptually around an input-output framework."

⁸² As Lintott (1996, p187) puts it, "environmentally adjusted NI effectively treats investment in manufactured capital as a substitute for keeping natural capital intact (and indeed treats output growth as a substitute for reducing environmental costs.)"

modified by an account of environmental costs, they are unlikely to undermine policy directed at “ever increasing output (Lintott, 1996, p180).”⁸³ In sum, in being translated into a discourse operating under a different logic, environmental concerns come to be measured and articulated in a particular way: the “satellite” status of environmental accounting, where the core “definitions, accounting identities, production boundaries, etc. are consistent with the core accounts so that the two can be combined (Lintott, 1996, p184),” ensures that it is the language of economics which ultimately speaks loudest.⁸⁴ Nevertheless, the System of National Accounts can ultimately claim to do the work of the environment and thereby enroll former critics into projects commensurate with its aims.

Leaving the environment and moving on to the second political assumption of Leontief’s world economy model, while Leontief’s overall framework is an economic one concerned with economic costs there is also an associated concern with issues of geo-distributive justice. This should come as no surprise given that the “setting of the project” is defined by the United Nations International Development Strategy (Leontief et al, 1977, p1) and the New International Economic Order, with its “call[s] for the correction of inequalities and the redressment of existing injustice, making it possible to narrow the gap between the developed and developing countries and to ensure steadily accelerating economic and social development and justice for present and future

⁸³Lintott (1996, p181) emphasizes that it is the use to which the figures are put, not the intention behind their construction, which determines their impact: “Given the association which is widely thought to exist between income and welfare, it seems quite certain that environmentally adjusted GNP or NI, like the unadjusted versions before them, will be used as measures of welfare to be maximized, irrespective of their designers’ intentions or disclaimers.”

⁸⁴The effect according to Sachs (1992, p36) is that “societies which choose not to put all their energy into production and deliberately accept a lower throughput of commodities become unthinkable.” Lintott’s solution is the use of indicators aimed not at an ever increasing total (like GDP) but at minimally and maximally acceptable levels: for example, “nutritional level at least C, air pollution no more than Y...The task of policy could not be to maximize anything, but to keep society within the constraints (p189).”

generations (Leontief et al, 1977, p3).”⁸⁵ As far as the accounting framework is concerned, the fixation on geo-distribution is seen most evidently in the division of the world economy into a developed and an undeveloped region in 1973. Income-level is also a prominent feature of the 15-region divide in 1977. Furthermore, the future itself is defined on an a priori basis to reflect the distributive ideals outlined above. In fact, when the targets set by the International Development Strategy (scenario I) were preliminarily shown to not reduce the per capita income differential between developed and undeveloped regions they were modified (Leontief et al., 1977, p3). Instead, more ambitious growth and population rates, rates designed to reduce the gap, were adopted (Scenarios X and C, for example). Much of the subsequent analysis is dedicated to showing both whether the stipulated futures would be “feasible, given the well-known constraints on growth (1977, p4),” and the resulting changes in economic structure implied by those growth rates (specifically changes in investment and consumption rates,⁸⁶ the division between heavy and light industry,⁸⁷ changes in trade and payments patterns).⁸⁸ Again, the model is not implying that such a future is imminent – it will require “far-reaching internal changes of a social, political and institutional character in the developing countries, and second, significant changes in the world economic order (Leontief et al., 1977, p11).” Nevertheless it is implying that equitable geo-economic-

⁸⁵ The authors note that they are drawing upon the preamble of General Assembly resolution 3201 (S-VI) of 1 May 1974.

⁸⁶ “Accelerated development in developing regions is possible only under the condition that from 30 to 35 per cent, and in some cases up to 40 per cent, of their gross product is used for capital investment (Leontief et al., 1977, p11).”

⁸⁷ “Accelerated development points to the necessity of a faster growth, on the average, of heavy industry, as compared to the over-all rates of expansion for the manufacturing industry (Leontief et al., 1977, p11).”

⁸⁸ These changes would result in balance of payments problems for the developing world, problems for which the authors provide several NIEO-inspired policy-oriented solutions (Leontief et al., 1977, p11). Chapters VIII, XII-XIV provide a further elaboration of what the above changes would look like in the resulting economy.

development is the goal that the future is oriented towards.

The above broaches the wider issue of what is to be treated exogenously and what endogenously within the model. The model itself does not specify. As Leontief puts it in 1973, “[t]he decision of which variables should be treated as dependent and which should be fixed exogenously is essentially a tactical one. The theoretical formulation is a weapon; in deciding how to use it we must take into account the nature of the particular empirical terrain (Leontief, 1974, p828).” In fact, in considering its actual use the model consists of tracing the effects of a priori defined exogenous changes. The future is in effect pre-determined. The question the model seeks to answer is how the system will react to meet those future objectives. There is thus an ambiguity in the model between its positivistic-predictive elements (those elements that are determined endogenously within the model) and its a priori, user instrumentalities (Ashley, 1983). This ambiguity is so pronounced that Chadwick can characterize the entire global modeling exercise as “forecasting in form but planning in substance (Chadwick, 2000, p65).” One can alter what is exogenous and endogenous to the model and see how these alterations will feed back through the economic system – which is not to say that the assumptions upon which the exogenous variables are based have any necessary connection with real trends.⁸⁹ Where the model does not produce a desired result on the basis of one set of assumptions, the assumptions can be modified until an “optimistic” scenario can be achieved (from Scenario I to X, for example). Accordingly, the future can be simply modified on the basis of the users’ proclivities; planning and management is enabled, not prognostication.

However, there is a concurrent limitation on how deeply embedded the exogenous

⁸⁹ Although Leontief does make certain to justify most of his assumptions as realistic possibilities.

assumptions are in the accounting framework.⁹⁰ In the case of the equitable growth targets, for example, since they are the product of a user defined exogenous variable, they are not something that is intrinsic to the input-output structure itself - subsequent work relying upon the very same input-output framework need not be equally concerned with distribution. Thus when considering the model as a whole, the economic outlook is intrinsic; the developmentalist outlook is not. Subsequent work on the global economy need not incorporate developmental concerns.

The final political-rendered numerical assumption to be highlighted, the one that is perhaps most significant for our purposes, comes with the aggregation of the data structure to the level of the “world economy.” In doing so, currents, flows, policies, and outcomes are visualized and expressed within territorial parameters that are wider than that characteristic of contemporary nation-centric econometric analysis. Like *Limits*, the model links together economic and environmental concerns in such a way that economic processes are explicitly modeled as taking place in the context of *global* limits and interdependencies.⁹¹ As they put it, “[b]ecause of the general interdependence among all parts of the system, the level of each type of economic activity in each corner of the world, so long as it has not been fixed by assumption, is bound to respond in one way or another to every primary change introduced in any other part of the system (Leontief et al., 1977, p17).” Thus, and in contrast to Colin Clark, it is the “conditions of growth”⁹² in

⁹⁰ This is why Ashley (1983) sees the contradiction as ultimately being resolved in positivism’s favour, since the dynamics of the economic system itself (the endogenous variables) are not amenable to conscious and continuous human intervention. He goes so far as to equate the entire exercise with the panopticon as “a metamodel for world modeling (p527).”

⁹¹ “The purpose of the model is to display various possible interrelationships, as the world economy evolves over future decades, between environmental and other economic policies (Leontief et al., 1977, p2).”

⁹² The 1977 Report lists 5 “conditions of growth” that would have to be met for the world economy to continue to grow.

the world (rather than the national) economy that is modeled.

In contrast to *Limits*, this world economy is also disaggregated territorially between regions: Developed Countries and Less Developed Countries in the case of 1973, on the basis of a number of factors in 1977. Amongst the 15 regions in the 1977 study the basis of partition is, variously, similarity of economic structure,⁹³ geographic proximity,⁹⁴ geopolitical alignment,⁹⁵ resource endowment,⁹⁶ and precipitation pattern⁹⁷ - divisions that, from an economic sense, are no more arbitrary than the use of juridical borders. Regardless of the basis of aggregation, within each region economic interdependencies are explicitly modeled. Each region has a coefficient set that describes it as a coherent economic system.⁹⁸ Economic flows traverse regions, not states – although here it is not region to region interdependencies that are measured, but regional inputs and outputs from/to an aggregated world pool (Leontief et al., 1977, pp15, 22).

In fact, this regionalization is part of the general trajectory away from treating the world as one undifferentiated system in the decade following *Limits to Growth* – there are regional divisions in almost all subsequent models.⁹⁹ Nevertheless, the global context,

⁹³ “a reasonable degree of homogeneity in the economic variables that characterize those nations combined in a single regional unit” – especially “per capita income levels, and the share of manufacturing activity in total GDP (Leontief et al., 1977, p19)”

⁹⁴ “the regional groupings respect continental boundaries so as to facilitate the comparison of the projected results with the economic data produced by various international agencies (Leontief et al., 1977, p18).”

⁹⁵ “In a few other instances, geopolitical considerations overrode the economic basis for aggregation (Leontief et al., 1977, p19).”

⁹⁶ “the major oil-exporting countries were grouped together (Leontief et al., 1977, p19).”

⁹⁷ “for African nations, a distinction was made between those receiving less than 10 inches of rainfall annually and those receiving more (Leontief et al., 1977, p19).”

⁹⁸ “A set of regional input and consumption coefficients describes the combination of goods and services required by each one of the productive sectors of a particular economy per unit of its output and, in the case of private or public households, per unit of their aggregate expenditures and income (Leontief et al., 1977, p14).” These regional sets were a new development: “While input-output tables are published for more than 70 countries, there are no comprehensive regional accounts. Individual country tables are constructed with differing classifications and accounting conventions and expressed in terms of their own price units (Leontief et al., 1977, p23).”

⁹⁹ See Meadows et al. (1982) for examples.

interdependence (whether hierarchical or not), is still explicitly modeled. The most visible expression of this comes in the form of regional import-output coefficients, “each one of which represents the proportion of total domestic consumption of a particular commodity that is satisfied by imports in a particular region (Leontief et al., 1977, p22).” These coefficients allow one to visualize the dependence of each regional system on the world economy in great detail. Regional divisions may or may not be “optimal for policy analysis, (Anne Carter quoted in Meadows et al., 1982, p184)” but they occur within the broader context of global interdependencies.

When summing its impact on the economic imagination of the present, then, Leontief’s work did two things. In the first place it shifted the axis of the “world problematique” from one that was environmental and concerned with limits to one that was as much economic and concerned at best with managing progress in a sustainable manner.

Secondly, it definitively loosened the linkage between economic measurement and national territory. It did not extinguish such linkages altogether – it is not as if the national economy ceased to occupy econometric analysts.¹⁰⁰ However, it demonstrated an alternative limit and method within which recognized economic statistics could be assembled and in which aggregate figures could be interpreted.

Of course there is no simple linear trajectory from *Limits to Growth* to Leontief to globalization. In fact, the public prominence of Leontief’s specific world input-output

¹⁰⁰ In terms of the SNA, for example, it continues to be national-territorial in its orientation. Ironically, by incorporating Environmental concerns into the SNA framework (albeit in the form of a recommended (but not required) satellite account) many of the territorially limiting assumptions of the SNA were mapped onto the environment. For example, Ward (2004, p220) notes that “because it is a national system, the SEEA cannot satisfactorily handle the broader global issues of ozone depletion, variations in biodiversity, [etc].” Coming from an ecological direction, Holub et al. (1999, p330) note that in contrast to the national aggregations produced by the SEEA, “ecological research has to be based on widely differing spatial

model rapidly diminishes. Work on the world economy model at the UN is subsequently marginalized (Fontela, 2000, p5). Moreover, while there are several modeling efforts that have attempted to capture the global economy, including several that are currently in use (LINK, MULTIMOD, GEM, Foreign Policy),¹⁰¹ there is at present no global accounting model comparable to that of the System of National Accounts (Luttik, 1998, pxiv).¹⁰² Nor is the UNSNA in its present form globalist in orientation. As the SNA 1993 puts it, “the total economy...consists of all the institutional units which are resident in the economic territory of a country,” a unit, with a few exceptions “consisting essentially of the geographical territory (United Nations, 1993, p19).” National income aggregation is still unable to capture dynamics that may be exogenous to the summed figures, whether it is the terms of trade or the nature of interdependencies.¹⁰³ Problems in how to aggregate data valued in different currencies still remain.¹⁰⁴ Simply summing the national aggregates produced under the parameters of the SNA produces numerical inconsistencies when considered at a global level, itself one of the impetuses behind the calls for a global accounting system¹⁰⁵ “Globalization,” that all pervasive and yet ever

structures, ranging from global observations to areas of only a few square meters.”

¹⁰¹ Some of these are public (MULTIMOD is compiled at the IMF, GEM at the World Bank), some private. See Hickman (1983) for an explanation of some of these models. According to Chadwick (2000, p52), Leontief’s “way of thinking lies at the core of all global models representing national and global economies.” Weale (1995, p189) notes that “[t]he full social accounting matrix, which disaggregates both production and income/expenditure is the logical combination of Meade and Stone’s framework with an input-output matrix. The social accounting matrix evolves naturally into a world accounting Matrix with the production account reflecting not only immediate transactions between different industries but also trade flows between different countries.”

¹⁰² In this work Luttik attempts to construct a World Accounting matrix, which graphically resembles an I-O table, and which “reveals how a policy move in one country interacts dynamically with other origin and destination accounts (Luttik, 1998, p1).” The key is to model “global feedbacks.” See also Vos (1996).

¹⁰³ Ward (2004, p246) makes the comparison between the business accounts of a global firm and those compiled by a state. There is no account designed to measure foreign control, for example.

¹⁰⁴ Ward (2004, p249) notes that ICP data is essential in this regard.

¹⁰⁵ Luttik (1998, pp3-4) notes that “the sum of world exports should equal the sum of world imports of trade and capital, but in practice this is not the case. Both the global current account and capital account have shown large discrepancies.” She also notes that “it is increasingly difficult, not to say impossible, for national compilers of statistics to cover all the world-wide activities of MNEs (p8).” While efforts have

nebulous concept through which so much of the present is operationalized, a force to which all much adjust, is in fact poorly quantified in addition to being poorly defined.¹⁰⁶

Nevertheless, it is possible to identify key moments in the transformation of a discourse from one epistemic environment to another. With Leontief, the stranglehold of the state on econometric meaning was definitively loosened.¹⁰⁷ “Serious” analysis need not take the national economic system as its starting point. While no consensual global measuring system has been devised, efforts to that end are initiated. Even if the resulting discourse is piecemeal, it means that hitherto national measures (trade, investment, etc)¹⁰⁸ can be expressed outside the territorialist statistical system which spawned them.¹⁰⁹ It is

been made at numerous institutions to increase statistical coverage (BIS, OECD, IMF), “they remain fragmentary (p9).” According to Chadwick (2000, p70), “global modeling is still in its infancy: not enough data, few tested empirical hypotheses, too much ungrounded theory.”

¹⁰⁶ Ward (2004, p248) notes further that “it is curious that the statistical treatment should be so obscure for a topic of such obvious importance to social well-being.” See also Kudrle (2004), *Foreign Policy*, (2001), Brune and Garrett (2005).

¹⁰⁷ None of this is to deny that there were earlier non-national models of the economy. We have already mentioned Cunningham. But there are others such as the League of Nations published *The Network of World Trade* [1942] in 1947. This work is “primarily concerned with the essential unity of world trade, a unity which is due to the complexity of the trade of each separate area (p5).” See also Malchup (1977) who focuses on the history of economic integration in thought. But since these were not part of a dominant actor-network (see the Post-Script Chapter) they did not proliferate. Ideas in the abstract are insufficient.

¹⁰⁸ Held and McGrew use “exports and imports; stocks of inward and outward investment; foreign debt and credit,” amongst others, as proxies for market globalization – noted in Kudrle, 2004, p343.

¹⁰⁹ A necessary addendum to Hindess’s discussion of the impact of “progressively refined (1998, p219)” data (Chapter I), since a global context for the data must first be enabled.

only once a global measuring apparatus and mentality had emerged that formerly national measures can be rearticulated as reflecting global processes. The national data collection process, a process that harnesses statisticians, computers, and institutions both national and international, can itself be harnessed towards new ends. In short, quantitative debate on the global economy can begin.

Conclusion: Where to from here?

This dissertation has offered a long history of socio-technical thought, in the pursuit of two general objectives.

The first objective has been to *displace* the modern fixation on globalization by questioning its historiographical and categorical presuppositions. Globalization operates within a particular historiographical structure, one that seeks to determine when and where a particular model of the *economic-territorial* – local-economy, national-economy, international-economy, global-economy – best matches up with economic reality. It attempts to homogenize the economic practices of the past within particular categorical boundaries that are suggested by a specific problematization of the present. It establishes certain questions, relating to production, economic progress and interdependence – and assumes that those questions and the categories on which they depend, are appropriate guidelines for examining any period of time.

Our genealogy of the global economy does not attempt to disprove modern claims that the world of the past or present really is this or that. Instead, the aim has been to outline how “the economic” was conceptualized and practiced in those eras that were allegedly local, national, international, or global in scope. The categories guiding the globalization debate have a history. When we explore that history, the categories themselves begin to emerge as artifactual – not in the sense of being fundamentally right or wrong, but in the sense of being the products of particular times, places, individuals, and methods. The categories by which the “economic” is understood appear parochial rather than objective. Using those categories to inform present practices must, therefore,

be approached with a suitable degree of circumspection.

Our entry point into this genealogical study was via an exploration of slices of statistical history. The governmentality of the present is one that is frequently mathematical, statistical, numeric. What is true of the present in general is also true in the specific case of globalization: much of the debate on globalization is structured around determining what exactly the statistical evidence is indicating. These same statistics are used to inform governments about the appropriate courses of action to follow. So the statistics are extremely important to the practice of globalization, whether we are talking about governments, firms, or academics. There is a certain sense in which the economic is performed through the numbers.

This segues into our second objective: to explore the extent to which numbers can be considered as political, social, and historical, and, correspondingly, with the ways in which they lead to specific types of governmental projects – projects associated with managing the “economic”. If we start by treating numbers and numerical frameworks as social objects, if we explore their construction in terms of the individuals present at their genesis, if we look at what they make visible and what they render opaque, the numbers appear less and less as simply referential to an exterior space. They appear as ideological, deliberate, vested with social agendas, and even as constitutive.

In the case of globalization, national income analysis emerged as key: in the first place because of its central importance to everyday practice, and secondly because its specifically territorial-economic form is tailor made for an attempt to wedge open a discourse like globalization that is similarly territorial-economic in form.

In sum, the dissertation has used the peculiar historical trajectories of national

income analysis in order to disrupt the self-evidence of the categories underlying the globalization narrative.

With these considerations in mind, each of the preceding Chapters has targeted a different element of the globalization problematic: the national economy, in Chapters II and IIA; economic progress in Chapter III; interdependence, in Chapter IV; and the global economy itself, in Chapter V.

Chapters II and IIA set their sights on the national economy. Why start here? Deconstructing the self-evidence of the national economy is of paramount importance to this project, given the centrality of the idea of the national economy to the globalization literature. From within the parameters of the globalization discourse, the national economy has either been transcended and rendered obsolete, re-configured towards new ends, or remains stubbornly determinative.

But where and how did the very idea and practice of the national economy emerge? How scientifically objective is it? Here we have a concept that for much of the 20th century was the starting point for analysis and practice despite what practitioners would acknowledge (if pushed) as its “vagueness” as an economic concept. After all, a national economy hybridizes notions that are geographical and juridical with those that are productionist and economic. Moreover, given that economic transactions have always transgressed political borders, the question is how did the state, a political unit, come to delimit economic thought? How did it come about that the economy came to be imagined as evenly spread across a geographic terrain, one with sharp juridical-territorial-economic borders (Palan and Cameron, 2004)?

Here genealogical and governmentality analysis proved very instructive. The

methods push us towards exploring the national economy as a governmental project and as a technique. As our exploration of the national accounting project in the 1944 Agreement on National Accounting, the Combined Production and Resources Board, and the United Nations Relief and Rehabilitation Agency demonstrate, National Accounting gave a distinctively territorial form to economic measurement. It limited the measurement and therefore policy orientation of government in such a way that the transnational, imperial, colonial were rendered opaque.

Now according to the standard historiography, the national measurement of economic behaviour has long been the standard, although those measures have become increasingly accurate over time. And since it is governments that use these figures, would a national orientation not make sense?

However, these simple assertions can be challenged by recognizing first that modern national accounting does not aim simply at a budgetary figure but at the characteristics of supply, demand, production, savings, and investment. Perceiving this would seem to require a greater degree of openness towards the flows characterizing what we take to be economic behaviour, one that is not a priori limited to territorial borders. Moreover, given that certain areas of the national economy might be more tightly integrated into certain areas of other national economies than to each other, the homogenizing effect of national accounting is perhaps not the most economically self-evident.

Secondly, the self-evidence of the national economy is undermined by an examination of earlier national income figures, which, when expressed on their own terms, appear incommensurate in many respects with what the modern historiography

would suggest is economic reality.

Thus in constructing a genealogy of the national economy in Chapter IIA, we are taken back to the so-called National Income Analysis in the 17th century writings of Gregory King and William Petty. Rather than finding the nascent beginnings of the national economy (as we would use the term) in quantitative thought – as is suggested by the modern orthodox historiography - what we find being measured and quantified are assumptions commensurate with Political Oeconomy (Tribe) or Raison d’Etat (Foucault). Political relationships, feudal classes, circulation, the limits of extraction – these terms define the parameters of measurement, not production, class, or supply and demand. The “economy,” in such a system of thought, is a political relationship; it is not an object having its own immanent and self-constituting characteristics. It is one characterized by a belief in the need to order and regulate rather than a need to respond to an external and essential reality.

The territorial border to measurement in this system of thought is one that corresponds to the terrain and extent of disciplinary power. Territorial borders are commensurate with such a discourse as they correspond to the limits of political will; they are less directly commensurate with the modern concept of the economy as a self-ordering system.

Nevertheless, macroeconomics, by drawing upon pre-existing measurement frameworks, was caught within the discursive limits of a system which pre-exists it.

Thus when we looked at the Combined Production and Resources Board and the UNRRA, for example, we saw multinational planning rendered into international coordination. The national accounts were instrumental in constructing a

national/international environment in their own image. The territorial economy forced itself into governmental problematizations even where an alternative might have been better predisposed to deal with the specific circumstances.

Finally, the Chapters meet the second objective of the dissertation by demonstrating just how politically infused numerical descriptions of the economic can be. Rather than witnessing a progressive refinement of national economic measures (i.e. the idea that we are getting closer and closer to a true representation of GDP), the history of numeration demonstrates that what is held to be economic changes radically from one historical field to another.

We see this discontinuity (rather than progression) from the 17th to 20th century, but we also see the political nature of numerical assumptions in the 20th. Thus in the case of modern national accounting, we noted (via Suzuki) the subjective assumptions associated with the unit of account (money vs labour), the segmentation on a year by year basis, and the division into particular types of sectors. We also briefly explored the politics of overlooking that can render a numerical system both patriarchal and anti-environmental.

In sum, the national economy – whether obsolescent or not – *can* be seen as a governmental project rather than a neutral category. This category - an autopoietic system naturally contained within territorial borders - is less than objectively self-evident, even when rendered into numerical terms. National income analysis went from a project about which in its beginnings “[s]ome had been skeptical, a few thought we were mad and said so, and one man found time to wonder on paper whether we could not find some more useful employment in our country’s darkest hour (Stone, 1951, p84),” to one where

“[e]conomic accounts have become so indispensable a tool in the ways described that it is hard to imagine how we would get along without them. They have been called the greatest invention for economic analysis of the 20th century (Kendrick, 1996, p6).”

Getting from point A to point B required an institutional forgetting of political contestation and the contestable assumptions associated with the measure – rather than mere reflection of some essential “economic.” Politics, contingent histories, the momentum embedded in the numeric: these categories offer a fuller account of the national accounting apparatus and of the governmental practice of the national economy than any notion of an essential economic.

Chapter III took aim at another element in the globalization discourse, this time the category economic progress. Here we have a category that is an element of the discourse of the national economy, but also that of the global economy – albeit in this case in the somewhat mutated form associated with the practice of competitiveness.

So the question here is how and from where does the notion of economic progress emerge as a governmental problematization? This category Progress has its own peculiar epistemic history, political assumptions, and existential fears – particularly over the scientificity of its claims.

Here again the history of the national accounts proves useful. In this case we see, via the measurement efforts of Colin Clark, a transfiguration of the present into the past, a transfiguration that effaces all present interconnections between states. In essence, time became the common connection between states, not the character of present economic intercourse. The notion of Progress became a visual, theoretical, and analytical orientation, organizing the management of the divided yet common structural-economic

plane.

Now it goes without saying that all of this was a highly political characterization of the nature of the international economy rather than a simple transposition of an underlying economic reality into numbers (Sachs, Esteva, etc). National income comparisons gave birth to a particularly scientific discourse of economic modernization, one associated with Modernization theory and its related governmental programs. Clark presupposes causes of growth that can only be expressed within the borders of the territorial state. National growth trends are mapped. National causes for and against economic growth are studied. The implication is that each state grows or declines economically solely for internal reasons. Things like the terms of trade, or colonial exploitation and its effects on the structure of the national economy are simply not quantitatively relevant.

Clark's national comparisons in international units may reveal the extent of world poverty. However, this poverty only exists as a quantitative difference between states. Poverty is an average per capita national issue rather than, for example, a class issue which can transcend territorial borders. Economic disparities across states or international economic linkages are simply not rendered visible. The state and its advance are the referents, not human beings, classes, or absolute poverty. A quantitative total (GDP/capita) emerges as the most objective and scientific indicator of welfare.

Many of these criticisms have already been made in the Dependency theory and post-colonial literature. Interestingly, they were also made in debates amongst national income practitioners themselves. From an early point, there were those (like Kuznets) who suggested that the national income comparison exercise was based upon an

unscientific metric. There were also those who challenged the apparent simplicity of the purchasing power parity models upon which national income comparisons were based. Nevertheless, the accounting-constructed episteme acted to displace efforts aimed at making comparison more local-aware, context specific, and co-present conscious (efforts like the International Comparison Programme). Expending significant resources on elucidating local specificity or international interdependence was deemed largely redundant (to say nothing of the fact that PPP comparisons are themselves political to the extent that they raise the relative size of the GDP of “less-developed” states).

The lack of objective self-evidence of “economic progress” is also highlighted by demonstrating its relatively recent vintage. Petty and King, for example, might have recorded growth, but this was a growth that evokes a different governmentality than progress. Growth was not a *sui generis* tendency of economic activity qua economic activity, but a consequence of some absolute change in one of the factors of circulation – be it in the population through which circulation takes place, or in the lifeblood of circulation that is gold and silver. The conditions of trade have an impact, population has an impact, piracy has an impact, and the expenses and taxes of government have an impact on the “economic” totals. But these are all exogenous events. With the exception of population, they do not permit a clear statistical relationship between economic size and time to be established.

In fact, natural advantages appear as the foundation upon which wealth is built – they are in many senses “inimitable.” In this sense, nations are not traveling upon a commonly progressive economic frontier. There is no suggestion that one economy is more advanced than another, that a per capita difference represents a chronological

relationship.

In sum, the aggregate difference between Petty and King's growth and Clark's progress is that economic progress can become an end in and of itself rather than a means towards some other goal, such as augmenting national power or fully realizing an existing national potential.

Finally, and to relate this Chapter back to the overarching themes of this dissertation, there are several points to note. In the first place, the orthodox narrative of globalization as a linear progression from local to national to global economy fails to capture elements of the actual content that was projected onto the international during the so-called era of the national economy. Read in their own terms, technical indicators constructed a very different type of policy environment than the merely "inter-national" – albeit one that was every bit as political and contestable as the simple national economy image.

Secondly, progress is not a self-evident economic category – it has a history that we can trace. It is based upon presuppositions – related to territory, welfare, and the future - that do not, as such, directly reflect an external and objective reality. And while the contemporary story of globalization has re-situated the terrain of progress – with progress now a product of international competitiveness rather than local conditions (Hindess) - the same considerations regarding the parochial and the peculiar apply.

Chapter IV offered an exploration of the globalist assumptions associated with interdependence. Some of the more historically critical globalization literature has noted the existence of previous periods of time where economic activity was international or global in scope, particularly in the 19th century.

This makes the 19th century an important test case for exploring the parameters under which interdependence can be conceptualized, measured, and practiced. Given a tangible increase in economic transactions across juridical borders - is there anything inevitable about viewing the economy in terms of economic “interdependence” and the end of territory, as much of the globalization literature seems to suggest?

What this Chapter demonstrates is that the ways in which interdependence has been measured, conceptualized, and practiced have not always been in line with what the globalization narrative suggests should be the case. Nineteenth century internationalism (if such a term can be used) did not express itself in the form of a latent globalization or inter-nationalization, in the modern sense. Despite the common “internationalization” of the economy (as read by modern statistics), the economic imaginations of the nineteenth century and the present are markedly different – a difference that does not reflect differing economic structures as such, but a difference of perspective on what the economy is and what aspects of life are considered economic.

Thus what we see in the nineteenth century is an economy whose limits are primarily naturalistic rather than juridical or productionist. We see statistical forms that incorporate race. We see territorial limits to economic measurement that are amorphous. We see governmental projects like preferential tariff promotion, projects that align with naturalistic-imperial borders (the White Empire). We see that the political terms of trade rather than the “economic” character of competition or competitiveness sets the parameters of public debate on national-imperial-natural economic space.

In sum, international interdependence can be measured and practiced within a context of economic-racial parameters as easily as that characteristic of post-Fordist

production. The presentist narrative of globalization must confront the evidence that the past neither imagined itself nor constructed its political projects according to the “economic reality” which present statistics suggest about it. The proto-Globalization that present categories reveal is an artifact of those categories rather than reflective of the governmentality of the time.

Chapter V introduced us to the global economy itself.

The dissertation began with the supposition that the self-evidence of the “national economy” has been increasingly problematized leading into the 21st century. The question, then, is how does the globe as an economic object in and of itself become so important at this specific point in time? Moreover, why does the global-level have such public tractability now when earlier analysts (imperialism, dependency theory) had likewise called for an analysis of extra-national interdependencies?

Sticking with our quantitative theme, what we find is that the global problematique had a specific origin in time and space coincident with the creation of global modeling.

Here the story can only be told by exploring the evolution of global environmentalism as a “scientific” movement - particularly the efforts of the Club of Rome and its *Limits to Growth*. *Limits to Growth* constructs a particularly scientific and quantitative modeling schema, one that is both geographically holistic - in the sense that global trends are determinative of developments on all other levels of analysis – and socio-economic in character. *The Limits to Growth* constructs a planetary economy as much as a planetary ecology. When introduced into an epistemic environment characterized by the “territorial trap (Agnew, 1994)” of the national economy, this

undoubtedly produced a certain dissonance.

Global environmental modeling, with all its claims of a dystopian future, precipitates a global economy modeling effort by way of response. One of these responses, orchestrated through the United Nations, relied upon the work and influence of Wassily Leontief. Leontief, for his part, relied upon Input-Output Accounting – a method that represents a distinct thread of national income analysis and that had been incorporated into the UNSNA as a recommended method in 1968 – to construct his response to the *Future of the World Economy*.

Input-output accounting is designed to reveal “interrelations of...producing units (Kendrick 1972, p57)” as much as aggregate macro totals. The proliferation of micro data, empirical observation of actual flows, and the resulting character of internal relationships are what drive the development of the model. When utilized as a method in the context of a *global* environmental problematique, the interdependencies of the global economy become quantitatively visible.

Leontief’s model produced the “global economy” in two ways: In the first place it shifted the axis of the “World Problematique” from one that was environmental and concerned with limits to one that was as much economic and concerned with managing progress. The method translated the environmental problem into an economic question.

Secondly, Leontief’s model definitively loosened the linkage between economic measurement and national territory. It did not extinguish such linkages altogether. However, it demonstrated an alternative limit and method within which recognized economic statistics could be assembled and in which aggregate figures could be interpreted.

Now this is a model that is as political, historical, and peculiar as any of the other statistical and accounting frameworks that we have examined. In the first place, and as both Escobar and Sachs have noted, translating an environmental problem into the accounting language of economics ultimately opened the way for a managerial discourse directed *at* the environment, one associated with establishing better control - in contrast to that stream of ecological thought attributing an intrinsic value to nature in and of itself. Nature leaves its mark on later accounting systems (consider the satellite accounts of SNA 1993). However this mark is translated into one commensurate with the aims of economic progress – most notably Sustainable development.

Secondly, and more significant for our purposes, currents, flows, policies, and outcomes are visualized and expressed within territorial parameters that are wider than that characteristic of contemporary nation-centric econometric analysis. The model links together economic and environmental concerns in such a way that economic processes are explicitly modeled as taking place in the context of *global* limits and interdependencies. Thus, and in contrast to Colin Clark, it is the “conditions of growth” in the world (rather than the national) economy that is modeled

The path from *Limits to Growth* to Leontief to globalization is not linear and uninterrupted. Nevertheless, it is possible to identify key moments in the transformation of a discourse from one epistemic environment to another. With Leontief, the stranglehold of the state on econometric meaning was definitively loosened. Hitherto national measures (trade, investment, etc) can be expressed outside of the territorialist statistical system which spawned them. The national data collection process, a process that harnesses statisticians, computers, and institutions both national and international,

can itself be harnessed towards new ends. We end up at an accounting apparatus that resituates the issue of management into one in which the local is part of an encompassing global system. In short, quantitative debate on the global economy can begin.

In summation, one key contribution that this dissertation makes to the international relations literature is to denaturalize the discourse associated with globalization: present “truths” about the global economy have a specific social, political, and personal history which belies the idea that they emerged simply as a reflection of changed economic circumstances, or of miraculous insights into the nature of the real. The territoriality of economic space cannot just be assumed as a natural and unproblematic description of either the past or the present: the description itself has a history. It serves certain projects rather than others. It is contestable even in its more “objective” and numeric forms. In this light, globalization, even if it is a powerful political project, one that has succeeded in enrolling multiple agents towards its ends, is a category of analysis that has specific conditions of possibility: it is not the only condition possible.

The Second contribution has been to demonstrate that the categories and evidence on which the globalization debate is informed and arbitrated are as politically saturated as the positions in the debate. In fact, there is a certain sense in which the statistical evidence helped to constitute the debate in the first place and therefore cannot be used to judge it. In other words, the key categories by which we understand the global economy, whether its presence or absence, have descended from a variety of what might be regarded as rather peculiar projects and circumstances.

Having said this, the point is not to suggest that one mode of visualization is more

or less correct than another. Rather, the point is to demonstrate that politics is inextricably embedded within all the human sciences, including economics and econometrics. Evidence is itself always political.

In fact, we can trace (as we will see) the ways in which what becomes accepted evidence emerges as a result of personal connections, institutional resources, and material artifacts. The process of creating “objectivity” is not as smooth and dispassionately rational as an evolutionary narrative might imply. Contestation, politics, and connections are intrinsic to the creation and adoption of what will become authoritative quantitative measures.

Having said all this, there is still much that could be said: there are further avenues of investigation that have been opened up and that require further study.

The first avenue requires us to revisit the historical beginnings of our narrative in the seventeenth and eighteenth century, and relates to Foucault’s category of population and the idea of the economy as a *sui-generis* object. Foucault suggests that it is with the physiocrats of the eighteenth century – particularly Francois Quesnay - that we can locate the beginnings of the economic as a mathematical statistical object (Foucault, 2007). By contrast, this study (and that by Curtis, 2002) tends to imply a later point of origin. Accordingly, the specific circumstance of the historical emergence of an “economic” problematic deserves further scrutiny. Moreover, given that Quesnay has been identified as a key figure in the orthodox national income historiography, and as a conceptual ancestor of Leontief (Studenski, 1958), this type of project would dovetail well with what has been said here.

Secondly, there is the issue of national competition and competitiveness. While

this dissertation has used the present idea of competitiveness to provide contrast to prior modes of thought, there is clearly much more that can be said here. Competitiveness is amenable to the same sort of genealogical and governmentality analysis as the other categories that we have explored. In this light, there is also much more that can be said about international competition under the rubric of mercantilism. With respect to the present, both the World Economic Forum, in its *Global Competitiveness Report*, and the Institute for Management and Development in its *World Competitiveness Report* emerge as key potential sites in the manufacture of competitiveness as a technical mentality commensurate with the architecture of globalization (see Fougner (2006, pp165, 176)).

Third, there is the issue of the construction of other types of economic borders and how these have been rendered possible. There is, for example, a story that remains to be told about the quantitative construction of economic Europe. Here our earlier story of the creation of international comparability in the post-World War II years might be relevant. Angus Maddison notes, for example, that “The Marshall Plan required criteria for aid allocation, and NATO needed them for its burden-sharing exercises. Gilbert [Milton Gilbert, Chair of the OEEC] met these requirements by pushing official statistical offices of the 16 OEEC member countries to adopt the standardized system of national accounts designed by Richard Stone (2005, p2).” Given this, the following outline is suggestive: the Marshall Plan while designed as a means of managing and constructing Europe as a Cold War ally invoked the technical apparatus of national income analysis through the newly formed OEEC in order that the relative need for and effects of aid distributions could be measured across Europe as a whole. These measurements in turn were used for other than cold war purposes as new aspects of economic life were

“revealed” – the discourse of regionalism being one possible mutation as “Europe” began to emerge as a governable economic object through the relative disparities/advantages visualized between European and US/rest of the world trends.¹ The history of the European System of National Accounts might also be relevant in this context.

Finally, there is one issue in particular that warrants further research: In discussing the performativity of the economic we have skirted several significant general questions. For example, in several instances above we have added qualifiers with respect to the actual influence of a particular statistical model on the construction of a particular governmentality. The question, then, is to what extent did a specific statistical model directly lead to a given problematization, rather than merely reflect the broader epistemic environment. This leads to a second question: why did one mode of economic representation rather than another emerge as the dominant form of governmentality? To express this in other terms, if it is indeed true that quantification reflects political purpose, why do some political-rendered-numerical purposes come to be definitive, or at least more influential than others? What accounts for the transformation from parochial project to general acceptance and general practice? In other words, there is the question of power left to confront: Answering the above questions leaves open the possibility of a structural determinism via the back door - rendering the projects and their particularities as epiphenomenal.²

There are no simple answers to the above. However, there is a method that might assist on a case by case basis in answering the question of how a particular categorical

¹ See here Milward (1984, p122).

² If, for example, they can be shown to be functional to some other purpose. There is a literature here which talks about the emergence of double accounting as functional to capitalism. See, for example, Bryer, (2000a, b).

truth emerges as a dominant governmentality: There is a method that suggests a way of dealing with power as a contingent network rather than as an underlying essence: Actor-network theory. Accordingly, in the Post-Script that follows, I will offer a tentative outline of just how the question of power can be addressed in a manner consistent with the conclusions of this dissertation.

**Post-Script:
Networks not structure, contingency not destiny**

Actor-Network theory offers to study the actual mechanics of power, organization, and truth formation.¹ Neither regularity in thought and action, nor asymmetry in outcome necessarily imply that some fundamental structural motor is at work. Instead, the call is for empirical study of exactly how these actions come to be regularized, with the processes through which multiple agents come to calculate and act in particular ways rather than others, with how truth and the taken-for-granted are produced, reproduced, and sustained.² Bockman notes that

“[f]rom this point of view, an explanation for the persistence and reproduction of institutional forms need not refer to external forces, nor must it be satisfied with a vague notion of taken-for-grantedness. Instead, the explanation can focus on the actual work of constructing a network and of establishing ties between statements, instrumentation, effects demonstrated in the lab, financial resources, the opinion and support of colleagues, and other such components (Bockman, 2002, p314).”

Regularity is a result of the lashing together of an actor-network in the face of other possible ways of acting, not a consequence of any structural teleology, nor of some powerful unified agent, whether this is defined in terms of class or state power.

Notably, this method implies studying not just key individuals, but also key non-human elements - “hybrid collectivities comprising human beings as well as material and

¹ See Latour, but also Callon and Law. What follows is not an attempt to religiously follow their specific method, only an attempt to apply some of their concepts to the narrative that we have already constructed. There are many similarities between this method and that of Foucault. However, “whereas Foucault identified paradigmatic historical forms of apparatus, Callon and others were always interested in the specificity of particular socio-technical arrangements. Moreover, whereas Foucault’s approach bracketed the question of the contestability and mutability of particular apparatuses, actor-network theory put the question of the stability or instability of the network to the fore. In effect, the Foucaultian notion of apparatus suggested something too static and too ‘structural’ for actor-network theory (Barry and Slater, 2002, p178).”

² In the case of the “economy,” Callon (1998, p2, 23) puts it thus: “Economics, in the broad sense of the term, performs, shapes and formats the economy, rather than observing how it functions...calculativeness

technical devices, texts, etc (Callon, 2005, p.4)” - that collectively form a temporarily stabilized but always tenuous ordering mechanism. Non-human elements - objects like charts, computers, maps, diagrams - are key components linking together like with unlike, of creating commensurability between processes, of outlining relations of similarity, difference, and causality. They create cohesiveness and the *effect* of structure by transmitting the projects of one location into the actions of individuals located in other parts of the network (“immutable mobiles”).³ They also create asymmetries both within the network – by making certain locales more authoritative than others⁴ – and between networks – through the enrollment of expertise to one purpose rather than another.⁵

The above also implies that there are always many actor-networks concurrently vying to translate⁶ one another into their own terms – sometimes overlapping and sometimes confronting one another.⁷ Our brief discussion of the interaction and partial cooptation between environmental and developmental programmes demonstrates this: the national accounting system was able to incorporate alternative projects within its quantificatory system, albeit as “satellites” which would leave the core orbit of the central system undisturbed.⁸ In the process, the national accounting network was able to align its

couldn't exist without calculating tools.”

³ When individuals act through the data that they are viewing.

⁴ Mitchell (2002) highlights how mapping enacted a new location for power in Egypt by empowering the office worker over the physical surveyor in determining the boundaries of land plots.

⁵ Expertise refers here not just to individual experts, but also the institutions to which they are attached, the computers and software which generate certain types of output and data, or the journals which record and transmit expert consensus. Expertise is always composed, to use Latour's terms, of both human and non-human elements.

⁶ “By translation we understand all the negotiations, intrigues, calculations, acts of persuasion and violence thanks to which an actor takes, or causes to be conferred on itself, authority to speak or act on behalf of another actor or force (Callon and Latour, 1981, p279, quoted in Barry and Slater, 2002).”

⁷ “We can consider that different agencies mix or merge with others, as in the case of economic markets that we know combine both calculative and non-calculative agencies (Callon, 2005, p5).”

⁸ In the words of Korzeniewicz et al. (2004, p547), “The ‘black boxes’ containing possible controversies about the inner workings of the SNA have been closed over the course of periodic updates and revisions,

purposes with those of its new agents, to enroll them into a common project.⁹

This is not to suggest that every actor-network is as effective at translation or action. Some will be more effective and some less effective at acting, depending not just on their material resources, but also, as we will see, the way in which they are organized. In any event, Callon suggests that “(Re)configuring an agency means (re)configuring the socio-technical *agencements* constituting it, which requires material, textual and other investments (Callon, 2005, p4).” Bledin et al. go so far to suggest that “to make a meaningful challenge, the dissenter requires the same heterogeneous assortment of resources used by the claim’s presenter (Bledin et al., 2004, p472).” So while the materialism of a Marx might be rejected, this does not suggest the idealism of a world where, for example, “anarchy is what states make of it (Wendt, 1992).” Power can be mapped, but in the form of discontinuous networks rather than radiating from a central source.

Of course all of this is rather generally stated, which is where empirical demonstration comes in. Accordingly, this Post-Script offers an **indication** of the type of research that is required to extend the performativity associated with the Chapters above: it will focus on accounting for how and why the national-territorialist regime was constructed and held together, and how it fell apart. It will tentatively explore the power (it not meta-power) associated with numerical projects.

Actors meet networks

There are several excellent secondary accounts which have outlined the paths

allowing SNA methodology to ‘move on’ and resolve newly emerging debates without fundamentally re-working old ones.”

along which national accounting has progressed.¹⁰ Breaking this down somewhat artificially (since an actor can only act through a network), there are a number of elements through which the national accounting network is instantiated. Let us begin on the level of key individuals and personal relationships, most of whom we have already mentioned. The story of the quantification of the national economy cannot be told without discussing the relationship between J. M. Keynes and James Meade and Richard Stone through the Ministry of Economic Warfare.¹¹ It was under Keynes' direction, and in the interests of War Planning, that Meade and Stone constructed the first national accounting system.¹² Of course Keynes himself was not operating in an intellectual vacuum as he drew upon national *income* estimates, particularly those published by Colin Clark (Kurbayashi, 1994, p95).¹³ Nevertheless, Kenessey notes that “without [Keynes'] influence at the U.K. Treasury such work probably would not have materialized during the difficult years of the war. His personal support to the work was quite essential to the establishment of the accounts at the time (Kenessey, 1994).” Richard Stone's recollection of the occasional outright opposition towards this project in its early stages suggests why an influential figure like Keynes would have been needed. In the process of gathering the necessary data in 1940,

“for our first draft of what was later to become the second part of the first Budget White Paper on National income and Expenditure... We had not made ourselves universally popular among the purveyors of facts and figures in our search for

⁹ At least partially, since the “deep green” critique still exists.

¹⁰ See particularly Korzeniewicz et al's study, which much of this description parallels. But see also Kenessey (1994), Studenski (1958), Kendrick (1972), Ruggles (1995), etc. The individual links, particularly with respect to Stone, are widely noted in the secondary literature.

¹¹ Korzeniewicz et al (2004, p538, n2) note that “in the late 1930s Stone worked in England with Keynes in the Central Statistical Office.”

¹² As Waring demonstrates.

¹³ He notes this in the context of work on national inflation during periods of government borrowing. Howson (2000, pF128) also notes that “Keynes proposals on *How to Pay for the War*... were illustrated with estimates of national income and expenditure based on earlier work by Colin Clark.”

knowledge...Some had been skeptical, a few thought we were mad and said so, and one man found time to wonder on paper whether we could not find some more useful employment in our country's darkest hour (Stone, 1951, p84)."

Cairncross, for his part recalls that the government actually reduced its statistics gathering operations in the early stages of the preparations for war: "the reaction of the government in 1939 had been to suspend the collection of various kinds of statistics and to do virtually nothing to centralize the information needed for the war effort (Cairncross, 1988, p14)." While war may expand the scope of direct governmental control, it was not always self-evident that statistical information would serve this end. In any event, and as a consequence, as a partial result of Keynes' influence the national accounting project was able to attach to itself the necessary resources.

Furthermore, as described in Chapter II, the resulting accounting identities emerged as a graphical representation of Keynes' identities from the *General Theory*. Keynes was thus key in establishing a particular type of quantitative framework.

However, it is primarily through Richard Stone that the specific accounting methodology was spread internationally. Stone, who had been tutored by Colin Clark while at Cambridge (Kendrick, 1996, p8),¹⁴ and had succeeded him in 1937 as editor of a statistical feature in *Industry Illustrated* called "Trends (Pesaran, 2000, pF147),"¹⁵ was a participant at the 1944 international conference on national accounting discussed in Chapter II. He chaired an expert conference the next year under the auspices of the League of Nations, out of which the first international plan for national accounts was

¹⁴ Stone goes so far as to suggest that "his [Clark's] work was the main inspiration for mine (Stone, 1981, p21)." Clark "was the first to use the concept of 'gross national product' and to elaborate all the 'building blocks' to be used subsequently in national accounts (Comin, p215)."

¹⁵ According to Pesaran, "Partly because he was known for his writings in 'Trends', when the Second World War became imminent, Dick was asked to join the Ministry of Economic Warfare (pF128)."

derived (Korzeniewicz et al, 2004, p539).¹⁶ From there Stone spread the accounts to the OEEC, where they were designed to assist in “planning European recovery and allocating Marshall Aid (Korzeniewicz et al, p539),”¹⁷ and finally to the United Nations, where he was largely responsible for authoring both the 1953 and 1968 versions of the UNSNA (United Nations, 1953, 1968).

The other major individual discussed in our narrative of the modern era is Wassily Leontief. Leontief was part of an actor-network which, while not totally overlapping with the Keynesian stream, managed to mingle with it, enrolling aspects of it at certain points, being enrolled at others.¹⁸

In terms of his impact on key individuals, there are several that are significant. For example, Lahiri notes that “Leontief’s lead stimulated numerous others, including at least 6 other Nobel Laureates in economics (Lahiri, 2000, p695).” For our purposes the most notable influence here relates to that on Richard Stone, who took up and advanced Input-Output analysis in the Department of Applied Economics at Cambridge. It is from here that Input-Output analysis comes to percolate into the national accounting mindset internationally, eventually becoming incorporated into SNA 1968 (Lahiri, 2000, p705).¹⁹ As part of this system, Leontief’s method was assigned an objectivity that assisted in making his world economy conclusions conclusive.

Of course, to argue that the personal relationships are significant here does not

¹⁶ The document noted is: League of Nations (1947).

¹⁷ The relevant document is OEEC (1952).

¹⁸ Bockman and Eyal (2002, p325) demonstrate the role that actor networks, which included Leontief, played in diffusing neo-liberalism into the Soviet Union *prior* to the post-Soviet shock therapy program. As part of this they note that “the largest East-West conferences were the input-output congresses organized by Wassily Leontief and his colleagues at Harvard University.” Leontief’s goal here was to enroll allies from other countries into the input-output method so that he would have access to the data necessary “to build a world input-output model (p329).”

¹⁹ Interestingly, and paralleling Leontief’s environmental work, Stone also used Input-Output to study the

suggest that we can reduce the history of economic thought/calculation/practice to heroic figures, majestically struggling against the combined forces of pre-existing conventions and bureaucratic ossification. Each individual in the narrative was himself ensconced within preexisting relationships, calculative mindsets, and actor-networks, albeit these elements were combined in new ways. Rather, in identifying key individuals the significant point to note is the rather mundane one that calculation and visibility are not performed by the economic realm itself: it requires real human calculators. The quantification efforts are not automatic, suddenly emerging simultaneously around the world; policies relying upon the measurement of the “national economy” did not suddenly spring forth to assist in the management of class conflict, for example.²⁰

Nor is this to suggest some sort of solipsistic account of the evolution of social policy. The individuals and their ideas did not become authoritative solely through charisma or superior logic. Right from the origins of national accounting there have been critiques directed at its specifics by no doubt equally charismatic personalities, relying on no-doubt equally logical propositions (Kuznets, Waring, etc.).²¹ Expertise and charisma was not aligned solely in the direction of the successful accounting project. Instead, explaining *how* these individuals were influential despite alternatives requires an exploration of the material elements, both institutional and technical, which they relied upon and perpetuated.

In terms of the material institutions, it almost goes without saying that since the

consequences on pollution on the economy (Ward, 2004, p216).

²⁰ One of Keynes political projects was associated with managing aggregate demand in light of the market irrationalities of the Great Depression. This is not the same thing as suggesting that the Welfare State emerged out of an abstract bourgeois scheme to propitiate the masses (see, for example, Panitch).

²¹ Consider in this light, the following observation from Maddison: “This new macroeconomic perspective was very different from that of Hayek and Schumpeter. The latter considered ‘total output a figment which, unlike the price level, would not as such exist at all, were there no statisticians to create it

Keynes/Meade/Stone framework was able to embed itself within the key post-World War II international organizations, largely as a result of the particularities of the British-American wartime economic-military alliance, it was capable of replicating itself in other locations. This is particularly the case for the United Nations which, as Bos notes, played both a “pedagogical” and coercive role: pedagogical not just in providing the manuals through which national accounting was to be conducted, but also in “providing free statistical help and advice (Bos, 1994, p199).”²² Coercive in the sense that the figures thus generated would be utilized “in taxing and subsidizing their member countries (Bos, 1994, p199).”²³ The OEEC is also instrumental here not just for its role in allocating Marshal Aid, but as a more general research node looked upon for its expertise. However, it is not just the international organizations that are significant to the network: authority was provided through Cambridge University (where Stone became Director of the Department of Applied Economics in 1945,²⁴ and where, in the National Account Research Unit, statisticians from abroad were trained in national accounting (Kenessey, 1994b, p12)), the Central Statistical Office of the United Kingdom (which ensured that the Keynes/Meade/Stone project had an official seal of objectivity), and key academic networks: On this last point for example, Korzeniewicz et al. (2004, p539) note the influence of the International Association for Research in Income and Wealth (established in 1947) and its conferences. This organization, defines its purpose as

(Schumpeter, 1930, pp484, quoted in Maddison, 2005, p8).”

²² Kendrick (1972, p215) notes that “[a]fter the SNA was published in 1953, the handbook, *Methods of National Income Estimation*, was prepared as an aid to preparing national income statistics, with the needs of LDCs given particular attention. Subsequently, the UN not only has published a *Yearbook of National Accounting Statistics*, but has also provided a survey of NA practices, with a view to their ultimate improvement through analysis and comparison.”

²³ They are used for assessing UN membership fees as well as for determining World Bank aid eligibility, for example: Kendrick (1996, p5).

²⁴ Pesaran (2000, pF150) notes that “some of the world’s greatest economists and econometricians spent

“bringing together academic and government scholars in the field of economic and social statistics from many countries. This is accomplished by holding biennial general conferences, by arranging regional and specialized conferences, by the circulation of scholarly papers, and by the publication of a quarterly journal, the *Review of Income and Wealth* (<http://www.iariw.org/purpose.asp>).” As such it acts as a forum where prominent individuals, both public and private, hammer out the parameters of debate surrounding what national income is and how it should be measured.²⁵ Finally, mention must be made of the Club of Rome, which likewise played such an influential role in initiating a new stream of calculation.

Material *objects* also act to animate the force of the actor-network. To state the most obvious the national accounts, considered as a set of detailed procedures and charts, act as international agents of a sort in directing measurement, categorization and resources in a common fashion in disparate locations. As recalled in the SNA 1993, “[u]sing the 1953 SNA as a basis, the United Nations developed a questionnaire to be sent to member countries to collect national accounts information on a regular, systematic basis (United Nations, 1993, pXL).” Although states are not compelled to follow in detail the recommended procedures in replying to these requests,²⁶ the questionnaire and its embedded assumptions nevertheless establishes a certain normative standard by which other compilation procedures are implicitly judged (McNeely 1995, p104). In any event,

part of their youth at the DAE.”

²⁵ Personal interactions were established between some of the key individuals associated with national accounting in a number of states via this organization. Korzeniewicz et al (2004, p539, note 5) note, for example, Morris Copeland (whose models “would be influential in the US Federal Reserve Board”), Milton Gilbert (“Chairman of OEEC”) and Simon Kuznets, amongst others. Past Chairpersons include many of those we have already encountered: Richard Stone, Irving Kravis, Alan Heston, George Jaszi. <http://www.iariw.org/councilmain.asp>

²⁶ Although the majority do (See McNeely, discussed below). McNeely (1995, p86) notes that the questionnaire has evolved over time to request more and more information from member states.

in thus having a physicality the projects embedded within the accounts could be moved from one location to another without losing their force or agency.²⁷

Computers are also a significant element to the authority and cohesiveness of the network. Kenessey notes that “in due course computers became all pervasive and an integral part of statistical work (for and on) national accounting practically everywhere (Kenessey, 1994b, p8).” With computers data can be assembled and transmitted from location to location, all in a manner bearing the appearance of objectivity and neutrality. The impact here is especially evident in the case of Input-Output work. Accounting work of the type Leontief was promoting could not have come to fruition without substantial material resources to make tangible the empty boxes that the method produced.²⁸ This is the case both in terms of the necessary collection of primary cost-revenue data (although some of this would have been available from secondary sources), but also due to the enormous calculation that was required to resolve the input-output coefficients and other “derivatives”. Leontief notes that even a small table with very few economic sectors – like the Tables for 1919 and 1929, simplified to ten industries (Leontief, 1953, p72) – would still require the calculation of 450 000 multiples (Leontief, 1953, p74). Lacking computers “this task alone would mean a two-year job, at 120 multiplications per hour (Leontief, 1953, p74).” A larger table, like the 500-sector table for 1947, would require the calculation of a correspondingly larger set of figures. However, Leontief did not lack computers: he notes, that “the recent invention of the Simultaneous Calculator...has

²⁷ Thus enabling “action at a distance,” to borrow from Miller and Rose (1992).

²⁸ Bledin et al.(2004, p471) note that “rounding up academic allies is necessary for claims to spread, but financial allies are also needed to pay for science.” This will have effects on the type of science produced “Finding financiers requires that scientists market their work to non-scientists as important and potentially useful. It often involves altering the direction of research to accommodate the goals of the financial backers (p471).”

made it possible to perform all the necessary computations in a small fraction of the time (Leontief, 1953, p74).” In fact, according to Renfro “Leontief’s appears to be the first use of a computer by an economist. (Renfro 2004, p.15 n.5).” Without these resources and the output that they produced, it would not have been feasible to construct and use an inter-industry table, with all the interdependencies in production that it makes visible. Likewise, challenging the data output that was produced, without these resources, would be an equally daunting task.²⁹

Computer use also had indirect effects on future renderings of the economic. For example, Hindess (1998) sees computerized data as one of the primary causes in the breakdown of the image of the national economy, in that computers allow for the easy compilation and manipulation of the underlying national accounts data outside of their *national* accounting framework.

Finally, History itself played a role in empowering the network, most notably in the way in which retrospective accounts were and are drawn in the national accounting literature to the works of the distant past.³⁰ With King and Petty incorporated into an overwhelming narrative of intellectual progress (despite, as we have seen, the tenuous

²⁹ Bledin et al. (2004, p472), quoting Dorfman (1954, p121), note “there can hardly be an economist who has not watched with amazement that nova of economics, input-output. Into a science characterized by individual research, piddling grants, and hand-me-down data, it brought large, well-financed research teams and fresh resources of statistical material.” For Bledin et al., this powerful actor network explains why the Leontief paradox did not displace the Heckscher-Ohlin-Samuelson trade model: “Without parallel statisticians, computers and government support, the Samuelson group would have been unable to successfully challenge Leontief’s input-output network, essential to disputing his 1953 results. Facing this costly obstacle, it was not surprising that the Samuelson group simply ignored the paradox (p472).”

³⁰ Although Petty and King were also embedded within particular actor networks, we will not draw out the connections here primarily because the purpose of the Chapters in which they are central is to show dissimilarity with the present, despite retrospective accounts of continuity. This is likewise for the case for Giffen, who does not garner much press in the modern literature on the subject. Interestingly, though, there are some institutional connections between some of these figures and the characters mentioned here: Giffen was at one time the President of Section F of the British Association (1887, 1901) as was William Cunningham (1891, 1905) and James Meade (1957).” R. L. Smyth, “The History of Section F of the British Association 1835-1970.”

epistemic connection), an argument against national accounting is tantamount to an argument against History itself.

Having said all this, we must be careful not to assign a spurious uniformity to national accounting in practice. Most obviously, there were substantial differences in national accounting compilation procedures in the case of the Soviet Union and other Marxist-inspired systems. The centrally planned economies gathered data according to an alternative conceptualization of what is and what is not production. The Soviet Union and most of its allies gathered their statistics on the basis of the Material Production System, where services were not attributed any value (Studenski 1958). This system was not in and of itself inferior to the Keynesian system, even though its numbers may not appear as trustworthy from a retrospective reading: Seers notes that the Marxist system “is not without meaning – especially for those who consider landlords or bureaucrats as parasites (Seers, 1976, p194).”

However, even in those countries subscribing to the Keynes/Meade/Stone framework, there is no complete homogeneity: even the United States and Great Britain have not always followed SNA procedures (McNeely, 1995, p101).³¹ The System of National Accounts is not based on any central organizational eye, collecting data down to the micro level. Instead, local statistical agencies gather the data according to their own capacities, methods, and, to an extent, their own prerogatives. As Korzeniewicz et al. emphasize, “statistical agencies in different countries vary in terms of which elements of SNA (accounts, tables, classifications) are given priority in data compilation, and on specific methodologies (e.g., procedures of data collection, estimation techniques, and

³¹ However the US has committed itself to harmonizing its system to SNA 1993: Carson (1996, p27). The system in France likewise had its own peculiarities (See Miller’s review of Fourquet).

data processing (Korzeniewicz et al., 2004, p541)).” It is frequently only at the level of the “final preparation and presentation of the accounts and tables (2004, p541)” that substantial international uniformity is produced. In practice the SNA is, therefore, very much decentralized on the local and national level, where control is often exercised very indirectly and only in the last instance.

Furthermore, even the “standardization” that does exist is far from automatic, requiring the provision of the pedagogical instruments noted above (financial resources, expertise, manuals), in addition to technicians operating on a local level,³² in order to construct a commensurable and operational “bureaucratic structure (Korzeniewicz et al., 2004, p542),” particularly in “developing” states. Moreover, while at any given point in time the overarching methodology is *largely* pre-established, and while aggregation of the data by the UN for its own purposes is outside of their immediate control, there is participation and interaction with the UN in the continual discussions focusing on how to revise the SNA (Korzeniewicz et al., 2004, p543). Harrison offers an interesting description of the long process of expert meetings and how they altered the direction of the revisions to SNA 1968 (Harrison, 1994). The revisions began with a mandate that “will not involve major changes to the present SNA (Harrison, 1994, p173).” However, discussion and negotiation led to a final document in the form of SNA 1993 which “contained approximately 100 significant changes from the 1968 version (Harrison, 1994, p183).” These revisions not only involved consultation and negotiation with representatives of national statistical bodies, but also an attempt to harmonize the SNA with other international statistical systems (IMF Balance of Payments Manual, European

³² Korzeniewicz et al (2004, p542) suggest that there is, therefore, a “second level” of individuals who are necessary for the network’s instantiation: “statisticians who assisted at the local level in developing the

System of Integrated Economic Accounts, etc. (Harrison, 1994, p177)). In sum, the national accounting network is not composed by dupes, but by overlapping strands and cross-cutting political projects. As such, any uniformity in practice that does exist always has a somewhat tenuous hold.

The ability of local agents to react back on the central project is likewise demonstrated in the case of Input-Output accounting: As this project mingled with other users it was both transformative and transformed in turn.³³ Martin Kohli highlights a number of the more significant transformations to the Input-Output method, largely through an analysis of Leontief's relationship with the Bureau of Labor.³⁴ He suggests that there are three elements of the Bureau's relationship to input-output accounting that are most significant. In the first place the Bureau, in sponsoring a study on the likely consequences to the economy of de-mobilization from the War, "demonstrated that input-output analysis was a useful tool for government policymakers (Kohli, 2001, p209)." Secondly, and relatedly, in "stimulating" a change in the model from a closed to an open form (where certain variables could be exogenously specified), the Bureau brought into being a method "which proved to be more useful for policymakers (Kohli, 2001, p191)." Rather than merely describing the characteristics of an economic system in the past, setting certain variables as exogenous - most notably government spending which for the 1939 Table was attributed to a distinct sector - allowed the table to model possible future changes. Carter notes that "not accidentally this coincided with the ascent of Keynesian

practical procedures and institutionalization of national accounting."

³³ According to Bledin et al. (2004, p471), "by harnessing the power of the BLS, Leontief quantified economic activity within his input-output framework, establishing himself as a spokesperson for the economy." Bledin et al. imply that the alterations to the framework were driven by Leontief's desire to enroll allies.

³⁴ See also Bledin et al, 2004

economics which placed emphasis on the roles of private investment and government spending as key exogenous forces (Carter, 1989, p13).” In any event, this made the method useful under existing governmental conceptions. Moreover, without this change, projections about global futures of the type discussed in Chapter V would not have been possible.

Finally, the Bureau facilitated numerous “conceptual developments of Leontief’s framework (Kohli, 2001, p209).” These included alterations (largely relating to the separate recording of capital and current expenditure) “necessary to reconcile the input-output table with the national income accounts (Kholi, 2001, p209).” It also included an alteration in the way in which imports were categorized (competitive vs. complementary discussed in Chapter V) that allowed a greater specification of the relationship between trade and the comparative character of national economies (Kholi, 2001, p207).

For our purposes, one significant point coming out of Kohli’s demonstration is that the methodological innovations were driven largely by the perceived needs of its institutional users, rather than by the internal logic of the original measurement framework. The Bureau found its overall form useful for reasons of what Kohli calls “bureaucratic pragmatism (Kohli, 2001, p200),” and facilitated its modification accordingly – this despite the fact that academic economists were initially largely skeptical of Leontief’s input-output work (Neisser; Rothbarth – both cited in Kholi, 2001, p199).³⁵

An additional point that Kohli implies but does not stress warrants mention here. This is the incoherence of “the state” as a governing body, and the consequences that this

³⁵ In fact, Kohli (2001, p199) notes that “[s]ales... were so slight that Harvard University Press wrote to Leontief to discourage any hopes for a second edition.”

lack of homogeneity has for the evolution of economic method and practice. Specifically, Leontief had a productive relationship with certain elements of the bureaucratic tendrils of the U.S. government, even while other elements of that apparatus were stringently opposed to his input-output work. Over the course of the 1940s and 1950s Leontief's work was sponsored variously by the Bureau of Labor, the Office of Strategic Services, the Office of War Mobilization and Reconversion, and the Air Force's Project SCOOP (Kohli, 2001, p203-205). In 1954, however, the Department of Defense "eliminated...funding for input-output work" out of "a concern that input-output tables could be used for central planning (Kohli, 2001, p207)." Nevertheless, this did not mean the end of government-sponsored work on the input-output method: "while the work of constructing the tables halted, the issue of reconciling them with the national income and product accounts did not disappear (Kohli, 2001, p208)." Work continued at the request of the Budget Bureau given a belief in the utility of the method for national accounting (Kohli, 2001, p208). In this way, input-output accounting would eventually be incorporated into the National Income and Product Accounts of the United States. It would also find its way, as we have seen, into the United Nations System of National Accounts in 1968 via Richard Stone.³⁶

Having said all this, showing that central control is tenuous does not imply that the actor network is lacking in capacity, that there are no organized regularities in practice. In the case of the national accounting system, the basic parameters are widely followed. In her study of country responses to the annual SNA questionnaire, McNeely notes both that the majority of states provide information for the major categories

³⁶ Even here cross-purposes would eventually be established: Input-output accounting was a party both to the inscription of the national economy and the corrosion of that technique and manner of framing from

requested, and that by 1985,

“143 (90%) of those reporting had originally prepared their national accounts statistics in agreement with United Nations guidelines. This means that their internal statistical preparation had followed United Nations guidelines and there was no need for the data to be grossly adjusted or transformed to fit the framework for international purposes...increasing conformity to United Nations standards was displayed for both internal and external purposes (McNeely, 1995, p97).”

Furthermore, while there is interaction and feedback between different parts of the network, the central elements of the system have demonstrated a great deal of continuity. For example, Harrison’s discussion of the revision process notes that “[t]here has been no major change to the production boundary; housework, for example, continues to be excluded...no extensions have been proposed to deal with environmental costs directly; the asset boundary has been modified but not to the extent of including research and development, human capital, or consumer durables as assets in the SNA sense (Harrison, 1994, pp187-188).” Instead, as mentioned, the most recent tendency has been to spin off the concerns into satellite accounts.

Finally, Korzeniewicz et al. has noted that the very decentralization that characterizes the operation of the SNA confers a certain type of strength to the national accounting project (Korzeniewicz et al., 2004, p560). In this context they compare the relative success of the System of National Accounts to the near irrelevance of the International Comparison Project.³⁷ As mentioned above, in the national accounting

within in the form of the “world economy.”

³⁷ Their goal is to account for the relative ubiquity of foreign-exchange weighted comparisons of national income in contrast with those weighted by purchasing power parity. In doing so they draw attention to “the methodological and institutional trajectories of the collective projects through which the relevant indicators are constructed (Korzeniewicz et al., 2004, p535),” i.e. the SNA and ICP. PPP has been of peripheral significance (at least amongst non-academics (p567)) because of a lack of acceptance of the *procedures* necessary to gather this data (p535). These centralized procedures give the entire exercise “the appearance of being driven by interests (p564).”

network each national statistical organization is largely responsible for compiling its own micro data on the basis of its perceived needs.³⁸ In fact, SNA 1993 highlights two seemingly contradictory roles for the system: It both

“Provide[s] guidance for national accounts almost universally...[but also] incorporates flexibility as the means of facilitating international comparisons and of encouraging the use of SNA in economies that differ widely, given that analytical requirements and data availability will dictate the varying emphases as matters of national statistical policy (United Nations, 1993, pxxxiv).”³⁹

In other words, and to simplify, national statistical agencies are enrolled rather than controlled. They can use the system for their own purposes even while they are used by it. The net result is to harness local action and local resources in a participatory manner leading to “an expansion of the formal community of national accounts practitioners, embodied in national statistical agencies operating throughout the world (Korzeniewicz et al., 2004, p542).”⁴⁰

By contrast, in the case of the International Comparison Project, “virtually all the actual production of national PPP [purchasing power parity] data takes place in the central ICP offices... [It] requires more extensive collaboration across borders and a relative surrender of national sovereignty over income data (Korzeniewicz et al., 2004, pp 551, 560).” Because of this, and in addition to a lack of consensus on its methodology, the long time frame between surveys, and its possible impact on the relative size of

³⁸ Korzeniewicz et al. note that the data is “produced rather autonomously (p560),” that “national statistical offices follow [the standards] independently (p551).”

³⁹ One way in which this can be accomplished is via the satellite account guidelines that are provided. Bos (1994, p201) notes that while flexibility was also explicitly discussed in the 1947 system, “in the 1953 and 1968 reports, such remarks on the interaction between national accounting concepts on the one hand, and particular circumstances and uses on the other are absent.”

⁴⁰ Korzeniewicz et al. list over 100 of these enrolled national statistical agencies. Bockman (2002, p314) suggests that this process is the key to understanding translation “meaning the ability of network builders to devise an interpretation that aligns their interests with the networks new recruits, whose support and resources are crucial for its survival.”

developing country economies thus measured (and hence on policy decisions related to income disparities between states), many actors are less willing to participate in the process necessary to construct PPP.⁴¹ The institutional apparatus in the case of the ICP is, therefore, near “collapse (Korzeniewicz et al., 2004, p535).”

In sum, and to relate the discussion back to the question of why one form of measurement has come to dominate quantification efforts and therefore the orientation of a large segment of public policy and practice, it was the specific combination of personal relationships (Clark-Keynes-Stone-Leontief), institutional affiliations (Office of the Treasury, Bureau of Labour, OEEC, UNSNA, Cambridge, I-O conferences), access to technical and financial resources (computer, journals, and even history itself), which instantiated an ever tenuously maintained economic-territorial episteme. If class or national wealth was determinative, then it is unclear why PPP measures, for example, would not have been given greater institutional support, given that they would decrease the visual extent of poverty and therefore the demand for aid and social assistance. If ideas alone were all that mattered, then it is unclear why the telling academic criticisms of a Kuznets or Waring, or the alternative accounting systems of the Soviet Union, did not take hold as the global standard in the post War years. Instead, to get a sense of how and why certain projects come to prominence over others, one must look at the micro and the way in which local connections create the effect of meso and macro structures. The truth of national accounting and the practice of the national economy are performances that must be continually reproduced by enrolling allies into this particular project. Likewise in the case of the global economy, it did not suddenly emerge, but rather percolated out of a complex network of academic, populist, and public policy networks.

⁴¹ See also Chapter III.

“Globalization” did not suddenly spring forth due to the emergence of a transnational economy – the idea of the transnational economy first had to be created and extended into an authoritative network.

Bibliography

Agnew, John, *Geopolitics: re-visioning world politics*, New York: Routledge, 1998.

Agnew, J., "The Territorial Trap; The Geographic Assumptions of International Relations Theory," *Review of International Political Economy*, 1, 1, 1994, pp53-80

Alker, Hayward R, and Tickner, Ann, "Some Issues Raised by Previous World Models," in Karl W. Deutsch, et al., eds., *Problems of World Modeling: Political and Social Implications*, Cambridge: Ballinger Publishing Company, 1977

Amin, Ash, "Placing Globalization," *Theory, Culture and Society*, 14, 2, 1997, pp 123-137

Amin, Ash, "Spatialities of globalization," *Environment and Planning A*, 34, 3, March 2002, pp. 385-99

Amoore, Louise, et al., "Paths to a historicized international political economy," *Review of International Political Economy*, 7, 1, 2000, pp53-71

Armijo, Leslie Elliot, ed., *Debating the Global Financial Architecture*, Albany: State University of New York Press, 2002

Arndt, H. W., "Colin Clark as a Development Economist," *World Development*, 18, 7, 1990, pp1045-1050

Arndt, H. W., "Economic Development: A Semantic History," *Economic Development and Cultural Change*, 29, 3, 1981, pp457-66

Arndt, H.W., *The Rise and Fall of Economic Growth: A Study in Contemporary Thought*, Chicago: University of Chicago Press, 1984

Arrighi, Giovanni, and Silver, Beverly J., "Capitalism and world (dis)order," *Review of International Studies*, 27, 2001, pp257-279

Arvay, Janos, "The Material Product System (MPS): A Retrospective," in Zoltan Kenessey, ed., *The Accounts of Nations*, Amsterdam: IOS Press, 1994

Ashley, Richard K., "The eye of power: the politics of world modeling," *International Organization*, 37, 3, 1983

Barbezat, Daniel, Cooperation and rivalry in the International Steel Cartel, 1926-1933, *Journal of Economic History*, 49, 2, 1989

- Bariloche Group, "The Latin American World Model," Gerhart Bruckman, ed., *Proceedings of the second IIASA Conference on Global Modeling*, Laxenburg: International Institute for Applied Systems Analysis, 1976
- Barna, Tibor, "International Comparisons of National Accounts in Economic Analysis," in Milton Gilbert, ed., *Income and Wealth: Series III*, Cambridge: Bowes and Bowes, 1953.
- Barry, Andrew, and Slater, Don, "Introduction: the technological economy," *Economy and Society*, 31, 2, 2002, pp 175-193
- Bello, Walden, "The capitalist conjuncture: over-accumulation, financial crisis, and the retreat from globalization," *Third World Quarterly*, 27, 8, 2006, pp1345-1367
- Benham, Frederic, "Income and Product in under-developed countries: Comments on The Paper by Professor Frankel," in Milton Gilbert, ed., *Income and Wealth: Series III*, Kent: Bowes and Bowes, 1953
- Bledin, Justin, and Shewmake, Sharon, "Research programs, model-building and actor-network-theory: Reassessing the case of the Leontief Paradox," *Journal of Economic Methodology*, 11, 4, December 2004, pp455-476
- Bloem, A. M., "National Accounts: Roots, Role and Responsibility," in Martin Shubik, ed., *Proceedings of the Conference: Accounting and Economics*, New York: Garland Publishing, 1995, pp 286-292.
- Bockman, Johanna, and Eyal, Gil, "Eastern Europe as a Laboratory for Economic Knowledge: The Transnational Roots of Neoliberalism," *American Journal of Sociology*, 108, 2, September 2002, pp310-52
- Bos, Frits, "Constancy and Change in the United Nations Manuals on National Accounting (1947, 1953, 1968 and 1993)," in Zoltan Kenessey, ed., *The Accounts of Nations*, Amsterdam: IOS Press, 1994
- Brenner, Neil, "Beyond state-centrism? Space, territoriality, and geographical scale in globalization studies," *Theory and Society*, 28, 1, 1999, pp39-78
- Breslau, Daniel, "Economics invents the economy: Mathematics, statistics, and models in the work of Irving Fisher and Wesley Mitchell," *Theory and Society*, 32, 2003, pp379-411
- Brune, Nancy, and Garrett, Geoffrey, "The Globalization Rorschach Test: International Economic Integration, Inequality, and the Role of Government," *Annual Review of Political Science*, 8, 2005, pp399-423

- Bryan, Dick, "Global accumulation and accounting for national economic identity," *Review of Radical Political Economics*, 33, 2001, pp57-77
- Bryant, Raymond L., "Non-governmental organizations and governmentality: Consuming Biodiversity and Indigenous People in the Philippines", *Political Studies*, 50, 2, Jun 2002, pp 268-92
- Bryer, R. A., "The history of accounting and the transition to capitalism in England. Part one: Theory," *Accounting, Organizations and Society*, 25, 2000a, pp131-162
- Bryer, R. A., "The history of accounting and the transition to capitalism in England. Part two: Evidence," *Accounting, Organizations and Society*, 25, 2000b, pp327-381
- Busch, Andreas, "Unpacking the Globalization Debate: Approaches, Evidence and Data," in Colin Hay and David Marsh, eds., *Demystifying Globalization*, Basingstoke: Palgrave, 2000, pp 21-48
- Cain, P. J., and Hopkins, A. G., *British Imperialism, 1688-2000*, Second Edition, London, 2002
- Cairncross, Alec, "The Development of Economic Statistics as an Influence on Theory and Policy," in Duncan Ironmonger, et al., eds., *National Income and Economic Progress: essays in honour of Colin Clark*, New York: St. Martin's Press, 1988
- Callon, Michel, "Introduction: the embeddedness of economic markets in economics," in Michel Callon, ed., *The Laws of the Markets*, Oxford: Blackwell, 1998
- Callon, Michel, "Why Virtualism paves the way to political impotence: A reply to Daniel Miller's critique of The Laws of the Markets," *Economic Sociology: European Electronic Newsletter*, 6, 2, 2005
- Callon, M, and Latour, B., "Unscrewing the big Leviathan: how actors macrostructure reality and how sociologists help them do so," in K. Knorr-Cetina and A. Cicourel, eds., *Advances in Social Theory and Methodology: Toward an Integration of Micro- and Macro- Sociologies*, London: Routledge & Kegan Paul, 1981
- Cameron, Angus, and Palan, Ronen, *The Imagined Economies of Globalization*, London: Sage, 2004
- Cameron, Angus, and Palan, Ronen, "The Imagined Economy: Mapping Transformations in the Contemporary States," *Millennium: Journal of International Studies*, 28, 2, 1999a, pp267-288
- Cameron, Angus, and Palan, Ronen, "The National Economy in the Contemporary Global System," in Martin Shaw, ed., *Politics and Globalization*, London: Routledge, 1999b, pp37-54

- Carson, Carol, "Design of Economic Accounts and the 1993 System of National Accounts," in John W. Kendrick, ed., *The System of National Accounts*, London: Kluwer Academic Publishers, 1996, pp25-72
- Carter, Anne P., and Petri, Peter A., "Leontief's Contribution to Economics," *Journal of Policy Modeling*, 11, 1, 1989
- Cerny, Philip, "Paradoxes of the Competition State: The Dynamics of Political Globalization," *Government and Opposition*, 32, 2, 1997, pp251-74
- Cerny, Philip, et al., "Different Roads to Globalization: Neoliberalism, the Competition State, and Politics in a More Open World," in Susanne Soederberg, et al., eds., *Internalizing Globalization: The Rise of Neoliberalism and the decline of national varieties of capitalism*, Houndmills: Palgrave Macmillan, 2005, pp1-30
- Chadwick, Richard, "Global modeling: Origins, assessment, and alternative futures," *Simulation and Gaming*, 31, 1, March 2000
- Chiapello, Eve, "Accounting and the birth of the notion of capitalism," *Critical Perspectives on Accounting*, 18, 2007, pp263–296
- Clark, Colin, *The conditions of economic progress*, London: Macmillan and Co., 1940
- Clark, Colin, *The conditions of economic progress*, 3rd edition, London: Macmillan and Co., 1957
- Clark, Colin, *National Income and Outlay*, London: MacMillan and Co., 1937
- Coats, A. W., "Political Economy and the Tariff Reform Campaign of 1903," *Journal of Law and Economics*, 11, 1, 1968, pp181-229
- Collier, Stephen J., and Ong, Aihwa, "Global Assemblages, Anthropological Problems," in Aihwa Ong and Stephen J. Collier, eds., *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*, Malden: Blackwell, 2005
- Colwell, C., "Deleuze and Foucault: Series, Event, Genealogy," *Theory and Event*, 1, 2, 1997
- Comin, Flabio, "Richard Stone and Measurement Criteria for National Accounts," in Klein, Judy L., and Morgan, Mary S., eds., *The Age of Economic Measurement: Annual Supplement to Volume 33, History of Political Economy*, Durham: Duke University Press, 2001, pp213-234

- Combined Production and Resources Board, *The impact of the war on civilian consumption in the United Kingdom, the United States and Canada*, Washington, Sept. 1945.
- Copeland, Morris A., et al., "Problems of international comparisons of income and product," in *Studies in Income and Wealth, Volume 10*, New York: National Bureau of Economic Research, 1947
- Cowen, Michael, and Shenton, Robert, "The invention of development," in Jonathan Crush, ed., *Power of Development*, New York: Routledge, 1995
- CPRB, Second Report to the President, September 22, 1942
- CPRB, Minutes of the Combined Production and Resources Board, March 26, 1943
- Cunningham, William, "Nationalism and Cosmopolitanism in Economics," *Journal of the Royal Statistical Society*, 54, 4, 1891, pp644-662
- Curtis, Bruce, "Foucault on Governmentality and Population: The Impossible Discovery," *Canadian Journal of Sociology*, 27, 4, 2002
- Dean, Mitchell, *Critical and Effective Histories*, London: Routledge, 1994
- Dean, Mitchell, "Prologue for a genealogy of War and Peace," 2003.
- Dean, Mitchell, "Liberal government and authoritarianism," *Economy and Society*, 31, 1, February 2002, pp37-61
- Dean, Mitchell, *Governmentality: Power and rule in modern society*, Thousand Oaks, Calif.: Sage Publications, 1999
- De Goede, Marieke, "Beyond Economism in International Political Economy," *Review of International Studies*, 29, 2003, pp79-97
- Deleuze, Giles, and Guattari, Felix, *A thousand plateaus: capitalism and schizophrenia*, Minneapolis: University of Minnesota Press, 1987
- Denison, Edward F., "Report of Tripartite Discussions of National Income Measurement," *Studies of Income and Wealth*, X, New York: National Bureau of Economic Research, 1946, pp3-23
- Deutsch, Karl W. "On world models and Political Science," *Publications Series of the International Institute for Comparative Social Research*, Wissenschaftszentrum Berlin, 1978

- Dillon, Michael, "Sovereignty and Governmentality: From the Problematics of the 'New World Order' to the Ethical Problematic of the World Order," *Alternatives*, 1995, 20, 3, pp 323-368.
- Doty, Roxanne Lynn, "Aporia: A Critical Exploration of the Agent-Structure Problematique in International Relations Theory," *European Journal of International Relations*, 3, 3, 1997
- Dreyfus, Hubert L., and Rabinow, Paul, *Michel Foucault: Beyond Structuralism and Hermeneutics*, Second Edition, Chicago: University of Chicago Press, 1983
- Eaton, Sarah B., "Crisis and the Consolidation of International Accounting Standards: Enron, the IASB, and America," *Business and Politics*, 7, 3, 2005
- Edey, Harold C., and Peacock, Alan T., *National Income and Social Accounting*, Great Britain: William Brendon and Son, 1954
- Eisner, Robert, "Expansion of Boundaries and Satellite Accounts," in John W. Kendrick, ed., *The System of National Accounts*, London: Kluwer Academic Publishers, 1996, pp 91-113
- Esteva, Gustavo, "Development," in Wolfgang Sachs, ed., *The Development Dictionary: a guide to knowledge as power*, London: Zed Books, 1992
- Escobar, Arturo, "Constructing Nature: Elements for a poststructural political ecology," in Richard Peet and Michael Watts, eds., *Liberation Ecologies*, New York: Routledge, 1996
- Escobar, Arturo, *Encountering Development: the making and unmaking of the third world*, Princeton: Princeton University Press, 1995
- Escobar, Arturo, "Imagining a post-development era," in Jonathan Crush, ed., *Power of Development*, New York: Routledge 1995b, pp211-277
- Ferguson, James, *The Anti-Politics Machine: development, depoliticization, and bureaucratic power in Lesotho*, Cambridge: Cambridge University Press, 1990
- Flux, A. W., "The National Income," *Journal of the Royal Statistical Society*, 92, 1, 1929, pp1-25
- Flynn, Thomas, "Foucault's mapping of history," in Gary Gutting, ed., *Cambridge Companion to Foucault*, Cambridge: Cambridge University Press, 1994
- Fontela, Emilio, "Leontief and the Future of the World Economy," paper presented at 13th International Conference on Input-Output Techniques, Macerata, Italy, August 2000

- Foreign Policy, "Measuring Globalization," *Foreign Policy*, 122, 2001, pp56-65
- Forrester, Jay W. *World Dynamics*, Cambridge: Wright-Allen Press, 1971
- Foucault, Michel, "Governmentality" in Graham Burchell et al., eds., *The Foucault Effect*, Toronto: Harvester Wheatsheaf, 1991.
- Foucault, Michel, "Nietzsche, Genealogy, History," in Donald F. Bouchard, ed., *Language, Counter-Memory, Practice*, Ithaca: Cornell University Press, 1977
- Foucault, Michel, *Security, Territory, Population: Lectures at the College de France, 1977-78*, Michel Senellart, ed., Translated by Graham Burchell, Houndmills: Palgrave Macmillan, 2007
- Fougner, Tore, "The state, international competitiveness and neoliberal globalization: is there a future beyond 'the competition state'?" *Review of International Studies*, 32, 2006, pp165-185
- Fourquet, Francois, *Les Comptes de la Puissance*, Encre: Editions Recherches, 1980.
- Fox, Grace, "The Origins of UNRRA," *Political Science Quarterly*, 65, 4, Dec 1950
- Frank, Andre Gunder and Gills, Barry K., eds., *The World System: Five hundred years or five thousand?*, London: Routledge, 1993
- Frankel, S. Herbert, "Concepts of income and welfare – in advanced and under-developed societies – with special reference to the intercomparability of national income aggregates," in Milton Gilbert, ed., *Income and Wealth: Series III*, Kent: Bowes and Bowes, 1953
- Friedberg, Aaron L., *The Weary Titan: Britain and the Experience of Relative Decline, 1895-1905*, Princeton: Princeton University Press, 1988
- Germain, Randall D., "Globalization in historical perspective," in Randall D. Germain, ed., *Globalization and its Critics: Perspectives from Political Economy*, Houndmills: Macmillan, 2000
- Giffen, Sir Robert, *Statistics*, London: Macmillan and Co, 1913
- Giffen, Robert, "On International Statistical Comparisons," in Robert Giffen, *Economic Inquiries and Studies*, Vol II, London: George Bell and Sons, 1904a
- Giffen, Robert, "The Relative Growth of the Component Parts of the Empire," in Robert Giffen, *Economic Inquiries and Studies*, Vol II, London: George Bell and Sons, 1904b
- Giffen, Robert, "The Recent Rate of Material Progress in England," in Robert Giffen,

Economic Inquiries and Studies, Vol II, London: George Bell and Sons, 1904c

Giffen, Robert, "The Wealth Of The Empire, And How It Should Be Used," in Robert Giffen, *Economic Inquiries and Studies*, Vol II, London: George Bell and Sons, 1904d

Giffen, Robert, "The Use of Import and Export Statistics," in Robert Giffen, *Economic Inquiries and Studies*, Vol II, London: George Bell and Sons, 1904e

Giffen, Robert, "The Dream of a British Zollverein," in Robert Giffen, *Economic Inquiries and Studies*, Vol II, London: George Bell and Sons, 1904f

Giffen, Robert, "Are we lining on Capital?," in Robert Giffen, *Economic Inquiries and Studies*, Vol II, London: George Bell and Sons, 1904g

Gilbert, Milton, and Kravis, Irving B., *An international comparison of national products and the purchasing power of currencies: A study of the United States, the United Kingdom, France, Germany, and Italy*, Paris: OEEC, 1954.

Gilbert, Milton, and Kravis, Irving B., "Empirical Problems in international comparisons of national product," in Milton Gilbert and Richard Stone, eds., *Income and Wealth*, Series IV, London: Bowes and Bowes, 1955

Gilbert, Milton, et al., *Comparative national products and price levels*, Paris: OEEC, 1958

Gill, Stephen, "Globalisation, Market Civilisation and Disciplinary Neoliberalism," *Millennium: Journal of International Studies*, 24, 3, 1995, pp399–423

Gill, Stephen, *American Hegemony and the Trilateral Commission*, Cambridge: Cambridge University Press, 1990

Gills, Barry K., and Thompson, William R., "Globalizations, global histories and historical globalities," in Barry K. Gills and William R. Thompson, eds., *Globalization and Global History*, New York: Routledge, 2006

Goldman, Michael, "Constructing an Environmental State: Eco-governmentality and other Transnational Practices of a 'Green' World Bank," *Social Problems*, 2001, 48, 4, pp499-523.

Gordon, Colin, "Governmental Rationality: An Introduction," in Graham Burchell et al., eds., *The Foucault Effect*, Toronto: Harvester Wheatsheaf, 1991.

Gowan, Peter, *The Global Gamble: Washington's Faustian Bid for World Dominance*, New York: Verso, 1999

- Graham, Cameron, and Neu, Dean, "Accounting for globalization," *Accounting Forum*, 27, 4, 2003, pp449-471
- Greenhalgh, Susan, "Globalization and Population Governance in China," in Aihwa Ong and Stephen J. Collier, eds., *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*, Malden: Blackwell, 2005
- Grose, Peter, "Report at U.N. says Rich-Poor Gap Can Be Narrowed by the Year 2000; U.N. REPORT PREDICTS CUT IN RICH-POOR GAP," *New York Times*, Oct.14, 1976, p1
- Haberler, Gottfried, *A Survey of International Trade Theory*, Princeton: Princeton University, 1961
- Hacking, Ian, "How should we do the history of statistics," in Burchell, Graham, et al., *The Foucault effect: studies in governmentality: with two lectures by and an interview with Michel Foucault*, Chicago: University of Chicago Press, 1991, pp181-195
- Hall, Peter A., and Soskice, David, eds., *Varieties of Capitalism*, Oxford: Oxford University Press, 2001
- Harcourt, G. C. and Pesaran, M. Hashem, "Life and Work of John Richard Nicholas Stone, 1913-1991," *The Economic Journal*, 110, February 2000
- Harrison, Anne, "The SNA: 1968-1993 and Beyond," in Zoltan Kenessey, ed., *The Accounts of Nations*, Amsterdam: IOS Press, 1994.
- Harvey, David, *The Condition of Postmodernity*, New York: Blackwell, 1989
- Hay, Colin and Marsh, David, "Introduction: Demystifying Globalization," in Hay, Colin and Marsh, David, eds., *Demystifying Globalization*, New York: St. Martin's Press, 2000
- Held, David, and McGrew, Anthony, "The Great Globalization Debate: An Introduction," in David Held and Anthony McGrew, eds., *The Global Transformations Reader*, Cambridge: Polity Press, 2000.
- Helleiner, Eric, "Economic Nationalism as a Challenge to Economic Liberalism? Lessons from the 19th Century," *International Studies Quarterly*, 46, 2002, pp307-329
- Helleiner, Eric, *States and the Reemergence of Global Finance*, Ithaca: Cornell University Press, 1994
- Hickman, Bert G., "A Cross Section of Global International Economic Models," in Bert G. Hickman, ed., *Global International Economic Models*, New York: Elsevier Science Publishers, 1983, pp 3-28.

Hindess, Barry, "Citizenship in the International Management of Populations," *American Behavioral Scientist*, 2000, 43, 9, pp 1486-1497.

Hindess, Barry, "Neo-liberalism and the National Economy," in Mitchell Dean and Barry Hindess, eds., *Governing Australia: studies in contemporary rationalities of government*, Cambridge: Cambridge University Press, 1998.

Hindess, Barry, "The Liberal Government of Unfreedom," *Alternatives*, 2001, 26, 2, Apr-June, pp 93-111.

Hirst, Paul, and Thompson, Grahame, *Globalization in Question: The International Economy and the Possibilities of Governance*, Cambridge: Polity, 1996

Holub, Hans Werner, et al., "Some remarks on the 'System of Integrated Environmental and Economic Accounting' of the United Nations," *Ecological Economics*, 29, 1999, p329-336

Hopkins, A. G., ed., *Globalization in World History*, London: Pimlico, 2002

Hoskyns, Catherine and Rai, Shirin M., "Recasting the Global Political Economy: Counting Women's Unpaid Work," *New Political Economy*, 12, 3, 2007, pp297-317

Howson, Susan, "James Meade," *The Economic Journal*, 110, February 2000, pF122-F145

http://www.bea.gov/scb/account_articles/general/0100od/maintext.htm

<http://www.clubofrome.org/organisation/index.php>

<http://www.clubofrome.org/about/methodology.php>

<http://www.fallstreet.com>

<http://www.iariw.org/councilmain.asp>

<http://www.iariw.org/purpose.asp>

<http://nobelprize.org/nomination/economics/nominators.html>

International Institute for Management Development, *World Competitiveness Yearbook*, Lausanne: International Institute for Management Development, 2000.

Ish-Shalom, Piki, "Theory gets real, and the case for a normative ethic: Rostow, Modernization Theory, and the Alliance for Progress," *International Studies Quarterly*, 50, 2006, pp287-311

- James, Clifford L., "International Control of Raw Sugar Supplies," *The American Economic Review*, 1931
- Jaszi, George, An Economic Accountant's Audit, Lecture on Economics in Government. AEA Papers and Proceedings, *American Economic Review*, 76, 2
- Jessop, Bob, "Post-Fordism and the State," in Ash Amin, ed., *Post-Fordism: a Reader*, Oxford: Blackwell, 1994, pp251-279
- Johnson, Robert H., "International Politics and the Structure of International Organization: The Case of the UNRRA," *World Politics*, 3, 4, July 1951, pp520-538
- Kearns, Gerry, "Fin de Siecle Geopolitics: Mackinder, Hobson and Theories of Global Closure," in Peter J. Taylor, ed., *Political Geography of the Twentieth Century*," London: Belhaven Press, 1993
- Kendrick, John W., *Economic Accounts and Their Uses*, New York: McGraw-Hill, 1972.
- Kendrick, John W., "Introduction and Overview," in John W. Kendrick, ed., *The New System of National Accounts*, London: Kluwer Academic Publishers, 1996, pp 1-24.
- Kenessey, Zoltan, "American Contributions to the Development of National Accounts," in Zoltan Kenessey, ed., *The Accounts of Nations*, Amsterdam: IOS Press, 1994a.
- Kenessey, Zoltan, "The Genesis of National Accounts," in Zoltan Kenessey, ed., *The Accounts of Nations*, Amsterdam: IOS Press, 1994b.
- Kennedy, Dane, *Britain and Empire, 1880-1945*, Harlow: Pearson Press, 2002
- King, Gregory, *Two Tracts*, edited by G. E. Barnett, Baltimore: Johns Hopkins Press, 1936.
- Kohli, Martin, "Leontief and the U.S. Bureau of Labor Statistics, 1941-54: Developing a framework for measurement," in Klein, Judy L., and Morgan, Mary S., eds., *The Age of Economic Measurement: Annual Supplement to Volume 33, History of Political Economy*, Durham: Duke University Press, 2001, pp190-212
- Koot, Gerard M., *English historical economics, 1870-1926*, Cambridge: Cambridge University Press, 1987
- Korzeniewicz, Roberto Patricio, et al., "Measuring National Income: A critical assessment," *Comparative Studies in Society and History*, 46, 2004
- Krasner, Stephen, *Sovereignty: Organized Hypocrisy*, Princeton: Princeton University Press, 1999

Kravis, Irving B., "Comparative Studies of National Income and Prices," *Journal of Economic Literature*, XXII, 1984, pp 1-39.

Kravis, Irving B., "The scope of economic activity in international comparison," in Conference on research in income and Wealth, "Problems in the International Comparison of Economic Accounts," *Studies in Income and Wealth*, Volume 20, Princeton: Princeton University Press, 1957

Krugman, Paul, "Competitiveness: A Dangerous Obsession," *Foreign Affairs*, 73, 2, 1994, pp 28-44.

Kudrle, Robert T., "Globalization by the Numbers: Quantitative Indicators and the Role of Policy," *International Studies Perspectives*, 5, 2004, pp341-355

Kurabayashi, Yoshimasa, "Keynes' How to Pay for the War and its Influence on Postwar National Accounting," in Zoltan Kenessey, ed., *The Accounts of Nations*, Amsterdam: IOS Press, 1994.

Kurabayashi, Yoshimasa, "Discussion of Chapter 11," in John W. Kendrick, ed., *The New System of National Accounts*, London: Kluwer Academic Publishers, 1996

Kuznets, Simon, "Economic Progress," *The Manchester School*, 12, 1941

Kuznets, Simon, "National Income and Industrial Structure," *Econometrica*, 17, 1949

Kuznets, Simon, *National Income and its Composition 1919-1938*, New York: National Bureau of Economic Research, 1941

Lahiri, Sajal, "Professor Wassily Leontief, 1905-1999," *The Economic Journal*, 110, November, 2000, pp695-707

Lall, Sanjaya, "Competitiveness Indices and Developing Countries: An Economic Evaluation of the Global Competitiveness Report," *World Development*, 29, 9, pp 1501-1525.

Larner, Wendy, "A Means to an End: Neoliberalism and State Processes in New Zealand," *Studies in Political Economy*, 52, 1997, pp 7-38.

Larner, Wendy, "Governing globalization: the New Zealand call center attraction initiative," *Environment and Planning A*, 33, 2, February 2001, pp. 297-312.

Larner, Wendy, "Hitching a ride on the tiger's back: globalisation and spatial imaginaries in New Zealand," *Environment and Planning D: Society and Space*, 16, 1998, pp 599-614.

- Larner, Wendy and Walters, William, The political rationality of “new regionalism”: Towards a genealogy of the region,” *Theory and Society*, 31, 3, 2002, pp 391-432.
- Latouch, Serge, “Standard of Living,” in Wolfgang Sachs, ed., *The Development Dictionary: a guide to knowledge as power*,” London: Zed, 1992
- Law, John, and Urry, John, “Enacting the Social,” *Economy and Society*, 33, 3, 2004, pp390-410
- League of Nations, *The Network of World Trade*, Geneva: League of Nations, [1942] 1947
- Leontief, Wassily, “Environmental Repercussions and the Economic Structure: An Input-output approach,” *Review of Economics and Statistics*, 52, 1970, pp262-71
- Leontief, Wassily, “Structure of the World Economy: Outline of a Simple Input-Output Formulation,” *The American Economic Review*, 64, 6, December 1974, pp823-834
- Leontief, Wassily, et al, *The Future of the World Economy*, New York: Oxford University Press, 1977.
- Leontief, Wassily, “Quantitative Input and Output Relations in the Economic System of the United States,” *Review of Economics and Statistics*, 18, 1936
- Leontief, Wassily, *The Structure of the American Economy, 1919-1929*, Cambridge: Cambridge University Press, 1953 [1941].
- Letwin, William, *The Origins of Scientific Economics*, London: Shenvall Press, 1963
- Levi, Leon, “On the Distribution and Productiveness of Taxes with Reference to the Prospective Ameliorations in the Public Revenue of the United Kingdom,” *Journal of the Royal Statistical Society*, XXIII, 1860, p 42.
- Lintott, John, “Environmental accounting: useful to whom and for what?” *Ecological Economics*, 16, 1996, pp179-190
- Lippert, Randy, “Governing Refugees: The relevance of Governmentality to Understanding the International Refugee Regime,” *Alternatives*, 24, 3, July-Sept 1999, pp 295-328.
- List, Friedrich, *The National System of Political Economy*, New York: Longmans, 1904
- Loya, Thomas A., and Boli, John, “Standardization in the World Polity: Technical Rationality over Power,” in John Boli and George M Thomas, eds., *Constructing World Culture: International Nongovernmental Organizations since 1875*, Stanford: Stanford University Press, 1999

- Lui-Bright, Robyn, "International/National: Sovereignty, Governmentality and International Relations," *Australasian Political Studies 1997: Proceedings of the 1997 APSA Conference*, 1997, pp 581-597.
- Luke, Timothy, "Governmentality and contragovernmentality: rethinking sovereignty and territoriality after the Cold War," *Political Geography*, 15, 7, July-September 1996, p 496.
- Luttik, Joke, *Accounting for the Global Economy*, London: MacMillan Press, 1998.
- Maddison, Angus, "Quantifying and Interpreting World Development: Macromasurement Before and After Colin Clark," *Australian Economic History Review*, 44, 1, March 2004
- Maddison, Angus, *The World Economy: A Millennial Perspective*, OECD, 2001
- Maddison, Angus, "Measuring and Interpreting World Economic Performance 1500-2001," *Review of Income and Wealth*, 51, 1, 2005, pp1-35
- Malchup, Fritz, *A History of Thought on Economic Integration*, London: Macmillan, 1977
- Mann, Michael, "Has globalization ended the rise and rise of the nation state," *Review of International Political Economy*, 4, 3, 1997, pp472-496
- Maturana, Humberto and Varela, Francisco, "Autopoiesis and Cognition: the Realization of the Living.," *Boston Studies in the Philosophy of Science*, 42, 1980
- Marris, Robin, "Comparing the Incomes of Nations: A Critique of the International Comparison Project," *Journal of Economic Literature*, XXII, March 1984,
- Maurer, Bill, "Implementing Empirical Knowledge in Anthropology and Islamic Accountancy," in Aihwa Ong and Stephen J. Collier, eds., *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*, Malden: Blackwell, 2005
- McCoy, Drew R., *The Elusive Republic: Political Economy in the Jeffersonian Era*, New York: W. W. Norton, 1980
- McKenzie, Richard B., *Quicksilver Capital: How the rapid movement of wealth has changed the world*, New York: Free Press, 1991
- McNeely, Connie L., *Constructing the Nation-State: International Organization and Prescriptive Action*, London: Greenwood Press, 1995

- Meade, J. E., and Stone, Richard, "The Construction of tables of national income, expenditure, savings and investments," *Economic Journal*, 51, 3, 1941, pp 216-33
- Meadows, Dennis L., et al., *Dynamics of Growth in a Finite World*, Cambridge: Wright-Allen Press, 1974
- Meadows, Donnella H., et al., *The Limits to Growth; a report for the Club of Rome's project on the predicament of mankind*, New York: Universe Books, 1972
- Meadows, Donnella, et al., *Groping in the Dark: The first decade of global modeling*, New York: John Wiley and Sons, 1982
- Meyer, John W., et al., "The Structuring of a World Environmental Regime, 1870-1990," *International Organization*, 51, 4, August 1997, pp623-51
- Miller, Peter, "Accounting for Progress – National Accounting and Planning in France: A Review Essay," *Accounting, Organizations and Society*, 11, 1, 1986, pp 83-104.
- Miller, Peter, "Introduction," in Hopwood, Anthony and Miller, Peter, eds., *Accounting as social and institutional practice*, Cambridge: Cambridge University Press, 1994.
- Miller, Peter, and O'Leary, "Governing the calculable person," in Hopwood, Anthony and Miller, Peter, eds., *Accounting as social and institutional practice*, Cambridge: Cambridge University Press, 1994
- Mirowski, Philip, *More Heat than Light: economics as social physics, physics as nature's economics*, Cambridge: Cambridge University Press, 1989
- Mitchell, Timothy, "Fixing the Economy," *Cultural Studies*, 12, 1, 1998, pp82-101
- Mitchell, Timothy, *Rule of Experts: Egypt, techno-politics, modernity*, Berkeley: University of California Press, 2002
- Milward, Alan, *The Reconstruction of Western Europe, 1945-51*, Berkeley: University of California Press, 1984
- Morgan, Mary, "Making measuring instruments," in Klein, Judy L., and Morgan, Mary S., eds., *The Age of Economic Measurement: Annual Supplement to Volume 33, History of Political Economy*, Durham: Duke University Press, 2001, pp235-251
- Mulhall, M. G., *Dictionary of Statistics*, London: Routledge, 1892.
- Neisser, Hans P., "Review of *The Structure of the American Economy, 1919-1929*, by Wassily Leontief," *American Economic Review*, 31, 4, pp608-10

Nelson, Donald, et al., *Report of the Work of the Combined Production and Resources Board Issued by Mr. Donald M. Nelson, Mr. Oliver Lyttelton and Mr. C. D. Howe at the Conclusion of the Board's Second Year of Operations*, August 1944, Washington, D. C

Nguyen, Vinh-kim, "Antiretroviral Globalism, Biopolitics, and Therapeutic Citizenship," in Aihwa Ong and Stephen J. Collier, eds., *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*, Malden: Blackwell, 2005

OEEC, *A Standardized System of National Accounts*, Paris: OEEC, 1952

Ohmae, Kenechi, *The Borderless World*, London: Collins, 1990

O'Malley, Pat, et al., "Governmentality, criticism, politics," *Economy and Society*, 26, 4, 1997, pp 501-17.

Ong, Aihwa, and Collier, Stephen J., eds., *Global Assemblages: Technology, Politics, and Ethics as Anthropological Problems*, Malden: Blackwell, 2005

Onuf, Nicholas Greenwood, "Reports to the Club of Rome," *World Politics*, 36, 1, 1983, pp121-146

O'Rourke, Kevin H., and Williamson, Jeffrey G., "When did globalization begin?" *European Review of Economic History*, 6, 2002, pp23-50

Palan, Ronen, "A World of Their Making: An Evaluation of the Constructivist Critique in International Relations," *Review of International Studies*, 26, 4, 2000, pp 575-598.

Palan, Ronen, and Blair, Brook, "On the idealist origins of realist theory of international relations," *Review of International Studies*, 19, 4, 1993, pp385-399

Patinkin, Don, "Keynes and Econometrics: On the Interactions Between the Macroeconomic Revolutions of the Interwar Period," *Econometrica*, 44, 6, 1976

Panitch, Leo, "Rethinking the Role of the State," in Mittelman, James, ed., *Globalization: Critical Reflections*, Colorado: Lynne Rienner, 1997

Petri, P., "An introduction to the structure and application of the United Nations world model," *Applied Mathematical Modeling*, 1, 5, June 1977

Perry, James, and Nolke, Andreas, "The Political Economy of International Accounting Standards," *Review of International Political Economy*, 13, 4, 2006, pp559-586

Petty, William, *The Economic Writing of Sir William Petty, Together with Observations upon the Bills of Morality*, edited by C. H. Hull, Cambridge: Cambridge University Press, 1899.

Piore, Michael J., and Sable, Charles F., *The Second Industrial Divide: possibilities for prosperity*, New York: Basic Books, 1984

Poovey, Mary, *A history of the modern fact: problems of knowledge in the sciences of wealth and society*, Chicago: University of Chicago Press, 1998

Porter, Theodore, M., *Trust in Numbers: The Pursuit of objectivity in science and public life*, Princeton: Princeton University Press, 1995

Porter, Tony, "Technical Collaboration and Political Conflict in the Emerging Regime for International Financial Regulation," *Review of International Political Economy*, 10, 3, 2003, pp520-51

Prado, C. G., *Starting with Foucault*, Oxford: Westview Press, 1995

Rao, V. K. R. V., "Some reflections of the Comparability of Real National Incomes of Industrialized and Under-Developed Countries," in Milton Gilbert, ed., *Income and Wealth, Series III*, Cambridge: Bowes and Bowes, 1953.

Ravallion, Martin, "The debate on globalization, poverty, and inequality: why measurement matters," *International Affairs*, 79, 4, 2003, pp739-753

Raymond, D., *Thoughts on Political Economy*, Baltimore: Fielding Lucas, 1820.

Reinert, E., "Competitiveness and its predecessors – a 500 year cross-national perspective," *Structural Change and Economic Dynamics*, 6, 1, 1995, pp 23-42

Renfro, Charles G., "Econometric Software: The First Fifty Years in Perspective," *Journal of Economic and Social Measurement*, 29, 2004

Robinson, William I., *A Theory of Global Capitalism, Production, Class, and State in a Transitional World*, Baltimore: Johns Hopkins University Press, 2004

Rosamond, Ben, "Constructing Globalization," in Karin M. Fierke and Knud Erik Jorgensen, *Constructing International Relations*, New York: M. E. Sharpe, 2001, pp 201-219.

Rose, Nikolas, *Powers of Freedom: Reframing Political Thought*, Cambridge: Cambridge University Press, 1999.

Rose, Nikolas, and Miller, Peter, "Political power beyond the state," *British Journal of Sociology*, 43, 2, 1992.

Rosen, S. McKee, *The Combined Boards of the Second World War: An Experiment in International Administration*, New York: Columbia University Press, 1951.

Rosenberg, Justin, "Globalization theory: a post mortem," *International Politics*, 42, 2005, pp2-74

Rostow, Walt, *The Process of Economic Growth*, Oxford: Clarendon Press, 1960

Rothbarth, E., "Review of *The Structure of the American Economy, 1919-1929*, by Wassily Leontief," *Economic Journal*, 53, pp213-16

Ruggles, R., "National Income Accounting: Concepts and Measurement," in Martin Shubik, ed., *Proceedings of the Conference: Accounting and Economics*, New York: Garland Publishing, 1995, pp 235-264.

Ruggles, R., "The United Nations System of National Accounts and the Integration of Micro and Macro Data," in John W. Kendrick, ed., *The System of National Accounts*, London: Kluwer Academic Publishers, 1996, pp 387-422.

Sachs, Wolfgang, "Environment," in Wolfgang Sachs, ed., *Development Dictionary: a guide to knowledge as power*, London: Zed, 1992

Said, Edward W., *Orientalism*, London: Routledge, 1979

Salskov-Iversen, Dorte, et. al., Governmentality, Globalization, and Local Practice: Transformations of a Hegemonic Discourse, *Alternatives*, 25, 2, Apr-June 2000, pp 183-222.

Scholte, Jan Aart, *Globalization: A Critical Introduction*, New York: St. Martin's Press, 2000

Scholte, Jan Aart, "Globalization: Prospects for a paradigm Shift," in Martin Shaw, ed., *Politics and Globalization*, London: Routledge, 1999, pp9-18

Schwab, Klaus, et al, eds., *The Global Competitiveness Report 2000*, New York: Oxford University Press, 2000.

Seers, Dudley, "The Political Economy of National Accounting," in Cairncross, Alec, and Puri, Mohinder, *Employment, Income Distribution and Development Strategy: Problems of the Developing Countries*, London: MacMillan, 1976, pp193-209

Semmel, Bernard, *Imperialism and Social Reform: English Social-Imperial Thought*, New York: Anchor Books, 1968

Sinclair, Timothy, *The New Masters of Capital: American Bond Rating Agencies and the Politics of Creditworthiness*, Ithaca: Cornell University Press, 2005

Smith, Robert, "Development of the SEEA 2003 and its implementation," *Ecological Economics*, 61, 2007, pp592-599

- Smyth, R. L., "The History of Section F of the British Association 1835-1970,"
- Stenson, Kevin, "Beyond histories of the present," *Economy and Society*, 27, 4, November 1998, pp. 333-52
- Stavis, Dimitris, "The Globalizations of the Environment," *Globalizations*, 2, 3, 2005a, pp323-333
- Stavis, Dimitris, "The Trajectory of the Study of International Environmental Politics," in Michele Betsill, et al., eds., *Palgrave Advances in International Environmental Politics*, Basingstoke: Palgrave Macmillan, 2005b
- Stone, Richard, "The International Harmonisation of National Income Accounts," in *Accounting and Business Research*, 12, 1981
- Stone, Richard, "The Use and Development of National Income and Expenditure Estimates," in D. N. Chester, ed., *Lessons of the British War Economy*, Cambridge: Cambridge University Press, 1951, pp83-101
- Stone, R. (1949a, 3 March). Letter to: Morgenstern, Professor at Princeton University, Stone Papers: 3/1/91. King's College, Cambridge
- Stone Sweet, Alex, "The new Lex Mercatoria and transnational governance," *Journal of European Public Policy*, 13, 5, 2006, pp627-646
- Studenski, Paul, *The Income of Nations*, Washington Square: New York University Press, 1958.
- Suzuki, Tomo, "Accountics: Impacts of internationally standardized accounting on the Japanese socio-economy," *Accounting, organizations and society*, 32, 2007, pp263-301
- Suzuki, Tomo, "The Epistemology of Macroeconomic Reality: The Keynesian Revolution from an Accounting Point of View," *Accounting, Organizations, and Society*, 28, 2003, pp471-517
- Taber, Charles S., and Timpone, Richard J., "Beyond Simplicity: Focused Realism and Computational Modeling in International Relations," *Mershon International Studies Review*, 40, 1, April 1996
- Taylor, Peter J., et al., "Geography/Globalization," in Taylor, et al., eds, *Geographies of global change: remapping the world*, Malden: Blackwell Publishers, 2002
- Taylor, P. J. et al., "On the nation-state, the global, and social science," Special issue of *Environment and Planning*, 1996.

- Thompson, Andrew S., *Imperial Britain: The Empire in British Politics, c. 1880-1932*, Harlow: Pearson, 2000
- Thompson, Andrew, "Tariff Reform: An Imperial Strategy," *Historical Journal*, 40, 4, 1997, pp1033-1054
- Thompson, G. F., "Encountering Economics and Accounting: Some Skirmishes and Engagements," *Accounting, Organizations and Society*, 23, 3, 1998, pp 283-323.
- Tomlinson, Jim, "Inventing Decline: The falling behind of the British Economy in the Postwar Years," *The Economic History Review*, 49, 4, 1996, pp 731-757.
- Torpey, John, *The Invention of the Passport: Surveillance, Citizenship and the State*, Cambridge: Cambridge University Press, 2000
- Trainor, Luke, "The British Government and Imperial Economic Unity, 1890-1895," *Historical Journal*, 13, 1970
- Trentmann, Frank, "The transformation of fiscal reform: Reciprocity, modernization, and the fiscal debate within the business community in early twentieth-century Britain," *The Historical Journal*, 39, 4, 1996, pp1005-1048
- Tribe, Keith, *Land Labour and Economic Discourse*, London: Routledge and Kegan Paul Ltd., 1978
- Tribe, Keith, *Strategies of Economic Order: German Economic Discourse, 1750-1950*, Cambridge: Cambridge University Press, 1995
- Tucker, Vincent, "The Myth of Development: A Critique of a Eurocentric Discourse," In Ronaldo Munck and Denis O'Hearn, *Critical Development Theory: Contributions to a New Paradigm*, London: Zed, 1999
- United Nations, *Brief Outline of the United Nations Study on the Impact of Prospective Environmental Issues and Policies on the International Development Strategy*, April, 1973
- United Nations, *Handbook of National Accounting – Integrated Environment and Economic Accounting*. Series: F, No. 61, Sales number: 93.XVII.12, New York, 1993
- United Nations, "Measurement of National Income and the Construction of Social Accounts," *Studies and Reports on Statistical Methods*, No. 7, Geneva: United Nations, 1947.
- United Nations, "A System of National Accounts and Supporting Tables," *Studies in Methods*, Series F. No. 2, New York, 1953.

United Nations, "A System of National Accounts," *Studies in Methods*, Series F. No. 2, New York, 1968.

United Nations, Inter-Secretariat Working Group on National Accounts, *System of National Accounts*, New York: Commissions of the European Communities-Eurostat, International Monetary Fund, Organization for Economic Co-operation and Development, United Nations, World Bank, 1993.

United Nations, *International Development Strategy: Action Programme of the General Assembly for the Second United Nations Development Decade*, United Nations Publication, Sales No. E.71.II.A.2, 1970

United Nations Economic and Social Council, Statistical Commission, *Evaluation of the International Comparison Programme*, 1999, E/CN.3/1999/8.

UNRRA, "The Agreement for the United Nations Relief and Rehabilitation Administration 9 November 1943," in George Woodbridge, ed., *UNRRA: The History of the United Nations Relief and Rehabilitation Administration*, Vol. III, New York: Columbia University Press, 1950, pp23-32

United States Department of Commerce, "GDP: One of the Great Inventions of the 20th Century," *January 2000 Survey of Current Business*, 2000.

Vos, Rob, "External Sector Transactions: Toward a World Accounting Matrix," in John W. Kendrick, ed., *The System of National Accounts*, London: Kluwer Academic Publishers, 1996, pp 343-386.

Wagner, Donald O., "British Economists and the Empire II," *Political Science Quarterly*, 45, 1, 1932, pp57-74

Wallerstein, Immanuel, *The Modern World-System*, New York: Academic Press, 1974

Walters, William, "Deportation, Expulsion, and the International Police of Aliens," *Citizenship Studies*, 6, 3, Sept 2002a, pp 265-292.

Walters, William, "Introduction," in Walters, William, and Larner, Wendy, *Global Governmentality: Governing International Spaces*, London: Routledge, 2004

Walters, William, "The Power of Inscription: Beyond Social Construction and Deconstruction in European Integration Studies," *Millennium*, 31, 1, 2002b.

Walters, William, *Unemployment and Government: Genealogies of the Social*, Cambridge: Cambridge University Press, 2000.

War Production Board, "Proposed Functions for the Combined Production and Resources Board, Division of Organizational Planning, War Production Board, August, 1942."

Ward, Michael, *Quantifying the World: UN Ideas and Statistics*, Indianapolis: Indiana University Press, 2004

Waring, Marilyn, *If Women Counted: a New Feminist Economics*, San Francisco: Harper & Row, 1988.

Waters, Malcom, *Globalization*, London: Routledge, 1995

Weale, M. "Fifty Years of National Income Accounting," in Martin Shubik, ed., *Proceedings of the Conference: Accounting and Economics*, New York: Garland Publishing, 1995, pp 178-199.

Weintraub, Philipp, "UNRRA: An Experiment in International Welfare Planning," *The Journal of Politics*, 7, 1, Feb. 1945

Weiss, Linda, "The State Augmenting effects of Globalization," *New Political Economy*, 10, 3, 2005, pp345-353

Wendt, Alexander, "Anarchy is what states make of it: the social construction of power politics," *International Organization*, 46, 2, 1992, pp391-425

Wood, John Cunningham, *British Economists and the Empire*, New York: St. Martin's Press, 1983

Woodbridge, George, ed., *UNRRA: The History of the United Nations Relief and Rehabilitation Administration*, Vol. III, New York: Columbia University Press, 1950

World Commission on Environment and Development, *Our Common Future*, New York: Oxford University Press, 1987