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**THE LIMITS TO UNIVERSALISM IN OLKC:
NATIONAL CULTURAL REPERTOIRES,
INTANGIBLE SPECIALIZATION
& PENROSIAN LEARNING**

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1. INTRODUCTION

The fusion of OL and OK largely brings together research programs and practices (Lakatos 1978) which are commonly articulated as universal diagnoses and universal solutions. These are optimistic about the tangibility of capabilities and elide the issues of national-regional embeddedness and longitudinal emergence. Therefore we draw on the two research programs of intangible specialization and national cultural repertoires to show how the limitations in universalism might be addressed. We make comparisons between America and Italy to highlight the regional-national issues. We give particular attention to Penrosian learning to reveal the limitations of the universalistic research programs within OLKC. Our claim is that universalistic knowledge programs are elegant, facile and diffusible, but are theoretically insufficient.

We explain our position through three analytic lenses.

First, we briefly highlight features of Penrose's theory of managerial learning, which have been glossed over in the literatures of the universalizing resource based view of knowledge and capabilities. We contend that Penrose occupied an important position in addressing the limits to universalism, especially quasi-economic theories of strategic choice. Her position only partly supports the claims of those who claim to be inspired by Penrosian learning.

Second, the perspective of intangible specialization was developed by Maielli (2005) to explain why the Italian carmaker Fiat features an output mix skewed towards low cost segment units as compared to German, French and Swedish manufacturers. Until the 1960s, Fiat had to sustain domestic demand by containing raw material costs. So, engineers developed "technical creativity" towards the design of lightweight cars. Creativity in addressing costs implied "good engineering" and informed Fiat's "national mass-motorisation ethos". This business ethos informed intangible specialisation, which persisted in the structure via lifetime employment and internal promotions. Intangible specialisation, thus, refers to the tacit codification of priorities informing knowledge accumulation and product design. Notwithstanding increased flexibility of tangible assets, intangible specialisation locked the company in the lower segments of the market after

the 1980s, when the structure of demand changed. Fiat's intangible specialisation derives from the shift to large-scale production in the inter-wars period within a demand-constrained context. In the same period, Alfa Romeo specialised in high performance cars. This reflects long-term differences between regional contexts. Fiat is based in Turin, the regional capital of Piedmont. Alfa Romeo was initially established in Milan the capital of Lombardy. Piedmont Kingdom engaged with heavy industry and large-scale manufacturing since the 1850s to develop the military strengths to challenge the Austro-Hungarian Empire towards the unification of the Italian peninsula. In the same period, Milanese intellectuals, as Carlo Cattaneo¹ and the editors of "Il Politecnico" disagreed with Piedmont's project of a centralised Italian state. They supported federalism, and a development model based on small/medium firms. They saw Lombardy as closer to Bavaria and Switzerland than Piedmont. So did Alfa Romeo managers 80 years later. The Fiat case highlights the ontologically depthful relationship between Penrosian learning, intangible specialisation and regional/national contexts. It explains the differences between Fiat, Alfa Romeo and BMW, and underlines the specificity of the Italian case as compared to the US.

Third, the approach of national cultural repertoires acknowledges the importance of history and is less deterministic than National Business Systems or National Systems of Innovation. One test of national cultural repertoires is to pose the issue of American-Italian contexts and comparisons. Bobbitt (2002) contends that each nation state was 'created' in the second half of the 19thC through a combination of military campaigning and entrepreneurial agency underpinned by strong nationalist ideology. However, there were marked contrasts in the interplay of these elements. The American Dream is the mission command symbology of post-bellum America. There has been and is a high level of hegemonic orchestration in the American national cultural repertoire relative to Italy. In the Italian national culture there are many sharp regional differences as between Piedmont for large scale enterprises (e.g. Fiat) compared to Lombardy and Emilia-Romagna for flexible, fashion artefacts and life styles.

In summarizing we claim that Penrosian learning will be significantly, although not wholly, shaped in national and regional contexts. The American and Italian examples show the limits to the dominant school of universalism. Therefore the specific formations in which universalisms such as 'communities of practice' and communities of interpretation' are blithely discussed requires serious revision. It is, for example, far from obvious that the star system in the American pharmaceuticals industry can be transposed into the British context. Intangible specialization poses distinctive problems not yet fully addressed. Equally, claims that Americanization is everywhere are simplistic universalisms. OLKC needs to do more with the mix of path dependency and plasticity in national cultural repertoires and with the hypothesis of hybridization (Zeitlin & Herrigel 2000; Clark 2003).

¹ Carlo Cattaneo (1801 -1869) was one of the most prominent figures of the intellectual establishment in Lombardy. He believed that the best institutional form for Italy was that of a federal republic. He expressed his view through a number of scripts and articles and through the journal of technology and economics "Il Politecnico" he directed between from 1859 to 1864.

The next three parts of the paper focus:

- Upon the Penrosian learning second,
- Upon explaining intangible specialization and applying the concept to the position of Fiat in Italy
- Outlining how the approach of national cultural repertoires underlines the limits to universalism.

2. PENROSIAN LEARNING & CONTEXTUALLY SPECIFIC KNOWLEDGE

Penrosian learning [1] is reputed to underpin the resource based view of the firm and to be the lode star for the knowledge creation approach of Nonaka and Takeuchi (1996). We interrogate both presumptions. Penrose, has often been represented within the resource-capabilities tradition as a pioneering contributor to be honored. However, both supporters and detractors have tended to assume that her fundamental ideas have since been overtaken conceptually. We take a rather different view of the Penrosian heritage, combining a more critical stance on certain aspects of the work, while also highlighting the continuing relevance of the core elements that comprise her ‘single argument’ (Penrose 1959: xxii). We contend that that Penrose establishes a case against universalism. Furthermore, this position, inherent in Penrose’s original (1959, 1960) argument, has escaped much of the subsequent development within the various strands of the strategic resource / capability / competence literature. To understand this, we need to return to Penrose’s original exposition of the ‘Productive Opportunity’ and ‘Productive Services’ dynamic within a single management team. The essential subjectivity of this recursive mechanism (cf. Boulding 1956) renders the resulting knowledge unique in almost every respect, despite indications to the contrary (i.e. more explicit aspects that may resemble the knowledge found within other teams). The implications of this insight have been obscured in subsequent work, in favor of the universalizing tendencies of much business school theorizing. The radical implications of Penrose’s argument have become clearer as researchers have begun to note that the uniqueness associated with the managerial team of 1959 can be writ large. This important extension of Penrose’s original thesis follows from her own recognition (in one of her last contributions) that similar cycles operate within and between the boundaries of organizations (Penrose 1995, Best 2001).

The growth of knowledge is the unifying thread running through Penrose’s ‘single argument’. Her reflections in the Foreword to the Third Edition of *The Theory of the Growth of the Firm* (Penrose 1995), underline this point, and make the critical connection between the knowledge dynamic and the facilitating role played by organizational factors:

‘[A] firm’s *rate* of growth is **limited by the growth of knowledge within it**, but a firm’s *size* by the extent to which administrative effectiveness can continue to reach its expanding boundaries.’ (Penrose 1995a: xvi –emphasis added)

Penrose was well aware of that this formulation was open to the charge of tautological argument, but her approach avoided it by elaborating a coherent process theory. Penrose presented a ‘learning by doing’ (Arrow 1962) view of the firm as a dynamic body of knowledge in action. She argued that organizations comprised different, but closely-related, forms of knowledge. Penrose acknowledged the importance of explicit knowledge, yet her Boulding (1956)-inspired analysis was focused on the unfolding of experience in organizations:

‘Once it is recognised that the very processes of operation and of expansion are intimately associated with a process by which knowledge is increased, then it becomes immediately clear that the productive opportunity of a firm will change even in the absence of any change in external circumstances or in fundamental technological knowledge. New opportunities will open up which did not exist at the time expansion plans were made’. (Penrose 1959: 56)

This opened the door to a new perspective on organizational knowledge as subjective, situated and emergent – a dynamic body of knowledge practices that generated their own unique historical path:

‘One of the primary assumptions of the theory of the growth of firms is that “history matters”; growth is essentially an evolutionary process and based on the cumulative growth of collective knowledge, in the context of a purposive firm’. (Penrose 1995a: xiii)

Penrosian learning thus mediated the ‘perennial gale of creative destruction’ in Schumpeter’s (1954: 81-86) analysis. Internal selection complements the external selection emphasis found in the mainstream of evolutionary economics, thereby demanding a revised focus on the firm [2].

3. INTANGIBLE SPECIALISATION AND THE ITALIAN CONTEXT

This section [3] highlights the limits of universalism in OLKC by addressing two interconnected issues: a) the existence of persisting differences in the structure of output among firms competing in the same industry - i.e. the car industry - and b) the variation in the “volume and variety” characteristics of firms across different regions within the same national context. By looking at the case of the Italian carmaker Fiat, we address the question why different manufacturers feature different levels of efficiency in product design across their own product mix. We address the issue by using the concept of Intangible Specialisation (IS). By analysing the case of Italy, we show that the productive model developed by Piedmont since the first half of the 19th century did not become the dominant one after the unification.² Accordingly, we analyse the development of the socio economic structures of Piedmont, Lombardy and Emilia Romagna. Fiat captures the relationship between knowledge accumulation, routines and Penrosian learning.

² Before 1860, Piedmont was the richest part of the Kingdom of Sardinia, which included also the current regions of Val d’ Aosta and Sardinia. The Kingdom’s capital was Turin, nowadays the regional capital of Piedmont. The Kingdom of Sardinia led the process of national unification.

Furthermore, it epitomises the model of development experienced by Piedmont. Italy highlights the specificity of national cultural repertoires and regional context. In contrast with the United States, large firms characterised by intangible specialisation, though relevant, never came to dominate the Italian production system, which remained characterised by regional diversity and product variety.

IS explains why the Italian carmaker Fiat features an output mix skewed towards lower market segments as compared to German and Swedish manufacturers. IS falls into the evolutionary theory of economic change, which puts great emphasis on routinised and path-dependent decision-making. It analyses the development of technical culture, design creativity and business ethos under the influence of a specific set of routines, and emphasizes the relationship between routines and a firm's collective knowledge. As theorized by Nelson and Winter (1982), a firm's search for new routines is a routine *per se*. However, the effectiveness of new routines is uncertain. IS contributes to explain such uncertainty. It entails that routines affect not only how structures operate, but also how firms conceptualize ideas such as "good engineering", "technical creativity" "effective management" etc. Those intangible features of the hierarchy define the business ethos of the company. When a firm introduces a set of new routines, the techno-structure might preserve the intangible features generated by the previous set of routines. This would make the implementation of new routines incomplete and ineffective. Thus, routines might generate a path-dependent way of learning, limiting the effective implementation of new routines.

The intangible features of the techno-structure affect the definition of *order-winning* factors and ultimately "product appeal". In the case of a generalist car manufacturer, techno-structure's intangible features might facilitate the effective design of some product typologies (say small cars) while leading to suboptimal design of other typologies (say large cars). Accordingly, such a manufacturer would be core supplier (specialized) in some segments of the market but fringe supplier in others. This characteristic of the firm has been defined as "intangible specialization" as is driven by techno-structure intangible features, regardless of the characteristics of tangible assets. Actually, if a firm is intangibly specialized, some of the potential advantages from flexible manufacturing technologies, which nowadays are readily available to most of the generalist manufacturers, will remain largely unexploited as, on the long run, the output mix will remain skewed toward the same segments.

Between the 1960s and 1990s Fiat's product-mix remained skewed down market despite massive investments in flexible technology. Such investments reflected two strategic attempts to adjust the output mix up market in the 1970s and 1990s. Both attempts failed largely because of efficiency differentials in product design across market segments (Maielli, 2005). The longitudinal analysis of the techno-structure highlights why failures occurred. Between the 1920s and the 1960s, Fiat developed strict routines for costs containment as the domestic market was constrained by low disposable income, unequal income distribution, and high materials cost (Giacosa, 1988). Under those circumstances product design was geared to contain vehicle weight as a way to save material costs. Process design was geared to minimize task duration and cycle-time minimization.

Two examples of routines are worth mentioning.³ First, when new models were developed, top management set *ex ante* the price and the “expected revenues per Kg”. Product designers had to meet rigorously the “revenue per Kg parameter”. This routine proved to be extremely effective in forcing engineers to develop “light-weight” design. Second, process and product design were performed by two distinct units. Process designers had the formal power to approve or reject any new design for production. They rejected any design that would increase process complexity. They reported any rejection to top management. Thus, promotions of product designers depended upon the assessment of process designers. Accordingly, product designers developed their technical creativity towards clever “light-weight” and “process-friendly” design. Such creativity became a cultural value as it provided the framework to define what it takes to be a “good designer”, a “company man” and foremost a “clever person”. It informed the efficient design and manufacturing of small cars but was ill-suited for the production of up-market units. Engineering culture survived and developed over time through life time employment and internal career schemes. Although, at the beginning of the 1970s many routines underpinning cost control, such as the calculation of revenues per Kg, were no longer in use, the business ethos and technical creativity of the techno-structure remained unchanged. Cycle time was still a key parameter of product/process design (Maielli, 2005).

At the beginning of the 1970s, Fiat top management planned a strategic shift up-market, which involved the acquisition of Lancia,⁴ and implied that marketing managers were now in control of product-renewal and quality benchmarking, which had been traditionally domain of process designers (Maielli 2005). Yet product/process designer continued to focus on light-weight and process-friendly design. They maximized synergies between Lancia and Fiat by fitting Lancia cars with Fiat engines. This led to poor product performance and managerial rift between marketing managers and product/process designers, with disastrous impact on company performance. At the end of the decade, product-renewal decision-power shifted back to the end of product/process engineers. The company focused on the lower hand of the market and recovered from the crisis of the 1970s by profiting, among other factors, from the success of small cars such as the Uno and from the expansion of the domestic market. However, by the end of the 1980s, top management was again concerned that Fiat could no longer rely upon the domestic market. To be competitive in Europe, it was necessary to adjust the output-mix up-market. Fiat took over Alfa Romeo, and invested heavily in lean manufacturing. Yet again, the only successful model was the Punto, competing in the lower segment of the market. Alfa Romeo models, which had been redesigned in order to maximize synergies with Fiat models, lost their brand and technical identity as well as market shares. Fiat entered another long period of stagnation and crisis.

Fiat and Alfa Romeo were characterised by different cultures. Since the established in 1899, Fiat aimed at large volumes. Since 1907, process and product design had been separated (Castronovo, 1999). New designs had to be approved by process designers. In the 1920s, Fiat engaged with the production large batches although the shift to mass

³ For a detailed analysis of Fiat routines and their impact on Fiat engineering culture see Maielli (2005).

⁴ Lancia was a high quality Italian car maker.

production to modern standards occurred only in the 1950s. By contrast, Alfa Romeo was specialised in high performance cars. The techno-structure featured the prominent role of product designers, and did not embrace mass production. In this respect, it is important to mention the 1946 interviews of the Economic Commission of the *Assemblea Costituente* with Vittorio Valletta, president of Fiat, and Pasquale Gallo, managing director of Alfa Romeo.⁵ While Valletta stressed the opportunity to adopt mass production, Gallo rejected that view, stressing that the Italian productive structure was similar to the Swiss one, hence geared to low-volume and high-variety of output (Volpato 1996, Bigazzi, 1988, Sapelli 1987).

Fiat and Alfa's views on mass production reflected different regional cultural repertoires. Fiat is based in Turin, the regional capital of Piedmont. Alfa Romeo was established in Milan the capital of Lombardy. The Kingdom of Sardinia engaged with heavy industry since the 1850s to develop the military strengths to challenge the Austro-Hungarian Empire and expand into the Italian peninsula. Industrial concentration was the prerequisite to the expansion. The agrarian aristocracy supported industrialisation, as well as Cavour's political and military agenda.⁶ Cavour and its political party exerted hegemony on Piedmont society.

Lombardy, on the other hand, was part of Austro-Hungarian Empire. Engineering industry was more developed than in other parts of the Italian peninsula. Land-ownership was less concentrated as compared to Piedmont or indeed to Southern Italy. After the end of the Napoleonic wars, discontent about Austro-Hungarian ruling and the desire for more democratic forms of govern increased among intellectuals, entrepreneurs and politicians. Parliamentary representation as pioneered by Piedmont represented a suggestive example to follow. Whether or not Lombardy should subscribe Cavour's agenda for a new Italian Kingdom led by Piedmont was nonetheless a different matter altogether. Milanese intellectuals such as Carlo Cattaneo opposed Cavour's project and supported the idea of a federal republic. They had also strong views concerning economic development and supported a model based on small/medium firms. They saw Lombardy as closer to Bavaria and Switzerland than Piedmont. So did Alfa Romeo managers 80 years later.

Gramsci, emphasised the inability of Piedmont establishment to exert hegemony outside the Piedmont region. The establishment failed to recognise the role and needs of key components of the Italian society, most notably the middle and working classes in the North-eastern regions and the agrarian working class in the South. Thus, Piedmont establishment governed the Italian society without representing it. Piedmont exerted "domination without hegemony". The political establishment also failed to device effective economic policies, as it did not recognise the diversity in developmental models and economic structures across Italy. Relatively dispersed land-ownership, relatively easy access to rural credit and cohesive social communities shaped the regime of accumulation

⁵ Assemblea Costituente was the Assembly in charge of writing the new constitutional chart. It consisted of several commissions including the Economic Commission and encompassed all the political parties except the Fascist one, which had been outlawed after the end of the Second World War.

⁶ Camillo Benso di Cavour (1810-1861) was elected Premier of the parliament of the Sardinia Kingdom in 1852 and lead Piedmont to the war against Austria in 1859 and to the subsequent formation of the Kingdom of Italy in 1961.

of Lombardy, Emilia Romagna and Veneto in the 19th century. Such a regime of accumulation, whose origins can be traced back to the development of the City States, financed the creation of entrepreneurial small and medium firms, which nowadays are still the backbone of the Italian economy. Yet, the attempt to export the developmental model based on heavy industry from Piedmont to other Italian regions remained a constant central government policy until the 1970s.⁷ In Piedmont, many large firms were founded by members of the agrarian aristocracy. Fiat's founders were members of such aristocracy, and some of them shared the same military curriculum.⁸ Not a unique case in Piedmont, Fiat transferred the ethos of the Piedmont army into the factory, transforming it in organisational ethos and hierarchical discipline. The adoption of Tayloristic management was consistent with Piedmont's cultural repertoire. Furthermore, Fiat fits well into Chandler's paradigm, where the transfer of organisational skills from West Point to business enterprises was an important factor in the development of American cultural repertoires. However, while Chandlerian firms became hegemonic to the extent that they shaped the American system, Piedmont firms never became hegemonic within the Italian context. At the very best, they exerted domination without hegemony.

4. NATIONAL CULTURAL REPERTOIRES: AN EMERGING RESEARCH PROGRAM

4-1. FIVE CONSIDERATIONS

This section amplifies the claim that intangible specialization and Penrosian learning can and should be considered in terms of national specificities [4] for a better understanding of the international development and of transfer of organizational innovations between nations. Five considerations arise. First, how should the historical-longitudinal dimension be undertaken? Second what should be the relevant unit of analysis: routines, structural poses or 'recurrent action patterns'? Third, how should the metaphor of repertoire be conceptualized? Fourth, we outline the research program of national cultural repertoires developed principally by Tilly and Swidler at the 2001 Meeting of the American Sociological Association (Tilly & Swidler 2001) and enriched by the contributions of Lamont, Thevenot and Boltanski. Fifth, we illustrate our interpretation of NCR from the American case and bridge between the NCR of the USA and Italy by highlighting research on the diffusion of the American concept of the supermarket into Milan and Italy.

4-2. GEO-HISTORY, POWER & ORDERS OF JUSTIFICATION

The aim is to analyse the long term increases in complexity, differentiation and articulation of the national cultural repertoires for OLKC.

⁷ This applies in particular, though not exclusively, to southern regions.

⁸ Note that the Italian army was and still is based on the military structure and tradition of the Piedmont army.

The longitudinal, geo-historical and relational approach is schematically shown in Figure 1 (Clark 2000, 2003). From the top downward there are three-steps of contingent recursiveness starting with a pre-existing repertoire of relational configurations and ending with either the reproduction of the repertoire or its transformation. The middle stage is one in which the pre-existing structure and culture are in analytic duality with the agency of all actors: social and individual. The third stage is the outcome. This threefold process is dialectical and interactive. A surprising amount of the contingent recursiveness is within an annual cycle of events set in the formal institutional and organizational calendars for religion, government, education, sports and recreation. Additionally, key hidden infra-structures and mechanisms operate within very long periods as in the design of cars and the design of drugs.

The contemporary American repertoire contains some structures, cultural logics and processual mechanisms that were sedimented in the founding decades of the USA. Italy possesses reportorial elements which derive from the Renaissance era of city states and subsequent occupation by European kingly states before the evolution of state-nations and nation states (Bobbitt 2002). Central to the geo-historical theory of structural activation and time reckoning is that some structural and cultural elements are dormant. These may only come into play occasionally over several generations as in the examples provided by Tilly of shifting repertoires of contention in France.

Power and domination are integral to the theory of structural repertoires, time reckoning and activation⁹. Roy (1997) contends that power articulates with property relations and with social institutions. Property may be defined as a set of politically enforceable rights, entitlements and obligations that people have in relationship to objects and to other individuals (Roy 1997:10). The specific rights, entitlements and obligations are variable. The American state plays an active role and very significant role in their enforcement. The rights are not natural or inherent but require the role of the courts to define and redefine their province. The rights are social relationship affecting other individuals as well as non-human objects. The United States redefined the nature of property by legally equating corporate and natural individuals. The American state has a smaller apparatus to regulate markets and to oversee production than most European countries.

Structural power is a fundamental concept distinguishing Roy's perspective from efficiency theory. Structural power includes the capacity of the power holder to shape the overt behaviour of others as the power to determine the context in which decisions are made. Power operates through the control of authoritative resources and is theorized as a dynamic of underlying social relations. So the agenda becomes:

- Who made the decisions that created large corporations?
- What were the alternative choices they faced?
- To what extent did any particular decision logics (e.g. rationality) influence their decisions?
- Who set the alternative choices and consequences for each alternative that failed?

⁹ This section closely follows the argument of Roy, 1997.

Structural power allows rational action to be included.

Social institutions include the matrix of organizations in its organizational fields, the taken for granted cultural categories, the agreed modes of relationships. Social institutions are constituted by the extensive and complex interaction of many parties possessing a variety of resources. Within that complex, multifaceted social world there is uneven, asymmetrical interaction and the unevenness is intimately connected to the way people are tied into stratified social reality. Therefore different actors possess different, powers, liabilities, abilities and knowledge to benefit from technological and organizational innovations. At any point in time the institutional structure is the context in which actions are set.

Power, property and institutions are woven together because power institutionalizes property and property institutionalizes power. Power and property shape the most influential institutions. In the analytically structured narrative explaining the rise of the American corporation the lead players are the state, the corporate institutional structure (e.g. banks, stock exchanges, brokers, the privatized railroads and manufactures (see Roy 1997: Table 1-1). Structural expectations set the stage. We contend that these expectations and orders of legitimating are nationally specific.

4-3. WHICH UNIT OF ANALYSIS?

OLKCUNITSOFANLYSIS

In the usage of the theory of structural repertoires as schematized in [Figure 1](#) it is necessary to consider which units of analysis provide the assemblages of expectations, legitimating discourses and performances. We seek to problematize the issue of the size of analytic units and their social combinability into larger units. There are three very contrasting units of analysis in terms of their size: routines, structural poses and the notions of large structures and big processes (e.g. Tilly).

First, the most widely deployed unit in OLKC has been the 'routine' (Nelson and Winter 1984; [see 3]). The 'routine' has the advantage of being abstract and small. These features have enabled magisterial theorizing. It might be argued that the evolutionary school have let the 'cat of the bag' in their seven person schmooze¹⁰ about the problems of routines published in 1996 by Cohen, Burkhardt, Dosi, Egidi, Marengo, Warglien and Winter. They suggested: recurrent action patterns. Although RAPs has not become the focus of subsequent work the schmooze did open the analytic door (Clark 2000: 94-95, 230-148, 269-278).

Second, structural poses were proposed as the macro unit of analysis by Gearing (1958; Clark 1978, 1985, 2000) to display the repertoire of RAPs adopted by 17thC Cherokee Indians. The four basic structural poses in the repertoire were activated in the annual

¹⁰ Sydney Winter (Academy of Management, Denver 2002) suggested this interpretation. It means to converse casually, especially in order to make connections.

round and then returned to latency. In each pose the roles of age, gender and capacities were differently assembled and organized. The activation of a specific pose arises from the social construction of events, both environmental and tribal, by social actors in different situations. One of the poses is deployed for the combination of marriages, ball games and intra-tribal warfare. Gearing's approach is suggestive. Clark (1978) used the repertoire of structural poses to analyse the 'round of time' in organizations (e.g. supermarket weeks, sugar beet seasons) and also the editing of that round arising from innovation-design cycles (Whipp & Clark 1986).

Third, with regard to larger than Gregory's (1982) analytic narrative of the geographically shifting woollen 18thC English woollen manufacturing inventively deploys Giddens notion of structuration. Shortly we examine Tilly's analysis of repertoires of contention and the repertoires of states.

4.4. REPERTOIRE

The metaphor of repertoire is not widely used. Even so, repertoire has not been sufficiently explicated. It is necessary to be cautious about holistically borrowing the metaphor of repertoires from the performing arts (e.g. symphony orchestras, theatre companies) and from sport. American Football is a particularly good example of one kind of repertoire, yet neither the cultural repertoires of nations, or their institutions and firms are wired in this tight coding. Nor can their repertoires be so easily composed, chosen from and activated by the equivalent of coaches deploying game plans. Nor do they possess quasi genetic qualities (Clark 2000). We use the repertoire metaphor to theorize recurrent action patterns (Clark 1978, 2000).

National, institutional and organizational repertoires of recurrent action patterns possess the following features relevant to our analysis. Repertoires:

- Are about the collective doing of performances and therefore about capabilities that may or may not succeed in specific contexts;
- Possess contingently sequential variability of over time.
 - For example, seasonal variations in the structure for Europe's largest knitwear firm in the early 1960s reveals ambidextrous repertoires (Clark 1978). Firms were found to have both mechanistic and organic management systems in the repertoire, but to use these at different occasions according to their strategic time reckoning.
- Possess the capacity to store structural resources for contingent activation and deployment through future time.
- Only part of the repertoire will be activated and any specific moment. Parts of the repertoire will be dormant, possibly for relatively long periods.
 - In my knitwear study I was already in the firm for two years of seasonal variations when an irregular period of major innovation unfolded. This involved new raw materials, new machinery, new possibilities for dyeing and novel styles and products (e.g. mini dresses and tights). The firm did possess a dormant 'innovation repertoire' in its central location, but not at the new branch factories.

- Structural and cultural repertoires require activation in anticipation of enacted events through the strategic time reckoning processes involving key actors working across boundaries (Clark 1978, 2000).
 - Activation of the repertoire in the performing arts deals with highly codified boundary objects and is not typical of all every day life. In many situations the activation processes faces fuzzy sets of future possibilities each requiring different recurrent actions patterns and/or the assembly of improvised elements (Clark 1978).
- Repertoires of structural poses will vary in their richness and leanness between nations and organizations from the same nation.
- Repertoires will vary in their capacity to add, retain or simply to lose recurrent action patterns through decay
- The deliberate editing of the repertoire is highly developed in certain settings. Modernity encourages these processes as in the invocation to individuals to ‘de-clutter your life’. Similar invocations are deeply prevalent in organizations but not necessarily operable.
 - Whipp and Clark (1986) demonstrate the limitations to editing in the British car firm of Rover between 1958 and 1982.
- The metaphor of repertoires suggests that nations will possess a typical variety of recurrent action patterns which are distinctive to that particular nation (Clark 1987).
 - The concept of typical variety states that in the case of contingent path dependency there are likely to be a spectrum of different, alternative pathways. If so, how do each of these perform relative to the international political economy? Path dependencies are multiple and are often located in particular sectoral-regional economies (e.g. entertainment and Los Angeles c.f. Detroit). In the 19thC America possessed multiple pathways from which the massification of consumption and production emerged as the most salient. However, the federated character of the USA positively enables the development of regional variations in the production and retention of innovations. California occupies a special place post-1960 in respect to its cultural repertoire for authority in schools and universities (Swidler 1979).

Contexts shape repertoires through learning. This learning is not necessarily one of open struggle in the sense suggested by repertoires of contention. However, many repertoires might be covertly contentious or devised to circumvent the repertoires of dominant groupings.

4-5. NATION STATES & REPERTOIRES

Overview

The issue raised through our usage of the theorising compacted in Figure 1 is how to combine synchronic relational configurations within which recursiveness accompanies a degree of permanence in a relational configuration and the diachronic contingent,

emergent transformation of existing configurations into qualitatively new forms. Achieving theoretically robust longitudinal analysis faces the conceits and seduction of narrative historical accounts suffused with interesting detail (Abbott 1992). Equally, our framework criticizes structuration theory (Giddens 1984) for its weakness in handling ‘when-ness’ and its tendency to elide in the second stage (Archer 1995). Our intention is the ‘recovery of social structure and historical time together’ (Parker 2000: 109). Except in the usage by Gregory (1982) the structuration oeuvre lacks a rigorous account of the pre-existing national cultural repertoire and the elements of stratified reality. Giddens’ devotion to the role of homogeneous time is highly problematic (e.g. time geography; in Braudel). However, structuration theory rightly emphasizes the role of the state in coercion and control and in the infra-structure of time-space distanciation and stretching.

These pointers raise the issue of what is added by the research program now known as national cultural repertoires? NCR was initially a proposal to blend the oeuvres of Swidler and Tilly (2001). Now the new research program is cumulating a rich collection of possibilities for future analytic strengths (e.g. Lamont and Thevenot 2001). The researches of this French based team show that there are sharp differences in moral evaluations of everyday happenings. Americans invoke the role of the market where the French would invoke the role of the state.

Swidler has made extensive use of the notion of a cultural tool-kit, yet this analogy is now awkwardly transposed into ‘cultural repertoire’. Her own studies of the Californian education movement in the sixties and of love illustrate the notion of culture as doing problematized the relationship between cultural logics and cultural choices. Swidler rightly and carefully unpacks the issues. Cultural logics imply that there is a singular code and/or language governing situations. Clark and Szmigin (2003) contend that situation existed in the post-bellum American funeral industry right through into the 1990s. The examples of cultural choice and the simplest (albeit deceptive) account of repertoires arose in American designed sports. Clark highlights the construction and control of the repertoire of the professional American Football club (Clark 1987, 2003). Clearly agency, power, the hierarchy of repertoires and the reality of social structure have to be addressed and some are critical of how far Swidler theorizes these aspects in her NCR. Her approach differs from the concept of habitus proposed by Bourdieu and Elias. Habitus is rightly been criticized for its homogenizing format and the difficulty of calibrating transitions.

If the full blown notion of repertoire proposed earlier is adopted then the research program of NCR can be explicit about active and dormant capacities co-existing through time in the same social system. NCR, when allied with multi-level analysis addresses key problems (Clark 2000, 2003). It is the contribution of Tilly which supplies the major part of the scaffolding to this research program.

Repertoires and Nation States: Tilly

Tilly [4] has extensive experience with the notion of historically sedimented and embedded repertoires that may be invoked by particular strata according to their social

definition of the situation. In a series of studies in France and England (and elsewhere) it is clear that there were durable and dormant structures and cultures for opposing local and regional authority. These are repertoires of contention that may be activated only several times in any century. The contribution of Tilly is focussed upon researching and theorizing:

- macro-social historical processes involving repertoires of contention
- the evolution capitalism and of kingly nations into nation states.

In various ways Tilly explicates the heterogeneous 'historical time' which Braudel tends to over-determine.

First, how did the development of capitalism and the concentration of power in the French national state affect the ways in which ordinary people contended, or failed to contend for their interests? And how did forms of contention shift from 1598 to 1984? Repertoires actually constrain people's action because people turn to familiar routines and innovate within that familiar set. This repertoire is activated as a 'function' of fluctuations in interests, opportunities and organization. The existing repertoires of contention are most likely to grow out from the following factors: the daily routines and internal organization of ordinary people; prevailing standards of rights and justice; the populations' accumulated experience with collective action; current patterns of repression. This collective action has an ebb and flow. In the period 1650-1850 the repertoire of contention was parochial and patronized and examples include seizing grant. Invading forbidden areas (fields, forest, and streams), destroying tollgates and barriers, attacking machines, expelling officials, contentious songs and parades, inter village battles, acting out juridical proceedings. The common elements included:

- Use of authorities normal means as either a caricature or as a temporally assumption to those prerogative in the name of the local community
- To represent corporate and community rather than special interests
- Appeal to powerful patrons for redress
- Use public celebrations and assemblies to advance grievances
- Repeated adoption of irreverent symbolism (effigies)

The contenders were patronized rather than autonomous and their scope of action was local rather than nations. However, in the period 1850-1980 the repertoire shifted to strikes, demonstrations, electoral rallies, petition marches, public meetings, planned insurrections, insurrections, social movements and electoral campaigns. The means were:

- Use of relatively autonomous means of action that were rarely sued by authorities
- Tendency to participate as members of special interests and associations
- Tendency to challenge rivals and authorities rather than appeal to patrons
- Articulation of claims through deliberate assemblies
- Preference for action in public spaces

The contenders were not patronized but were autonomous and their scope was national rather than local. The shift in repertoires followed the changes in the role of capital and state power. State making and capitalism dominated the fluctuating interests of different groups in collective action.

Second, Tilly raises one overall and six subsidiary questions about the nation state. What accounts for the states that prevailed in Europe since 990AD and why did these states converge on variants of the national state? What role does changing forms of warfare play? How did the co-evolution of states and warfare interact? Why did rules accept the establishment of institutions representing the major classes within the population covered by the state jurisdiction? Why did states vary so much in the ways in which they incorporated urban oligarchies and institutions into a national state cluster? Why did political and commercial power slide from city-states of the Mediterranean into the towns bordering the Atlantic? Why did city-states, federations and religious organizations lose their importance in Europe? Why did warfare shift from conquest for tribute to sustained battles among armies and navies?

After 990AD European states, once established, rapidly multiplied in the space left by the Muslim powers and the nomadic conquerors that ringed the Med. Within that space Europeans farmed, traded, manufactured. Through their continual in-fighting they unintentionally created nation states. Cities played an important role serving as containers and distribution points for capital. European cities formed a loose hierarchy of commercial and industrial precedence based on their centrality in the European network of trade, production and capital accumulation. Since 1519 there was a succession of powerful states. After the dominance of the Hapsburg there were great struggles between nascent states without supremacy (1660-1815). Then came an uncertain British hegemony (1815-1885) followed by uneasy balance (1885-1918). The US gained temporary supremacy (to 1943) and then became bipolar with Russia (1943-80s) in a shifting struggle with US in key position. Tilly contends that the states were not planned as such and neither were the principal components (e.g. treasuries, courts, and central administration). The path of particular states affected by the overall configuration. Within states the struggles and bargaining between groups/ classes shaped the specifics of any one state. States are coercion wielding organizations that gain certain priorities in given territories. Some become powerful, centralized and differentiated (e.g. USA c.f. Italy). National states govern contiguous regions through centralized; autonomous and differentiated structures are rare.

The process of evolution arises because capital accumulation feeds capital concentration and both feeds forward into urban growth. Accumulation of coercive means promotes the concentration and both feed the growth of states. So war drives state formation and transformation. National states, when they emerged, combine substantial military, extractive, administrative, distributive and productive organizations in a relatively coordinated structure. Nations follow different pathways of capital intensive and coercive intensive states. There was a bifurcation between coercion in warfare and coercion within the state. Military commitments had major impact on state activity. Preparation for warfare shaped internal structures. After 1500 new kinds of military formation were required and these were costly. The large military states also experienced the potential of capital accumulation. Despite the monetarization of activities national armies replaced the mercenary armies. Few states could afford the investment in the means to produce arms, transport, clothing and etc. Taxation and military force formed a duo. There was a link from the state to the monopoly of taxation. Capitalist activity feeds forward into

monetarization and the availability of credit and both of these affect the ease of making wars. By 1700 a significant degree of action was taking place far from the European continent in there was a struggle to create maritime empires and manage power at a distance.

Tilly maps the relation between major activities within the state. War making and state making interacted. State making directly shaped protection and extraction. Then adjudication, production and distribution began to grow faster than war making, extraction and protection. However, coercive activities tended to predominate over the longer run. Within the European states distinct repertoires for bargaining, expression of rights and collective action were developed. Popular collective life was incited by state actions. European states moved from the reliance upon intermediaries to engaging in direct rule of their citizens. The French Revolution illustrates this move from indirect to direct rule by the state. The area of the state expanded (e.g. surveillance). The state transforming process had the surprising result of civilianizing government. Some European states emphasized the coercive trajectory whilst others emphasized the capitalist trajectory. Europe was typified by the dominance of the state system rather than city-states or empires. The declared wars were fought by large disciplined military forces and then ended by formal peace settlements.

England and London were unusual in travelling both the coercion path and the capital accumulation path to state formation. A substantial state formed early despite London and maintained a hegemonic church into the 19thC. The monarchy acquired substantial powers before London became a major trading center. London's merchants had close ties to nobility and gentry. The City of London gained a semi-autonomous voice in royal affairs. From the 17thC onward royal power was contained but not eliminated by representatives of landowners and bourgeoisie. This was the same England and London with which, after 1765, the nascent federation of American states deployed the repertoire of contention to gain independence and to start down the pathway to becoming a nation state after the Civil War.

4-6. AMERICA'S MATRIX OF INQUIRY & MARKET POLITY

The approach of national cultural repertoires provides a robust approach to the American home base for organizational learning, knowledge and capabilities [5]. Three facets illustrate the argument.

First, the American Civil War was a world event (Bayly 2004) in which more than six hundred thousand died and after which an array of interests configured to create national identities. During and especially after the Civil War the horizontal co-ordination of the American nation became vertical; national identities became extant and were reshaped; repertoires of contention (McAdam, Tarrow & Tilly 2002) were overcome by repertoires of control in production, distribution and consumption (Beniger 1986). A rampant trajectory of global capitalism and flexible imperialism was assembled and launched. Between the 1860s and late 1890s the American nation and the state acquired a new problem set with wide scope implications. There was a burst of activity in the design of

control systems for distribution and consumption. Consumption became the leading edge in which organic intellectuals promoted national hegemony in the emerging consumer polity. American entertainment and sport were distinctively pre-figured. The long-term problem set and habitus pre-figuring the Market Empire was set in motion (Bobbitt 2002, de Grazia 2005). Since the Civil War American ideology has achieved a hegemony unequalled elsewhere in the modern world and became a remarkable discourse and practice for reconciling restriction and release. Bercovitch (1991), in a remarkable account of American symbology since the 17thC founding era of Winthrop, the Massachusetts Bay Company and the city of the hill (Delahaye-Dado 2006):

"It is a principle of socialization in the United States that the discovery of America is converted into a process of self-discovery, whereby America is simultaneously internalized, universalized (as a set of self-evident absolutes), and naturalized (as a diversity of representative social, credal, racial, and ethnic selves)." (Bercovitch, 1991: p. 1)

The symbology enclosed the structural differentiation of American society and even sustained internal hegemonies which in due course underpinned the time space stretching of American power grounded in the long-term institutional configuration of inquiry schematized in Figure 2 (Zunz 1998; Clark 2005; Figure 1).

Second, Zunz contends that, starting in the 1870s, after the Civil War, Americans began to create a vast institutional matrix of enquiry to turn knowledge of physical world to advantages in the market and in military actions that challenged the position of Europe¹¹. The institutional matrix became a unique knowledge organization. The central matrix integrated science into the everyday economic life of the nation and although an arena of conflicts between elites its was flexible in articulating new areas of knowledge. It was a heterogeneous actor network whose networks contained obligatory points of passage that were strategically significant. The matrix enabled investigators from different fields of inquiry and diverse institutions to collaborate. Moreover, no single institution could succeed without the collaboration of the some others. The simultaneous expansion of industrial and academic establishments boosted economic performance. In America the universities created a continent wide corporate network by training the mechanical and electrical engineers that ran the railroads and factories. They also massively expanded the number of doctoral students and they were implicated in the vast growth of national professional associations. Firms were prevented by anti-trust legislation from further rationalization and they worked with industrial laboratories to compete on the basis of new products. Soon there was no world parallel outside America to the vast institutional matrix of enquiry. Its emergence as a stratified social reality shaped the actions of its member institutes, provided templates for knowledge creation and enabled the careers of its heterogeneous members. Once established the matrix grew especially when the military were included. The career of Sperry (Hughes) illustrates a common situation. In the First World War the military mobilized the matrix. That experience crystallized the military-university-industrial complex.

¹¹ This section closely follows Zunz's argument as well as the article which examines America as a market polity of knowledge (Clark 2005: Figure 1).

The institutional matrix of enquiry provided the arena within which new routines for problem solving were articulated and enrolled different nodes including producers, broker and users of knowledge. They interacted to formulate theories and to design products. Although separate disciplinary elites and commercial interests competed they needed to enroll others in the matrix in order to pass through the obligatory points of passage. Thus new institutions of knowledge were created within which the practical use of knowledge was taken for granted. This unprecedented cognitive interdependence inhibited special, separatist agendas. When generals demanding new products faced professors and businessmen demanding new products they reorganized the scientific language. The academics increasingly resorted to axiomatized propositions. These axiomatized propositions altered the existing normative connections between research and exposition. This created a cognitive crisis. Provisional knowledge displaced unitary systems and courses. In the period 1900-1920 American social scientists possessed a reformers belief in their capacity to rescue American society from chaos and to provide a good life through the translation of Christian beliefs into everyday practice. This meant formulating a different kind of theory for a usable social science. Social intelligence became a movement was defined as the combination of understanding and mastery in dealing with problems. So the social sciences became deeply normative and modernist despite the pressures from the methods of the natural sciences. The theme of social intelligence was established in the institutional matrix during the 1920s. From that base there was a gradual evolution over the next generation into policy making.

In the 20thC the combination of the use of statistical distributions and the notion of the average American were fused to give an apparently concrete form to the abstractions of individuals and community used to define the mass society. So, American social scientists "translated statistical knowledge into methods of managing social aggregates from within the new institutions of mass society" (Zunz 1998: 49). Various kinds of averaging were socially defined by the professional social scientists as neutral categories of knowledge in a multicultural society. American culture became committed to excessive statistical objectivity and put their trust in numbers (Porter T H, 1996). This was social control on a grand scale. They could predict electoral outcomes and sell products. In effect this was promoting the understanding of markets rather than individuals. The use of statistics to legitimate notions of the individual within the mass society drew critical rejection, primarily from European social scientists. Adorno refused to recognize American social engineering as the work of serious intellectuals and raised the issue of enforced conformity. The same skills of social engineering increasingly identified the American as middle class at work and as consumers. Thus the economy was defined less and less in terms of the 'forces of production' and more and more in terms of consumption and life style. They were encouraged to think of Embourgeoisement rather than class solidarity. Being middle-class meant consuming the products of the mass market. Mass consumption became an American means of social cohesion. In practice gaining access to the market required many families to pool incomes in order to manifest their middle class credentials. Even so, the process of de-radicalizing class overpowered alternative visions.

Third, given the quite different evolutions of the national cultural repertoires of America and Italy (as [Figure 1](#)) it is to be expected that certain American organizational innovations would neither travel to Italy intact or would be subjected to unravelling and hybridizing (Clark 2003). Neither American Football nor the American way of burial replaced pre-existing Italian sports and funerals. Zeitlin & Herrigel (2000: Figure 10-1, 10-2) summarize the problematic issue of the diffusion of organizational innovations generated initially within America. However, de Grazia (2005) claims that the American supermarket entered Milan and was the transforming agency for the diffusion of supermarkets in Italy. Yet de Grazia knowledgeably describes sharp differences in the shopping habits and Americans of Italians although she does not fully unpack differences between (female) shoppers in major cities in the North and, for example, small towns in the Upper Tiber Valley. The American invasion began in Milan led by an intrepid American supermarket entrepreneur with considerable powers of individual and corporate agency in his native contexts. De Grazia's account reveals considerable opposition, especially in Florence from the configuration of local, regional and national interest groups as well as the shopper. Clark and Todeva (2006) re-interpret de Grazia's account as hybridizing rather than emulation. Moreover, Scarpellini (2004), in an extensive study of 'shopping American style' in Italy from 1958 onwards, shows that "the Italian supermarket was fundamentally different from the original model" brought in American the entrepreneurial firm (2004: 625). The declarative and procedural knowing within Penrosian leaning differed between Italy and America.

5. CONCLUSION

We conclude that the fusion of OL and OK largely brings together research programs and practices which are commonly articulated as universal diagnoses and universal solutions. These are too optimistic about the tangibility of capabilities. Moreover, their exponents rarely address the issues of national-regional embeddedness and longitudinal emergence in an ontologically depth-full way. Therefore we draw on the research programs of national cultural repertoires and intangible specialization to show how the limitations in universalism might be addressed. We gave particular attention to Penrosian learning to reveal the limitations of the universalistic research programs within OLKC. We made comparisons between America and Italy to highlight the regional-national issues. Our claim is that universalistic knowledge programs are elegant, easy and diffusible but not theoretically sufficient. Moreover, the limits of their practical utility is underlined by the example of the trajectory of evolution of American supermarkets in Milan and Italy. END

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NOTES

1. This section is anchored in the doctoral thesis by Blundel, R.K. (2002) *'The growth of "connected" firms: a re-appraisal of Penrosian theory and its application to artisan firms operating in contemporary business networks'*, University of Birmingham. The thesis is constructed around a detailed re-appraisal of Penrose (1959) which traces its intellectual antecedents, re-constructs its interconnections and calibrates its explanatory potential against the work of contemporaries, successors and opponents. This provides the basis for development of a modified Penrosian framework, designed to embrace a multi-level analysis of growth processes that span the 'blurred boundaries' of the connected firm. An empirical study of cheese making in the form of an analytically structured narrative is illustrated by network mapping sequences and informed by a qualified critical realist perspective.
2. See the revisions to Penrose proposed in Clark PA (2000) *'Organisations in Action & Competition Between Contexts'*, Routledge. Pages 216-288.
3. This section is based on the ABH prize winning doctoral thesis by Giuliano Maielli (2004) *'Managerial culture and company survival: Technological Change and Output-mix Optimization at Fiat, 1960-1987'*, London School of Economics.
4. Charles Tilly, the historian and the anthropologist Ann Swidler produced the initial manifesto for National Cultural Repertoires in the September News Letter (2001) of the American Sociological Association. Their manifesto differs in important respects from certain 'national' approaches in the business schools.
5. See Clark, P.A. (1987) Anglo-American Innovation. New York: De Gruyter; Clark, P.A. (1997) 'American corporate timetabling, its past, present and future', *Time and Society* 6 (2/3): 261-285. Clark, Peter (2006: In preparation). *'Explaining American Symbolology: Market Empire, Consumer Polity and Colonizing Corporations'*

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