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Industry and Work in Contemporary Capitalism: Models, markets and crisis in the global system.

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The current crisis and, in particular its effect on employment in mature economies, is prompting a reappraisal of the mainstream marginalist economic model. This model with its diverse nuances and expressions has exerted enormous influence as an expert tool and has become the basis of common sense understandings of economic processes in the contemporary world. In part, such a reappraisal entails rethinking long-standing views about the place of industry and manufacturing in the process of wealth production. It is significant that these reflections are taking place in a context in which faith and enthusiasm are vested primarily in a 'knowledge economy' that implicitly constructs heavy industry as anachronistic and irrelevant to the futures of advanced capitalist economies. The profound transformations taking place in contemporary capitalism towards the dominance of a knowledge economy or cognitive capitalism (Moulier-Boutang 2011), or the emergence of a 'new spirit of capitalism' (Boltanski and Chiapello 2007) are bringing about a redefinition of labour and value, and a reconfiguration of the relations between the material and the non-material, the economic and the social. Because these changes are seen as closely connected to the process of

globalization and as fundamentally de-linked from industrial capitalism, we consider that a focus on industry, and especially on heavy industry is important and useful.

The importance of such a focus is borne out by the resilience of industrial regions in the wake of the financial crisis as opposed to service centred economies, which suggests the need for a reappraisal of the value of manufacture. Furthermore, the new somewhat paradoxical conjuncture vividly illustrates the lack of fit and the tensions arising between certain 'facts' (such as un/employment statistics) and the persistence of hegemonic models focussing on growth based on increased competitiveness through labour flexibility and deregulation (Howlett and Morgan 2011). Furthermore, while the trajectories of models of development since the Second World War can be broadly periodized in terms of their dominance and decline, a sequential account must be tempered by the recognition of the co-presence of different forms, such as the parallel and sometimes complementary co-existence of Fordism and 'flexible specialization' as described by Piore and Sabel (1984; Graham-Gibson 1996). The recognition of the coexistence of different forms, both capitalist and non-capitalist is important at the level of explanation of contemporary economies and livelihoods, and in relation to devising effective critiques and alternatives (Graham-Gibson 1996).

The contextual and historical qualities of models and the tensions between them and different on-the-ground activities highlight the ideological aspect of models and create opportunities for critique and for the production of alternatives (Hart, Laville and Cattani 2010). The question of the future, of what futures we may imagine and pursue also brings to the fore the urgency of critique in relation to the centrality of economic growth models as devices for framing and producing policy. This volume is concerned

with the ways models unfold in ‘actually existing capitalisms’ and ‘actually existing neoliberalisms’ (Gledhill). It focuses on the effects of models, particularly in relation to heavy industry, and on the locally given, contingent factors that inform their implementation and evolution, while also paying attention to the range of actors involved in their design and enforcement. It draws on a multidisciplinary set of perspectives to explore the spatial and temporal character of models, paying particular attention to the ways in which they are locally interpreted and enacted. Through the analysis of empirical cross-cultural cases drawn from a number of different regions and contexts, the book addresses the changing configurations of models of the economy, their design, implementation and crisis, as they circulate through space and time and are interwoven with the everyday lives of concrete social actors.

Models – local, global and back again

In his work on anthropological economics, Gudeman identifies two types of models. The first is described as contextual and is expressed through on the ground narratives and practices, amenable to the researcher through ethnographic encounters with local informants and experts. The second model is what he describes as derivational; it is described as self-contained, apparently complete and independent of local context, and is derived from particular intellectual trajectories and sets of practices (Gudeman 1990, 2008). While this distinction highlights the significant role of ethnography in advancing a useful framework for the analysis of economic models, it is also important to recognize the multiple entanglements of expert and non-expert, as well as local and universal models/ Equally, it is important that we engage with their mutual constitution as well as the contradictions between them, which we achieve through a necessary and continuous process of scaling (Strathern 1995, Harris 2007, Gudeman 2010, James,

Place and Toren 2010, Edwards, Harvey and Wade 2007). The various entanglements between different models, actors and conditions of existence are, perhaps, particularly evident in the rise of neoliberalism and its capacity to infiltrate and inform common sense ways of understanding the world (Harvey 2007; Read 2009).

In this volume, we approach models from a multiple perspective that tries to deal with the complex reality of their elusive materiality. First we understand models as discursive accounts that produce an authoritative logic of causal connections. Second we understand models as formal mathematical renderings of discursive models. Third we understand models as instruments for the exercise of power (Ferguson 1994; Escobar 1995; Mitchell 2002; Elyachar 2005; Li 2007). In their different dimensions, models are attempts to control messy reality through abstraction: control through knowledge production and epistemic dominance, and control of human action through the performative force not only of the designs themselves but of the many concrete devices and relations that they call forward (Callon & Muniesa 2005, Holmes 2009).

Models are projects of the future, in designing the future through a combination of experience and imagination. But models are always concrete in their manifestation, always the result of specific conjunctures and interpretations, particular tensions and struggles to set the boundaries and to define the elements that count. Not only are models generated through the interaction of agents, practices and ideas at multiple scales; it is also the case that the process of recognition and/or the effects of models are subject to the difficulties faced by 'travelling facts' (Morgan 2011) as they traverse different disciplinary domains, spheres of research and spheres of government and policy. Although the relation between models and policy is endlessly elusive and

permanently redefined, the current situation exacerbates the perennial difficulties that arise in the collaboration between experts and policy makers (Butter and Morgan 2000; Cartwright and Hardie 2012).

Models are produced through the identification and combination of factors that are selected and categorized hierarchically according to specific criteria. They are necessarily partial, in that they are unable to encompass the totality of phenomena and exclude those alternative phenomena, interactors and interactions that are rendered irrelevant or invisible by the terms of definition of the model. When economic models define production in terms of goods and services exchanged for money, significant phenomena such as domestic labour and particular interactors, i.e. homemakers are rendered invisible. Not only does this produce a partial account through omission but it also has implications for women's participation in those phenomena that are included in the model (Ferber and Nelson 1993).

As Longino (1993) points out, the main problem regarding the inevitable partiality of models arises when they are read literally, when the value judgments and criteria underpinning the selection and ranking of phenomena are obscured. Longino raises the question of the normative effects of such exclusions: who benefits from the particular processes of selection, and who are the losers? What are the costs of excluding certain values while including others? And, crucially, what models, theories and research are needed to account for the persons and phenomena that are currently excluded? Such questions are the starting point for a search for alternatives (Ferber and Nelson 1993, 2003; Gibson-Graham 1996; Benería 2003, Hart, Laville and Cattani 2010).

The importance of paying attention to what and who may be excluded from the scope and analytical purchase of models and indeed the need to locate enquiry outside the 'discourse of the economy' (Gibson-Graham 1996) suggests that ethnography offers a privileged method for exploring how concrete models are constructed and become the powerful forces they seem to be, but also how they are reinterpreted, defied and resisted in actual practice. Economic models have been described as technical matters involving elements of law, technology, and accountancy that discriminate action that is relevant for the model from the rest (Barry & Slater 2002, Callon 1998). However, the process of giving form, of setting the boundaries of the categories and institutions that frame economic practice is contested at every site and time of its enactment in its concrete manifestation (Bourdieu 1982, 1986). Our emphasis on scale, however, alerts us to the necessary use of other perspectives that underscore macroeconomic dynamics, spatial, historical and institutional aspects configuring industrial projects and livelihoods. On the one hand, the approaches of sociologists, economists, political scientists and geographers in this volume produce invaluable comparative insights as well as historical context. On the other, the more ethnographic perspective of some of our contributors underscores the value of the specific case as a way into the understanding of the historical forces that shape concrete reality (Burawoy 1991, 1998).

The case for Industry

We have argued that models are partial, historically and contextually specific despite claims to universality and continent. These qualities raise a basic contradiction in the capacity of models as future-oriented and productive instruments: on the one hand they are objects with universal claims that circulate across time and space; on the other they can only be effective through the mediation of power relations that in turn operate

through highly specific combinations of actors, institutions and contexts. The volume's focus on heavy industry is related to the fact that, in its unavoidable physicality, industry captures this paradox nicely. While heavy industry became the key element of development models that were applied across the globe over a long period of time (e.g. Perroux's "development poles") (Perroux 1968), it was also tied to very concrete issues of location of material resources and social history that were place bound. The structure of the industry was often vertically integrated (e.g. coal, iron, steel, shipbuilding) and with strong ties to financial capital, simultaneously reflecting and challenging social, physical and political geographies.

The strong industrial base that was identified as a key feature of 19th and early 20th century Britain's and other European and later North American regions' economic (and political) expansion, was emulated across the globe in the pursuit by nation-states of future prosperity – both within capitalist and socialist projects for economic development. Moreover, heavy industry was tied to political power and hegemony through its key role in military might and full sovereignty. Nation-states therefore were keen to foster an independent (national) industry, which held such a 'strategic' role. Various forms of support to private industries as well as direct intervention through nationalization or the construction of national integrated complexes at different moments were, in part, a result of the political value they were granted.

Arguably, the steel industry in particular has been strategic not only to the development of a modern economy, but to the very constitution of a unified national territory, for example through the expansion of railways and the construction of bridges, dams, general infrastructure and urban expansion. This central role was undermined by the

changes that took place in the global capitalist system from the 1970s onwards, as overcapacity fell like an axe on an industry that had confided in modelled projections of growth into the future (Hudson & Sadler 1989). As a consequence of international reconfigurations of product, infrastructure and capital flows, economic and political priorities were reshuffled and deindustrialization devastated the heartlands of what had been the hub of the modern world (Hudson and Sadler 1989, Hudson and Swanton 2012, Mollona 2009, for post-soviet countries see Trappman 2013, Stenning 2000; Dawley, Stenning and Pike 2008). At the same time, central elements of the model of the nation-state were re-configured and adapted to align with new models of economic market de-regulation and downsizing of national sovereignty, which resulted in new forms of agency and citizenship. Rather than a rolling back of the state, however, what often appeared as central to the new political configuration of liberal capitalism was a re-scaling of the state, shifting governance and political responsibility upwards toward supra-national often deficiently democratic bodies (such as the EC, IMF, WTO), downward towards local administrative bodies (regions, municipalities) or sideways toward so-called civil-society or community entities (Swyngedouw 2004, MacLeod 2001). The cunning use of scale by the various agents of economic processes in order to access resources such as restructuring funds resembles what Shalini Randeria has described for the developmental State as a “cunning” play with donors and institutions (Randeria 2007).

After the Second World War, in recognition of the role that inter-capitalist national rivalries had played in unleashing the conflict, a number of initiatives were put in place to oversee a new framework for the management of the global order. Supra-state bodies such as the General Agreement of Tariffs and Trade (GATT 1948), the World Trade

Organization (1995), the International Monetary Fund (1945), the World Bank (1944) and inter-state organizations such as the G8 – that later became the G20 – were the building blocks of the new system. In 1944 Bretton Woods agreements for trade were forged through what Harvey describes as an elite, expert, technocratic and undemocratic process. These innovations reflected and consolidated the position of the United States as the dominant economic and political power and its leadership of ‘a global alliance to keep as much of the world as possible open for capital surplus absorption’ (Harvey 2011: 31-32). In Europe, the aim of a peaceful future between the nations of Europe, especially between France and Germany, became synonymous with economic integration. Heavy industry played a central role in the political configuration of Europe, as is evident in the creation of an open market for Coal and Steel. The Shuman declaration (9 May 1950) considered as the founding bloc of EEC (1957) proposes: “The pooling of coal and steel production should immediately provide for the setting up of common foundations for economic development as a first step in the federation of Europe, and will change the destinies of those regions which have long been devoted to the manufacture of munitions of war, of which they have been the most constant victims. The solidarity in production thus established will make it plain that any war between France and Germany becomes not merely unthinkable, but materially impossible.”

The constitution of an economic community tied to the production and distribution of Coal and Steel was thus a political and economic project where market integration around two key sectors aimed to prevent war and promote peace. Enhanced industrial collaboration was seen as a mechanism through which to foster mutual dependence and, simultaneously, increase economic rationalization and the modernization of industry.

Unification of member countries through the (common) market was the centrepiece of this ambitious project. An additional aim was to promote convergence in the standard of living across the Community through “the equalization and improvement of the living conditions of workers in these industries”.. But although the creation of a common High Authority aimed to curtail national intervention in these markets for the common good of attaining durable peace, this ‘neoliberal’ aspect was often overpowered by the national preoccupation with full employment and class unrest (embedded liberalism, in Harvey’s words). In fact, the nationalization of private steelworks was widespread until the mid 1980s, followed by the swing toward privatization in the 1990s. Privatization also responded to political and economic factors operating at different scales such as the convergence of material conditions and the recommendations arising from the neoliberal model. More broadly, the process of industrial restructuring addressed and was at the same time conditioned by localized political features, especially the strongly unionized nature of the workforce, and the regional impact of closedowns.

In many instances, strategic decisions regarding closures were informed by such considerations about the negative impact of downsizing in terms of local unrest and regional destitution. This was the case during the first phase of restructuring in 1980s Spain. A key condition of accession to the EEC was the reduction of overcapacity in steel production. In addressing this requirement it was decided to close the coastal steel plant in Sagunto, whereas the rational economic choice would have been to shut down the less productive and obsolete steel complex of Altos Hornos de Vizcaya in the Basque Country. However, the government did not want to antagonize an already tense regional political environment nor did it wish to confront the competing industrial interests of France that might have ensued if Sagunto, a technological advanced project

following the successful model of Japanese steel plants, had been selected to continue operations (Díaz-Morlan, Escudero, Saíz 2009, 2008). Likewise, Sznajder (2006) in a comparative review of the privatization and restructuring of the steel industry in four post-socialist states underlines how the pressures of EU accession have to be articulated with other international financial pressures and with local political dynamics. Therefore although the general trend of European policy has been toward the reduction of overcapacity in order to increase competitiveness and withdraw state support, the ways in which this policy was effectively implemented in the different European countries varied widely, according to the timing of accession and to the power geometries of uneven development.

This volume

The process of economic restructuring, including downsizing and privatization is shaped by multiple factors. Some of these are to do with the exigencies of hegemonic models; others respond to more pragmatic conditions arising from money and commodity markets and the variable conditions of supply chains; yet others have to do with conjunctures of local, national and global power relations. As Mollona and Dal Forno argue in this volume, the waves of privatization that swept across much of the industrialized world in the late 1980s and 1990s need to be interrogated beyond the simple explanations pointing at market efficiency or political imposition mechanisms. Through the use of mathematical modelling tools they experiment with plausible causal decision-making mechanisms and policy models that can explain privatization in three very different national situations (Italy, Spain and Argentina). They show that similar market pressures (increased consumption) result in very different state intervention policies before and after 1990, but are consistent across the different countries. Through

the experimentation with two policy models, that of the “developmental state” (DS) and that of “market driven” (MD) policy, they argue that a shift in models takes place in the late 1980s across the three cases. However, the modelling also points to the many subjacent forces that align or oppose public and private interests at different points in time, mostly related for each period to the dominance of domestic or global consumption trends. It shows that after the 1980s private interests align with state interests and produce a “market driven” (MD) model that supports those interests: “The *MD* model simply requires the state to sell state-owned steel producers, or to reduce production, when global consumption increases and to retain state-owned producers when global consumption shrinks.” Their chapter also underlines the localized effects of specific interest groups in shaping models as well as the forms of their implementation: “[it] suggests that contextual-specific differences may be the result of how interest groups differently intervene in molding and honing the implementation of economic models.” The modeling experiment proposed in this chapter is in itself an enactment of the needs of formalization that rely on quantification and drive specificity into emergent homogeneity (Law 2004), but it also captures the authority power of mathematical formalization against ethnographic realism (see Perelman and Vargas in this volume).

The connection between model building and the interests of economic and political actors can be seen as responding both to global market pressures on countries, sectors and firms and to an ideological discourse that restricts the field of opportunities for social actors. These pressures encompass the influence of a radical view of the virtues of unencumbered market allocations for optimal distribution proposed by economists such as Hayek or Friedman, articulated in the Washington Consensus and vigorously

promoted by global institutions such as the International Monetary Fund and the World Bank, for development purposes. In Flàvia Barros' chapter, models are described in their institutional settings as they circulate and bridge different scales, from global to national, regional and local institutions. In this case, the stress is on the practices enacted for disseminating economic and political models and the tensions and struggles that give form to models, in particular the relation between civil society organizations and international cooperation agencies. These confrontations, negotiations and co-optations produce both the actual models and the channels that convey their circulation. The results are often ambivalent in terms of the reconfiguration of power geometries as expressed in allegedly bottom-up models such as the one that defines local sociability as a form of "social capital" that can be harnessed for economic development (Narotzky 2007). These models appear as continuously changing devices, often expressing contradictory meanings and objectives at different scales. At a global scale, international financial agencies such as the IMF and the WB, through the conditionality clauses of their aid packages, become key institutions for the circulation and imposition of neoliberal models. As we have discussed, the accession conditions to the EEC and the EU have had a similar consequences as they have forced re-structuring of particular sectors and industries (in particular heavy industry) to incoming candidates, albeit with different responses in each case (Díaz-Morlan, Escudero and Sáez 2009, Sznajder 2006, Trappman 2013).

Lins Ribeiro, in his chapter, focuses on the global pressures that shape and reshape corporations through processes of mergers and acquisitions in the Brazilian steel industry. The focus here is on managerial and technological models and how their circulation follows the reconfiguration of corporate capital (Florida and Kenney 1992).

Capital flows produce connections that become vehicles for the circulation of models; but mergers themselves are the expression of a particular concentration model of capitalist efficiency as it expands geographically. In particular, the privatization wave of the 1990s resulted in a new globalized structure of firms that translated into the emergence of increasingly virtual epistemic communities (Haas 1992) producing and circulating innovation (see also Bueno in this volume). However, what this chapter reveals is that the Brazilian steel industry “is a global fragmented space, i.e. a part of a broader international network of interconnections and loci” structuring the social, economic, political and cultural characteristics of place (see also Hudson and Swanton 2012). For Ribeiro, the focus on the history of growth of a steelmaker located in a major iron ore and steelmaking region in the state of Minas Gerais in Brazil, provides a perfect scenario to study how capital flows and the changing composition of companies’ capital historically connect various global fragmented spaces. (Lins 2013).

The volume explores models, what they are and what they *do*. We ask how models are constituted and by whom, how they may circulate and be enacted in specific contexts. One of the key arguments of the volume is, therefore, that ideas and practices articulate as apparently coherent systems or models and have an impact on economic actors and entities. Models might be portrayed as artefacts or devices (as in Feenberg 2010, Callon, Millo and Muniesa 2007) that engage with concrete circumstances and relationships in specific contexts in what Holmes, in this volume, describes as a performative entanglement. They might also be thought of as ideologies or cultural hegemonies (Williams 1977, Gramsci 1987) that become instruments of domination of a particular interest group, as Dal Forno and Mollona point out in relation to ‘privatization’.

Although Actor-Network methodologies are extremely useful in exploring the subjective-objective entanglements of processes of model building and modelling power, we want to retain a political economy framework that might hold explanatory value to highlight scale, power and contradiction. For this we keep an ontological perspective that confers to humans the charge of responsibility for particular assemblages that would define agential capacity (Ong and Collier 2005). Models become, and are enacted through, the struggles of responsible agents in historically grounded practice: they are designed and settled –however fleetingly—in complex interactions between powerful and less powerful actors, and in this process have specific effects and consequences. In his chapter, Ost focuses on class as a model for social interaction that is transformed in the post-socialist conjuncture into a culturally defined model. He introduces greater complexity to the concept of class by pointing at the tension between structural transformations, group interests and the production of cultural models that serve to frame claims. While class has been the key framework for thinking about labour/capital relations in the context of industrial capitalism, transformations of global capitalism have produced a challenge to the validity of the concept and promoted a shift from class to culture. Ost's point, however, is that if we understand class as a cultural identity based on economic issues, an imagined community of sorts, then particular class interests can be pursued without a class discourse model. This, he argues, is occurring where the class discourse does not advance concrete class claims. Thus, cultural categories (such as those derived on the basis of claims to ethnicity, nationalism or race) are used as tools to achieve class objectives: culture as class.

In 'Industry and Work in Contemporary Capitalism', we explore the ways in which models that inform the organization of work and are espoused by policy-makers, international agencies and corporations, may diverge from, coincide with or contradict the models articulated by less powerful actors on the ground (in chapters by Bueno, Ost, Perelman and Vargas, González-Polledo). We note the gaps between global forces and national conditions on the one hand, and between the experience of workers and the aims of policy on the other. This is the central theme of Perelman and Vargas' discussion of Argentina in the period since the 2001-2002 crisis. Through the use of statistical and ethnographical data they reveal a disjuncture between expert accounts about a shift in conjuncture based on statistical data, and worker's arguments based on their everyday experiences. The changes associated with a 'new model' and brought about by political reforms and a more 'protectionist' trade model during the Kirchner administration since 2003, curbed the dynamics unleashed by an earlier period of deregulation that culminated in the 1990s and that produced the systemic crisis of 2001. New policies reduced unemployment and brought an increase in labour opportunities. However, workers in the privatized steel plant where they conducted research, do not recognize such a shift in economic model because the conditions of labour in industry – i.e. outsourcing and flexibilization—remain those that were set in place with privatization. By comparing the official models and the models derived from statistical data with the folk models based on lived experience, this chapter points to the contested aspect of models in their struggle for hegemony. It also underscores the nature of difference –the instruments and significant elements that are used as building blocks for the design of models by different social actors—as a substantive aspect of power in the domain that becomes defined as “economic”.

Since the Industrial Revolution, innovation has been a key element of development in economic models as the force that pushes growth forward through the dynamics of competition between capitalist firms. As in earlier modernization projects, today innovation is important as an idea and as a range of technical and organizational instruments used to modify the scale, quality and/or speed of production. Innovations in the organization of work and the technologies of production have implications for the experience of work, the division of labour within factories and plants and for the notion of the 'good worker'. Ethnographic research shows how technological changes contribute to the reorganization and re-evaluation of workers, of machines and the relations that bind them (Burawoy 1979, Mollona, De Neve and Parry 2009). Such reorganizations, however, are not limited to the space of the plant (Mollona 2009, Narotzky 2004, Smart and Smart 2005, Pahl 1984, Harris, Lee and Morris 1985). Bueno's study of engineers in a Mexican automotive plant shows how new processes disengage these workers from specific places, creating a virtual community that alters their relationship to time and space, as well as to their fellow workers. In contrast with the strongly place-based communities of work that characterized the experience of blue-collar workers in the past, engineers working in innovation are fully de-localized and part of global networks of virtual laboratories whereas they are unconnected locally. While everyday livelihood is generally linked to place, research and development engineers are de-localized / globalized and are not *in* place. They are trained to become "global citizens" and perform intercultural communication even when their main work environment is extremely standardized and cross-nationally homogeneous. By contrast, technicians in the local sites of manufacture that implement innovation are also subject to the pressure of productivity and quality disciplines of the global factory, but remain strongly linked to place and to proximity and face-to-face networks. Innovation, fuelling

competitiveness, has become an unquestioned factor of a “new” model of economic development based on knowledge productivity and quality enhancement in a global space. What this ethnographic case reveals, however, is that place mediates the impact of innovation projects on employees’ livelihoods and identities.

González-Polledo in her chapter based on the study of the Arcelor-Mittal steel plant in Asturias (Spain), shows another aspect of technical innovation. Focussing on “technological zones” as an assemblage but also on “technology” as the metaphor of progress in the industry, this chapter highlights the political and social impact of technological changes that have resulted in ambivalence and tension amongst steel workers, local management, political agents and unions regarding ‘the future’. Here, too, competing ideas of how innovation should be understood and carried on in the plant point to the struggles around design and implementation of models oriented towards increasing competitiveness. Indeed, while the competitive edge promised by technological and organizational change appear to many stakeholders as a positive outcome that can preserve the economic viability of the factory, most workers continue to associate innovation plans with increased deregulation and layoffs. This creates a techno-political arena of struggle around the model of increased productivity and competitiveness that is sponsored both by the European Union, the trade unions and management.

As Hadjimichalis and Melissourgos argue in this volume, models ‘travel’ through space and simultaneously ‘produce’ space. Careful observation of industrial work and production as it unfolds in, or across, specific localities or spaces is complemented by analysis of how models circulate, through which channels of power, which institutional

entities, which political connections. The centrality of the uneven production of space through models of development is stressed in their chapter. They emphasize the fact that models of development in the steel industry had a spatial dimension, which can be seen in two post-World War II cases: 1) the “territorial production complex” combining extractive centres and heavy industry (*combinat* in the URSS and Eastern Europe) and 2) the abstract “growth pole” model with its dominant propulsive key industry proposed by Perroux. Both these models supported the idea of steel as a key development industry and this was imagined in terms of particular political spaces (the nation, the region) and the power they could harness. But, more importantly, their contribution underscores the mutual configuration of historically and spatially located industrial practices and particular “models of development” such as the early 20th century industrial location theory (Weber 1929). Indeed, the analysis of actually existing industries served to design a model highlighting three elements that can be seen as guiding the choice of location for the steel industry. These are the “proximity to markets, to fuel and to raw material” and an infrastructural factor, which is the “transport cost inputs”. The model then became part of “a planned policy” in Soviet planning, one that attempted to produce a particular kind of future promoting growth through the location of heavy industry that would configure migration patterns and the livelihoods of thousand of people during several generations. In this analysis, models appear as prisms that refract actual practice into structural components. These in turn become intellectual devices for designing actual practices aimed at achieving an imagined future. Moreover, these models rested on the elaboration of an abstract “economic” space of growth that was interpreted as a concrete geographical space of practice. As a result, the interests of particular political and economic agents became the metonymy of general interest and inscribed in practices that transformed space and

livelihoods. The power of designing and imposing practices seems to depend on the ability of strong institutions –be it the State or international multipolar bodies—to persuade or coerce the various actors involved.

Coercion is often stabilized in the law. This is the focus of Martínez Veiga’s argument. His chapter connects the current economic crisis and the Spanish government’s response to it to the issue of global “structural adjustment” models and their local implementation through legal enforcement. In particular, his chapter shows how neoliberal ideas become embodied in law, as is apparent in the promulgation of new labour laws that legitimize the flexible use of workers and undermine their status and rights. As other anthropologists have persuasively argued, struggles around the concepts that become instituted in law are central to the purchase that the law may have as a framing of practice. While the law appears as the formal expression of a neoliberal economic model, it simultaneously expresses the need for power and sanction to become entrenched. Far from the “rational actor” model’s logical basis for economic legitimacy, the struggle for law enforcement underscores the fragility of the model in practice.

In a final note, Gibellieri draws on his extensive expertise in the fields of trade unionism, industrial policy and European Union policy in particular, to comment on the main transformations of the policies for steel within the European Union. He gives the point of view of a stakeholder, someone who has been part of the configuration of policies and strategies as a high-ranking institutional representative of the unions in the ECSC. In his short epilogue he alerts us to an emergent trend in EU policies regarding steel in particular, and industry in general: the objective of recuperating industrial

strength. Indeed, in a communication from the European Commission entitled “Action Plan for a competitive and sustainable steel industry in Europe” the following recommendation is highlighted: “The Commission considers it essential that Europe remains an important steel producing region for economic, social and environmental reasons as well as for security of supply. ... seeking to reverse the declining role of industry in Europe from its current level of 15.2% of GDP to as much as 20% by 2020” (European Commission 2013:3). The context of structural adjustment in most steel producing countries in Europe needs to be coupled with a difficult stimulus of internal demand in the two industries that remain the main output for steel: construction and automobile. Even more challenging seems to be the Commission’s approach to the steel industry (and industry in general) in terms of a politically defined territory, such as the European Union. Nowadays, the political economies of industry are entangled in what Hudson and Swanton aptly express as the “complexity of global processes and the interacting effects of many influences operating at different spatial scales within the complex social relations of capital” (2012:8). While this does not eliminate the effective power of territorially bounded regulations, it does alert us to the variety of political, economic and cultural struggles that interact locally and globally and affect industrial livelihoods.

This volume takes us through the exploration of an extensive theoretical terrain and across a number of empirical cases that show, in different ways and from different perspectives, how ideas about the economy, about work and industry, materialize in specific practices and interventions. Furthermore, we consider how these practices and interventions impact on people’s livelihoods, raising troubling implications regarding the possibilities of a prosperous, inclusive and democratic future. In reflecting on

industry and on economic models, we aim to contribute to the debate about the efficacy of theoretical constructs, about the points of contact and contrast between expert knowledge and actors' models (Gudeman 1990; Edwards, Harvey and Wade 2007; James, Plaice and Toren 2010) and about the difficulties faced by 'travelling facts' (Morgan 2011) as they traverse different disciplinary domains, spheres of research and spheres of government and policy. We consider that these reflections are timely and fundamental to the process of rethinking pervasive notions of the economy, at a time when the future of national and global economies as well as of individual livelihoods, are ambivalent about industry or knowledge as competing models for sustainable economies.

References

- Barry, Andrew and Slater, Don. 2002. Introduction: The technological economy. *Economy and Society* Vol. 31 (2): 175–193
- Benería, Lourdes 2003. *Gender, development, and globalization: economics as if people mattered*. New York: Routledge.
- Boltanski, Luc and Eve Chiapello 2007. *The new spirit of capitalism*. London; New York: Verso.
- Bourdieu, Pierre. 1982. Les rites comme actes d'institution. *Actes de la Recherche en Sciences Sociales* 43: 58–63.

Bourdieu, Pierre. 1986. La force du droit. *Actes de la Recherche en Sciences Sociales* 64: 3–19.

Burawoy, Michael. 1979. Anthropology of Industrial Work. *Annual Review of Anthropology*, Vol.8: 231-266

Burawoy, Michael. 1998 “The extended case method”, *Sociological Theory* Vol.16(1):4-33

Burawoy, Michael. 1991. “The Extended case method”, in Burawoy, M. (Ed) *Ethnography Unbound. Power and Resistance in the Modern Metropolis*, Berkeley: University of California Press

Butter, Den and Mary Morgan.2000. *Empirical models and policy-making interaction and institutions*. London and New York: Routledge.

Callon, Michel. 1998. An essay on framing and overflowing: economic externalities revisited by sociology. In *The laws of the markets*. Michel Callon, ed. Pp. 244–269. Oxford: Blackwell

Callon, Michel and Muniesa, Fabian. 2005. Economic Markets as Calculative Collective Devices. *Organization Studies* Vol.26(8): 1229–1250

Callon, Michel, Yuval Millo and Fabian Muniesa (eds) 2007. *Market devices*. Oxford: Blackwell.

Cartwright, Nancy and Jeremy Hardie 2012. *Evidence-based policy. A practical guide to doing it better*. Oxford ; New York : Oxford University Press.

Dawley, Stuart; Stenning, Alison; Pike, Andy. 2008. Mapping Corporations, Connecting Communities. Remaking Steel Geographies in Northern England and Southern Poland. *European Urban and Regional Studies* vol. 15 (3): 265-287

Díaz-Morlán, Pablo; Escudero, Antonio and Sáez, Miguel Á. (2008), “El desmantelamiento de la siderurgia integral del Mediterráneo español (1977-1984)”, *Revista de Historia Industrial* 38(3):161-187

Díaz-Morlán, Pablo; Escudero, Antonio; Sáez, Miguel Á. (2009), “The restructuring of the Spanish integrated steel industry in the European panorama (1971-86): A lost opportunity”, *Business History* 51(4):547-568.

Edwards, Jeanette, Penny Harvey and Peter Wade 2007. *Anthropology and science: epistemologies in practice*. Oxford: Berg.

Elyachar, Julia. 2005. *Markets of dispossession: NGOs, economic development, and the state in Cairo*. Durham, NC: Duke University Press.

Escobar, Arturo. 1995. *Encountering Development. The Making and Unmaking of the Third World*, Princeton, NJ: Princeton University Press.

European Commission. 2013. *Action Plan for a competitive and sustainable steel industry in Europe*. http://ec.europa.eu/enterprise/sectors/metals-minerals/files/steel-action-plan_en.pdf , access January 5th 2014

Feenberg, Andrew 2010. *Between Reason and Experience. Essays in Technology and Modernity*. Cambridge, Massachusetts, London: the MIT Press.

Ferber, Marianne and Julie Nelson (eds) 1993. *Beyond economic man: feminist theory and economics*. Chicago and London: University of Chicago Press

Ferber, Marianne and Julie Nelson (eds) 2003. *Beyond economic man. Ten years later*. Chicago and London: University of Chicago Press.

Ferguson, James. 1994. *The Anti-Politics Machine. "Development", Depoliticization, and Bureaucratic Power in Lesotho*. Minneapolis: University of Minnesota Press

Florida, Richard and Kenney, Martin. 1992. Restructuring in Place: Japanese Investment, Production Organization, and the Geography of Steel, *Economic Geography*, Vol. 68 (2): 146-173

Gibson-Graham, J.K. 1996. *The end of capitalism (as we knew it). A feminist critique of political economy*. Cambridge, Massachusetts; Oxford: Blackwell Publishers

Gledhill, John 2004. Neoliberalism. In David Nugent and Joan Vincent (eds) *A companion to the anthropology of politics*. Oxford: Blackwell

Gramsci, A. (1987) [1929-35] *Selections from the Prison Notebooks*, New York: International Publishers

Gudeman, Stephen 1990. *Conversations in Colombia: the domestic economy in life and text*. Cambridge: Cambridge University Press.

Gudeman, Stephen 2008. *Economy's Tension : dialectics of community and market*. New York : Berghahn.

Gudeman, Stephen 2010. A cosmopolitan anthropology ? in Deborah James, Evie Plaice and Christina Toren (eds) *Culture wars. Context, models and anthropologists' accounts*. New York ; Oxford : Berghahn Books.

Haas, P. M. 1992. Introduction: Epistemic communities and international policy coordination. *International Organization* 46 (1): 1–35

Hart, Keith; Laville, Jean-Louis and Cattani, Antonio David. 2010. *The Human Economy*. Cambridge: Polity

Harris, Chris; Lee, R.M.; Morris, Lydia. 1985. Redundancy in steel: Labour market behaviour, local social networks and domestic organisation' in Roberts, Bryan; Finnegan, Ruth; Gallie, Duncan *New Approaches to Economic Life*, Manchester University Press, Manchester

Harris, Mark (ed.) 2007. *Ways of knowing: anthropological approaches to crafting experience and knowledge*. New York, NY; Oxford: Berghahn Books.

Haas, P. M. 1992. Introduction: Epistemic communities and international policy coordination. *International Organization* 46 (1): 1–35

Hart, Keith; Laville, Jean-Louis and Cattani, Antonio David. 2010. *The Human Economy*. Cambridge: Polity

Harvey, David. 2005. *A brief history of neoliberalism*. Oxford: Oxford University Press.

Harvey, David. 2011. *The enigma of capital and the crises of Capitalism*. Oxford; New York: Oxford University Press.

Holmes, Douglas. 2009. Economy of Words. *Cultural Anthropology*, Vol. 24(3): 381–419

Howlett, Peter and Mary S. Morgan (eds) 2011. *How well do facts travel? The dissemination of reliable knowledge*. Cambridge: Cambridge University Press.

Hudson, Ray and Swanton, Dan. 2012. Global shifts in contemporary times: the changing trajectories of steel towns in China, Germany and the United Kingdom. *European Urban and Regional Studies* Vol.19(1): 6-19

Debora James, Evie Plaice and Christina Toren (eds) *Culture wars. Context, models and anthropologists' accounts*. New York, Oxford: Berghahn Books.

Li, Tania Murray. 2007. *The Will to Improve: Governmentality, Development, and the Practice of Politics*. Duke University Press

Lins Ribeiro, Gustavo. 2013. Global Flows of Development Models. *Anthropological Forum: A Journal of Social Anthropology and Comparative Sociology*, Vol.23 (2): 121-141

Longino, Helen E. 1993. Economics for whom? in Marianne Ferber and Julie Nelson (eds) *Beyond Economic Man: feminist theory and economics*. Chicago and London: University of Chicago Press

MacLeod, G (2001), "New regionalism reconsidered: globalization and the remaking of political economic space." *International Journal of Urban and Regional Research*, 24:4 804-829

Mitchell, Timothy. 2002. *Rule of experts*, Berkeley: University of California Press

Mollona, Massimiliano; De Neve, Geert and Parry, Jonathan (Eds). 2009. *Industrial Work and Life*. Oxford: Berg

Mollona, Massimiliano. 2009. *Made in Sheffield. An Ethnography of Industrial Work and Politics*. Oxford: Berghahn

Morgan, Mary 2011. Travelling facts, in Peter Howlett and Mary S. Morgan (eds) *How well do facts travel? The dissemination of reliable knowledge*. Cambridge: Cambridge University Press.

Moulier-Boutang, Yann 2011. *Cognitive capitalism*. Cambridge; Malden, MA: Polity Press.

Narotzky, Susana. 2004. "The Political Economy of Affects: Community, Friendship and Family in the Organization of a Spanish Economic Region" in Procoli, A. (ed.) *Workers and Narratives of Survival in Europe*, Albany, NY: State University of New York Press, pp.57-79

Narotzky, Susana. 2007. "The Project in the Model: Reciprocity, Social Capital and the Politics of Ethnographic Realism", *Current Anthropology*, V48 (3): 403-424

Ong, Aihwa and Collier, Stephen, Eds. 2005. *Global Assemblages. Technology, Politics, and Ethics as Anthropological Problems*. Oxford: Blackwell

Pahl, Ray E. (1984), *Divisions of Labour*, Oxford: Basil Blackwell

Perroux, François. 1968. Les investissements multinationaux et l'analyse des pôles de développement et des pôles d'intégration. *Tiers-Monde*, Vol.9(34) : 239-265

Randeria, Shalini (2007) "The State of Globalization. Legal Plurality, Overlapping Sovereignties and Ambiguous Alliances between Civil Society and the Cunning State in India", *Theory, Culture and Society*, V24(1):1-33

Read, Jason 2009. 'A genealogy of Homo Economicus: Neoliberalism and the production of subjectivity'. *Foucault Studies*, No. 6: 25-36.

Smart, Alan & Smart, Josie (Eds). 2005. *Petty Capitalists and Globalization. Flexibility, Entrepreneurship, and Economic Development*, Albany, NY: State University of New York Press

Stenning, Alison. 2000. Placing (post-)socialism. The making and remaking of Nowa Huta, Poland. *European Urban and Regional Studies* 7(2): 99–118

Sznajder, Aleksandra. 2006. "Effects of EU Accession on the Politics of Privatization – The Steel Sector in Comparative Perspective," in Amelie Kutter and Vera Trappmann (eds.), *Das Erbe des Beitritts. Mittel- und osteuropäische Gesellschaften nach dem Beitritt zur EU, [The Legacy of EU Accession - Central and Eastern European Societies after EU Accession]*, Baden-Baden: Nomos Verlag, p. 209-231

Swyngedouw, Erik (2004) "Globalisation or 'Glocalisation'? Networks, Territories and Rescaling", *Cambridge Review of International Affairs*, Vol. 17 (1): 25-48

Trappmann, Vera. 2013. *Fallen Heroes in Global Capitalism. Workers and the Restructuring of the Polish Steel Industry*. Houndmills, UK: Palgrave MacMillan

Weber, Alfred. 1929. *Theory of the Location of Industries*, Chicago: The University of Chicago Press

Williams, Raymond (1977) *Marxism and Literature*, Oxford: Oxford University Press