



DIE ERDE

Journal of the
Geographical Society
of Berlin

South American resourcescapes: geographical perspectives and conceptual challenges

Martin Coy, Fernando Ruiz Peyré, Christian Obermayr

University of Innsbruck, Institute of Geography, Innrain 52f, 6020 Innsbruck, Austria,
martin.coy@uibk.ac.at, fernando.ruiz-peyre@uibk.ac.at, christian.obermayr@uibk.ac.at

Manuscript submitted: 13 September 2016 / Accepted for publication: 04 May 2017 / Published online: 27 September 2017

Abstract

Once again, resources are at the centre of scientific and public interest. From 2000 onwards, soaring commodity prices and the unrestricted proliferation of extractive activities have caused significant spatial, political and socio-economic consequences in producer countries with large extractive economies. We exemplify these consequences by telling the resource stories of South American countries, where the 'resource curse' and the internal logics of extractive economies have been deeply inscribed in the socio-economic, cultural and territorial orders since colonial times. Inspired by Swyngedouw (1999), we adopt his notion of 'waterscapes' and argue that a deeper, holistic comprehension of resource landscapes (i.e. resourcescapes) is necessary for the understanding of the multidimensional and contradictory nature of resources and possible transitions towards a sustainability-oriented transformation. We suggest that such a framework should be based on Political Ecology, but could also be enriched by taking up other impulses from contemporary poststructuralist and critical geographies and from South American debates on (neo-) extractivism. Starting with a conceptualization of the term 'resource', we illustrate historical trajectories and changing perspectives of societal relations with resources in South America. After that, we review conceptual debates in social sciences and ask how these concepts could give impulses for a more holistic framework.

Zusammenfassung

Erneut stehen Ressourcen im Zentrum des wissenschaftlichen und öffentlichen Interesses. Seit der Jahrtausendwende hatten die Preissteigerung von *commodities* und die damit verbundene ungebremste Ausbreitung von Aktivitäten zur Ressourcengewinnung erhebliche räumliche, politische und sozial-ökonomische Auswirkungen auf Länder mit bedeutsamer extraktiver Wirtschaft. Wir thematisieren diese Folgen exemplarisch anhand der Ressourcengeschichten der südamerikanischen Länder, die schon immer durch Abhängigkeiten und die Logik der Ressourcenausbeutung geprägt waren und in denen sich die wirtschaftlichen, kulturellen und sozial-räumlichen Strukturen widerspiegeln. Basierend auf Swyngedouws Gedanken von *waterscapes* (1999) argumentieren wir, dass ein holistischeres Verständnis von Ressourcenlandschaften (*resourcescapes*) erarbeitet werden muss, um den multidimensionalen und widersprüchlichen Charakter von Ressourcen und Möglichkeiten einer Transformation hin zur Nachhaltigkeit erfassen zu können. Die Politische Ökologie kann die Basis für solch eine Perspektive einnehmen, sie sollte aber auch um Elemente aus der kritischen und poststrukturalistischen Geographie und den gegenwärtigen Debatten über (Neo-)Extraktivismus aus Südamerika erweitert werden. Zunächst erörtern wir den Begriff der „Ressource“ und stellen darauf aufbauend das Verhältnis zwischen Gesellschaft und

Martin Coy, Fernando Ruiz Peyré, Christian Obermayr 2017: South American resourcescapes: geographical perspectives and conceptual challenges. – DIE ERDE 148 (2-3): 93-110



DOI: 10.12854/erde-148-41

Ressourcen in Südamerika aus einer historischen Perspektive dar. Anschließend diskutieren wir überblicksartig aktuelle Konzepte aus den Sozialwissenschaften und fragen, inwiefern diese Ansätze zu einer holistischeren Perspektive beitragen könnten.

Keywords South America, resources, (neo-)extractivism, resourcescapes, Political Ecology, social-ecological transformation

1. The relevance of resources: some general considerations

Resources matter. This statement seems to be beyond dispute, considering the debates about Global Change and the necessity of a transition towards a sustainability-oriented transformation of modern society. However, only a few years ago, processes of economic change have painted a different picture: The 1980s and 1990s were characterized by a far-reaching 'de-materialization' of the leading global economies (Bridge 2009: 1217). Due to the rise of the financial and service sectors and the outsourcing of the material-intensive production to the Global South, economic growth appeared to be, at first glance, increasingly decoupled from the use of raw materials. Additionally, 'spatial shrinking', as a consequence of globalization and technological change, contributed to the overall perception of unlimited and ubiquitous availability of natural resources. The geographer G. Bridge mirrored this widely accepted view, when stating that natural resources would no longer pose a limiting factor for economic development (Bridge 2001: 2151). These aspects are, together with decreasing raw material prices since the 1970s' 'oil crisis' (von Weizsäcker 2013: 8), probably the reasons why the scarcity of raw materials has disappeared from the focus of public attention and political awareness.

From 2000 onwards, a new period of rising prices and aggressive competition for natural resources has begun to shape the global economy. Now, the so-called BRICS-countries entered the stage as important and growing consumers. As a result, drastic price hikes erupted the global commodity markets for mineral raw materials and basic agrarian products, revitalizing the discussion about the predictable depletion of non-renewable resources, i.e. the so-called 'Peak Oil' or even a 'Peak Everything' (Heinberg 2007). A new kind of Malthusian pessimism accompanied this debate (cf. for instance Heinberg 2010). Simultaneously, a growing global awareness concerning the exploitation of nature became evident. The powerful climate change discourse renewed and intensified the critique

against 'western life style' (Brand and Wissen 2011), demanding fundamental societal changes (Reller and Holdinghausen 2011). Nowadays, the debate about the 'Anthropocene' provides the discursive framing for an awakening awareness of mankind's responsibility for planet Earth.

Resource-rich countries of the Global South have always been particularly affected by fluctuating trends on global commodity markets. Since colonial times, many countries have struggled with their economic dependency on export-oriented resource extraction and raw material production. This so-called 'resource curse' with its various economic, social, ecological and spatial consequences was considered the main 'development trap'. Escaping this trap by means of economic diversification was seen as a decisive prerequisite for modernization (cf. Humphreys et al. 2007; Gebhardt 2014). This view also dominated the scientific debate at the end of the 20th century, causing a declining interest for studying questions related to resources and raw materials.

Over the last decades, however, original and creative contributions from human geography have emerged, demonstrating the renewed interest in societal relations with nature in the context of globalization (Bridge 2010; Schmitt and Schulz 2016). These contributions reflect and incorporate two major strands: First, an explicit Political Ecology, which can be traced in a large body of research on socio-ecological conflicts and environmental problems; and second, other forms of committed human geographies (critical/radical geography, critical geopolitics, poststructuralist approaches, etc.). These tendencies have led to the emergence of new ideas on natural resources and have enriched the scientific debate on their socio-spatial implications.

In the light of these developments, we present a review on contemporary debates on resources, relying strongly on the example of South America while touching conceptual approaches from various fields of geography. Inspired by Swyngedouw (1999), we adopt

his notion of 'waterscapes', and argue that the broader, holistic comprehension of resource-landscapes (*resourcescapes*) is necessary for understanding possible transitions towards a sustainability-oriented transformation. We deal with the question in which way and to what degree a more holistic research framework could contribute to the understanding of 'resourcescapes'. We suggest that such a framework can be based on Political Ecology, but could also be enriched by taking up other impulses from contemporary poststructuralist and critical geographies and from South American debates.

The following section introduces recent trends in the debate on resources and clarifies our understanding of the term 'resource'. Thereafter, we illustrate different historic periods of societal relations with resources using the example of South America. In its history, the continent has exemplified changing perspectives on resources and extracting activities providing a breeding ground for the development of concepts and theories. The third section reviews various conceptual debates and asks how these concepts could give impulses for a more holistic perspective on what we call resourcescapes.

2. Meanings and new actualities of resources

The meaning and context of resources has always been subject of scientific discussions (cf. various contributions in Reller et al. 2013, specifically Meißner 2013; Gebhardt 2014; Dittrich 2015). Some classifications are undisputed – e.g. renewable and non-renewable resources, important in the debate on sustainability – while others are more contested. Classical resource geography was concerned with a predominantly static and descriptive interest on natural resource deposits, their spatial location, quantitative questions, profitability, and technical options of exploitation as well as questions of control. Here, economic and political issues were traditionally the dominant topics, focusing on mineral production for industrial use and state control over resources (Haas and Fleischmann 1991; Bakker and Bridge 2006; Bridge 2009).

Contrasting this somewhat dated view, our paper, as well as other contributions of this Special Issue, utilize a broader and more flexible comprehension of the resource concept. Even if, at first glance, the resource concept directly refers to the materiality of basic goods, be they of mineral or agrarian origin, imma-

terial resources (e.g. indigenous knowledge) are also included in our considerations. Depending on the context, the terms 'resource' and 'raw material' are often applied synonymously. In our understanding, neither the (material) resource nor the raw material concept should be solely restricted to goods from extractive activities. On the contrary, products originating from agrarian activities are to be included, as they have always been important raw materials for several (agro-industrial or industrial) purposes. Special attention must be given to the growing importance of resources as commodities, referring to their function as marketable goods specifically on the global scale (cf. Prudham 2009).

In this regard, the resource question has gained new actuality, both in economic and scientific terms. Considering global commodity prices (cf. Fig. 1), three trends become obvious: first, a constant and accelerated price hike during the first decade of the new millennium, indicating the so-called 'super-cycle' (cf. for the Latin American context Bebbington and Bury 2013a: 38 ff.); second, a sharp price drop after the global economic crisis 2008 from which the commodity markets recovered very rapidly; and third, a continuous decrease of prices since 2010 due to economic weakness of the most important consumer countries (e.g. China).

The commodity price boom of the 2000s had triggered an expansion of the resource production base in many regions. Concurrently, food production and the exploitation of (renewable) raw materials for energy or industrial use gained importance. New resource frontiers emerged, accompanied by struggles over access to land, water and other resources, generally resulting in re-configurations of territorial orders (cf. Bebbington and Bury 2013b; Alimonda 2011). New mining frontiers, for instance, caused severe struggles with indigenous peoples, whose land rights were violated by mining companies (Exner et al. 2014).

Altogether this development produced a 'revival' of scientific debates on resources – and geography does not make an exception (cf. for instance Bridge 2009; 2010; 2014). Along with the 'de-materialization' of the economy, the geographical interest on the topic of resources had strongly declined at the end of the 20th century, and aspects of conservation and regulation of nature dominated the debate (Bakker and Bridge 2006: 7). It was not until the beginning of the new millennium when rising commodity prices renewed the interest of human geographers. Since then, not

only ‘environmental problems’ were focused on, but also the social, political and economic implications of nature’s exploitation. Traditional geographical questions regarding natural resources reappeared and new questions, such as the social representations of resources, their different territorial configurations and ethical aspects (i.e. environmental justice) emerged (Pichler et al. 2016). A broader understanding of the concepts of ‘nature’ and ‘resources’ can be witnessed as well as the focus on new kinds of (global and local) conflicts resulting from resource extraction.

In times of a rush towards the so-called flex crops – meaning crops fit to use for more than one purpose (i.e. food, energy and/or industrial production) – the production of raw materials and resources (and not only their extraction) is of strategic importance. Some resources occupy a key position in all debates on the topic, as they serve as basic production factors for extraction and also for production-oriented activities: The best examples of such key resources are land and water (c.f. Budds 2009; Borrás et al. 2012; Li 2014; Kaag and Zoomers 2014). Various kinds of property rights determine the access to these basic resources and play a decisive role in everyday life, in the political context and, consequently, in scientific and conceptual debates.

3. South American resource stories: an overview

3.1 South America as a ‘resource frontier’: historical experiences

Resource extraction has dominated South America since colonial times (cf. Reinhard 2016: 337 ff.; Bebbington and Bury 2013a). The mining of gold, silver and other precious materials has always been the priority of Spanish colonialists, and the dream of finding El Dorado was one of the main motives for the (economic) incorporation of newly discovered territories and the subsequent expansion towards peripheral areas. In contrast to the Spanish, the Portuguese had no luck in finding important mineral resources in their South American territories. Instead, they started, from the 16th century onwards, to extract *Pau Brasil*, the Brazilian wood needed as basis for a highly demanded pigment at that time, and to install huge sugar cane plantations to produce sugar for the European market. They subordinated the exploitation and socio-spatial organization of ‘their’ territories to an efficient and long-lasting slaveholder system (cf. Fig. 2) (cf. Furtado 2013). Consequently, from the beginning of European presence, South America’s economic development has been characterized by an orientation towards external markets and a domination of external actors. Resource exploitation and external control are the core features when speaking of the ‘open veins’ of South America (Galeano 2009).

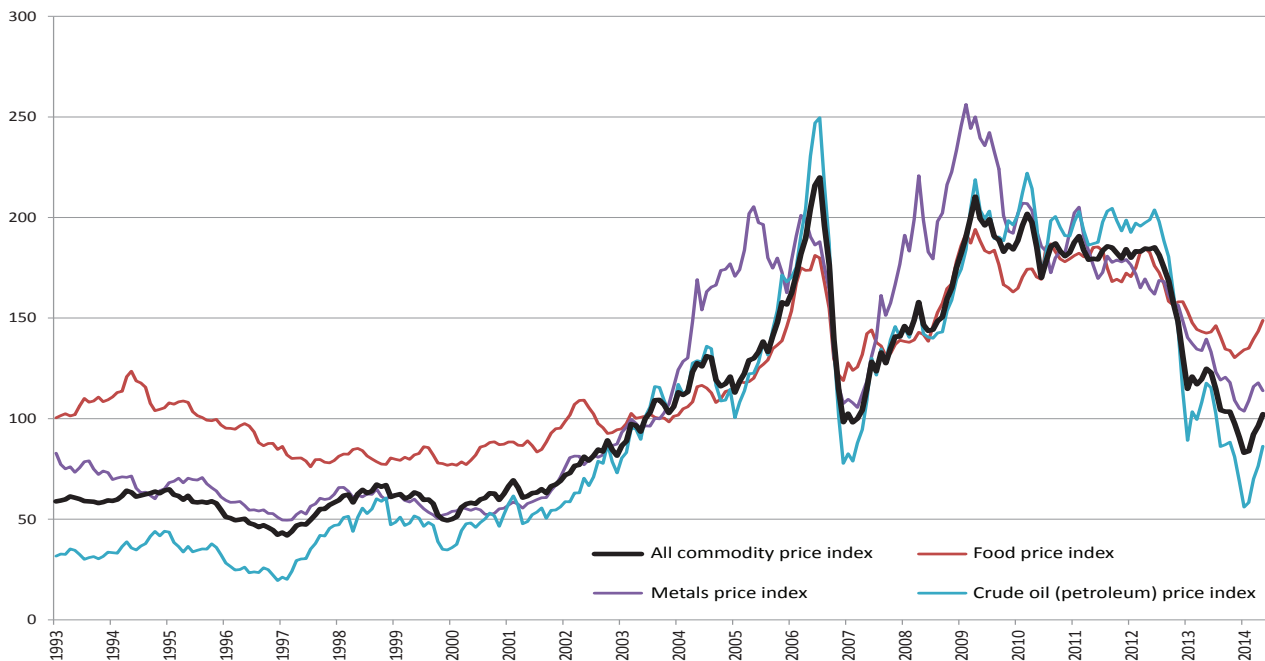


Fig.1 Development of selected commodity price indices, 2005 = 100.

Source: own illustration based on data of the IMF (<http://www.imf.org/external/np/res/commod/index.aspx>)

In this sense, not only South American history, but also South American geography is primarily a story of resource extraction. For a long time, extractive economies, their external domination and their internal logics based on mining or on agrarian plantation systems, have been deeply inscribed in the socio-economic, cultural and territorial orders of South America (cf. for the Brazilian example the periodizations in *Furtado* 2013). These extractive economies contributed not only to the perpetuation and hardening of uneven relations of production, but also induced very specific societal relations with nature. Characterized by an exploitative perception, these relations permeate important segments of South American societies and politics until today (cf. contributions in *Alimonda* 2011; *Göbel* et al. 2014).

South American countries can be classified according to their currently prevailing production systems. Resulting from their resource potential and their respective pathways of economic and spatial development, several groups emerge: mining countries (e.g. Peru, Bolivia and Chile), agrarian countries (e.g. Argentina, Uruguay and Paraguay), oil extracting countries (e.g.

Venezuela) and countries combining several extractive activities (e.g. Brazil, Ecuador or Colombia). These characteristics are deeply inscribed in the economical, societal and political patterns of these countries, influencing the behaviour of respective governments concerning extractive activities, legislation and social conflicts.

After the independence of South American countries at the beginning of the 19th century, extractive economies continued to prevail (cf. *Fig. 2*) (cf. *Halperin Donghi* 1991). Due to the industrialization process in Europe and North America, the demand for raw materials increased continuously and South America's function as global resource supplier was perpetuated. Compared to colonial times, however, the range of exportable resources was significantly amplified. While colonial extraction had been concentrated on precious metals (gold and silver), other mineral resources for industrial purposes (copper, tin, iron ore, etc.), crop products (sugar, coffee, wheat, tropical fruits, wine, etc.), industrial raw materials (rubber, tannin, saltpetre, etc.) and, finally, beef from the grazing regions in Argentina, Uruguay, etc. have continuously gained importance.

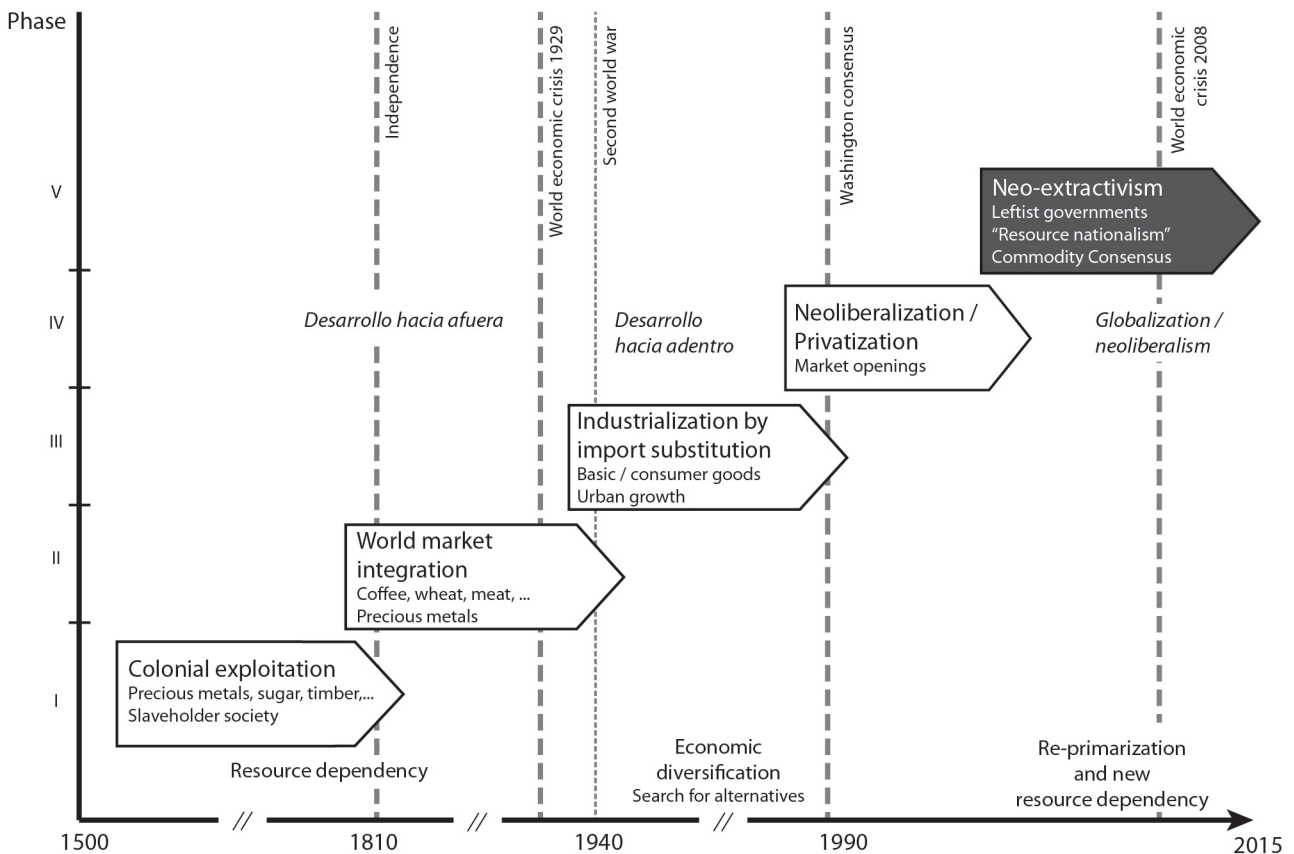


Fig. 2 Resources and development in South America. Source: own elaboration

These extractive economies determined largely the construction of infrastructure (railroads, harbors, energy production, roads etc.), frequently financed by foreign, mostly British or North American, entrepreneurs. Until the first decades of the 20th century, South America passed through a period of dominating outward orientation (cf. *Halperin Donghi* 1991: 239 ff.), the so-called phase of *desarrollo hacia afuera*. As a consequence, specific socio-economic (dominant structures of production, etc.), socio-political (elite structures, strategic groups, etc.) and socio-spatial orders (land ownership, rural-urban-relations, population distribution and/or settlement systems, etc.) have emerged and can be observed, at least in part, until today.

From the 1930s onwards and more explicitly after the Second World War, South America's pathway towards 'modernity' changed in several regards, marking the beginning of an era of internal-oriented development (*desarrollo hacia adentro*, cf. *Fig. 2*) (cf. *Halperin Donghi* 1991, 411 ff.). Industrialization, based principally upon the idea of import substitution, now dominated the development strategies (starting in Argentina during Peronism, in Brazil under Getulio Vargas and more explicitly in the 1950s with Juscelino Kubitschek's government slogan '50 years in 5'). Altogether, import substitution strategies can be seen as explicit reactions to long-standing experiences with external dependency, external control and the failure of the raw material- and export-based development model.

Not only the economic, but also socio-political, socio-cultural and spatial orders were undergoing significant modifications during that time. Simultaneously with industrialization, urbanization increased very rapidly, and the elites evolved from traditional groups to 'modern' urban players, much more engaged in the industrial, service and financial sectors. Regional development policies started to promote initiatives aiming at the reduction of regional disparities and the diversification of development alternatives. These changes, however, did not put an end to traditional extractive economies and the exportation of raw materials remained an important source of foreign exchange for many countries; resource exploitation continued to be the main driver of industrial development. In the 1950s, 1960s and 1970s and based on the theoretical and political support of the ECLAC (the UN Economic Commission for Latin America and the Caribbean), most governments considered industrialization (and concomitant urbanization) as the strategic cornerstone of mod-

ernization. Therefore, most efforts were concentrated on strategies to facilitate industry-based development paths through public engagement as well as by the attraction of foreign direct investments.

The main costs of these strategies of internal oriented development were increasing public debts. During the 1980s, many South American countries got into a deep debt trap which in turn caused strong interventions of international agencies, mostly the IMF. In order to 'adjust' national budgets, austerity policies were imposed on several countries leading to severe cutbacks in various domains of public budgets. At the end of the 1980s and 1990s, structural adjustment policies caused extensive changes in the capacity of the nation-states to provide social services, as well as in the re-structuring of the government's presence in the economy, far and foremost in the basic resource-oriented sectors (mining, energy production, infrastructure implementation, etc.). During the 1990s, waves of deregulation, flexibilization and privatization had opened most South American economies and societies towards globalization, initiating the phase of neoliberalization (cf. *Fig. 2*). Many countries 'liberalized' their mining legislation, particularly allowing the activity of transnational mining companies.

The pattern of access to and use of resources was completely turned inside out by these neoliberal tendencies (cf. *Bebbington and Bury* 2013a: 38 ff.). The actor setting fundamentally changed and consequently gave rise to new socio-economic and socio-ecological conflict constellations. At the same time, the global demand for raw materials, mineral resources as well as basic products from agrarian origin, began to increase due to the soaring demand of the fast-growing Asian countries (China, India, etc.) and the expansion of western lifestyles as the 'imperial mode of living' (*Brand and Wissen* 2013). Against this background, new 'resource frontiers' (new mines, incorporation of new agrarian frontiers of croplands and pastures, etc.) were constantly opened in many South American countries producing conflicts and new territorialities. Owing to the growing influence of global players (e.g. transnational mining companies, the transnational agribusiness, etc.), these new 'resource frontiers' turned out to be more and more 'globalized' themselves – in economic terms, but also in terms of protest and resistance. International social and ecological movements became increasingly involved, denouncing and condemning the 'pillaging' of nature and the indiscriminate belief in economic growth. A good example constitutes

the Amazon, which, since the 1980s, has turned to be an emblematic region for globalized socio-ecological struggles with a high symbolic value (cf. Coy 2013).

3.2 New horizons? Political transformations at the beginning of the new millennium and consequences for South American resource economies

At the beginning of the new millennium, almost all South American countries ran through fundamental political transformations characterized by a political shift to the left and the emergence of new discourses and actors (cf. Lang and Mokrani 2013). Social issues have become the priorities of the political agenda of all these leftist governments, reacting explicitly against the economic orientation of their predecessors, which had aimed to increase economic growth with austerity policies. Some of the ambitious goals of the new political elites were the fight against poverty, a more just society with opportunities for all to participate in and the identification and realization of strategies towards sustainable development. These alternative discourses gained much support in (national and international) civil society. New actors directly engaged in the new governments, among them many intellectuals, activists from indigenous or environmental groups and representatives of the growing movements of landless peasants.

At the same time, the global boom of commodities continued and caused growing demands for South American resources. Mineral raw materials (copper, iron ore, silver, gold and others), energetic resources (oil and gas) as well as agrarian basic goods (particularly soybean, but also sugar cane, corn, cotton and others) passed a 'super-cycle' (cf. Bebbington and Bury 2013a: 38 ff.), resulting in a tendency of resurging resource extraction activities in the producer countries. This process of 're-primarization' of regional, in some cases also national, economies recalls in a certain sense past times of *desarrollo hacia afuera*.

The socio-economic and especially the social-ecological consequences of this 'super-cycle' threatened to cause fundamental contradictions with the ambitious goals of the new governments. As the ideological standpoints of leftist governments usually highlight social development and independency from external influences, one would expect a critical position against resource economies which are very often controlled by transnational enterprises or globally cross-linked agribusinesses.

Surprisingly, they rapidly decided to legitimize the continuing resource orientation. It was argued that the increasing revenues from the exportation of raw materials and basic goods can serve as financial basis for re-distribution and social development. A new phase was born: the South American 'neo-extractivism' (cf. FDCL 2012; Lang and Mokrani 2013).

The re-emergence of economies based on resource extraction is by no means astonishing when considering the immense resource potential of South American countries (cf. Fig. 3). Looking only at some strategic resources (figures from respective info-graphics of ECLAC 2014), Latin America holds 65% of the world resources of lithium, 49% of silver, 44% of copper and 33% of tin, very important deposits of bauxite for aluminium production, iron ore and other raw materials for steel production. Over 20% of the world's oil reserves are located in Latin America and the continent offers huge potential for the production of biofuels (ethanol from sugar cane, biofuel from palm oil, etc.). More than 33% of the world's freshwater reserves can be found in Latin America, 20% of the world's forests and 12% of its arable land. Furthermore, Latin America is considered to have the highest biodiversity worldwide, which constitutes an important and highly contested resource for biotechnology and innovations in various future-oriented sectors.

Analysing recent performances in the global commodity markets, it was found that at least one South American country is among the top-5 suppliers for 14 important commodities, including mineral raw materials as well as agrarian basic products (cf. Table 1 and World Bank 2016). Once again, the strategic role of South America in the global commodity realm is highlighted. Hence, the new governments of the mentioned countries had to define their position concerning the, at that time, ongoing 'super-cycle' of commodities (cf. Bebbington and Bury 2013a: 38 ff.).

3.3 Neo-extractivism: a new development paradigm or old wine in new bottles?

Approving the integration of South American economies into the global market, but revising the revenue allocation from resource extraction, this was the main argument of South American governments for their continued support of extractive economies and their active support of 're-primarization' tendencies. The well-known 'Washington Consensus',

which framed South American incorporation into globalization and neoliberalism during the 1990s, was gradually substituted by the so-called 'Commodity Consensus' (cf. Svampa 2013; Hafner et al. 2016) highlighting the priority of the resource sector for national development (cf. Fig. 2 and Fig. 3).

vate (foreign) enterprises operating in strategic sectors. This policy was accompanied by the discourse of a 'strong development state' and an explicit criticism of globalization. Sometimes this strategy did not only cause conflicts with global players, but also with actors from neighbouring countries, as in the case of the

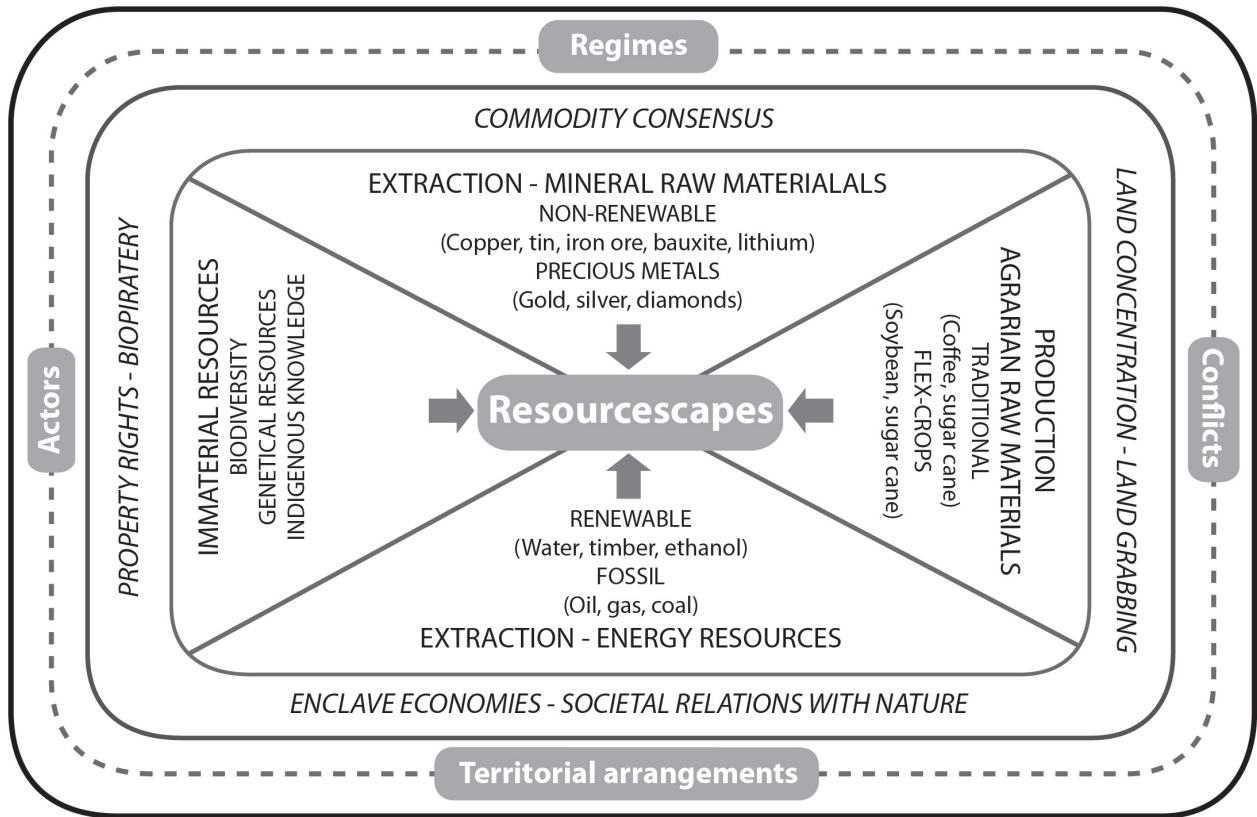


Fig. 3 Contested resourcescapes in South America. Source: own elaboration

A fundamental question was to find a political balance between economic, social and environmental interests. A reorientation to a system was needed, which avoids a merely profit-driven 'pillage' of natural resources, satisfies the demands of the political clientele for more participation in decision-making and simultaneously considers the growing calls for conservation and alternative development styles in large parts of the civil society. Several South American countries had, under these new political circumstances, at least the chance to 'invest' in changing societal relations with nature.

The challenge to find adequate policies for handling extractive economies turned out in quite different ways. Three strategies can be observed. Countries like Bolivia, Venezuela and partly Ecuador gradually opted for a 'resource nationalism', going along with re-nationalization (resp. socialization) of several pri-

Bolivian-Brazilian gas conflict in 2007. Other countries chose the strategy of imposing special taxes on the extractive economies in order to absorb a significant amount of the commodity revenues. Argentina with its *retenciones*, a specific tax on agribusiness activities, is a good example for this kind of policy. A third strategy, as for instance pursued by Brazil, is based on the logic to maintain a relatively liberal position towards extractive economies, opting for a much more active support through infrastructure development (e.g. logistics and energy), financial assistance or the representation of interests of the resource sector in international trade policies.

Overall, the position of the South American countries facing the resource 'super-cycle' continues to be extremely contradictory. Increasingly, socio-ecological conflicts arose in the context of extractive activities and raw material production for the global markets.

The leftist governments were more and more criticized by their original supporters. In Argentina, as well as in Bolivia and Peru (cf. various examples in *Bebbington and Bury 2013b*; in *Alimonda 2011* and *Göbel and Ulloa 2014*), strong civil protests against new projects of open pit mining upset the political scene for many years. In Brazil, civil protests focused on the following conflict constellations: Resource extraction (iron ore, bauxite, gold and other mineral resources), energy production (large dams and hydro-power-plants) (cf. *Fearnside* in this issue) and the expansion of agrarian frontiers for commodity production (primarily soybean and cattle ranching, cf. *Hafner* and *Rainer* in this issue).

tiative for the Integration of Regional Infrastructure (*Iniciativa para la Integración de la Infraestructura Suramericana - IIRSA*) was created, aiming at the implementation of several (currently ten) cross-border development axes. This initiative brought a substantial re-orientation of regional integration in South America (cf. *Hafner et al. 2016*; *Van Dijck and Den Haak 2006*; *Van Dijck 2014a, 2014b*; *Little 2014*).

Infrastructural development projects originating from the IIRSA-initiative have aggravated the potential and severity of socio-ecological conflicts.

Table 1 South America's relevance in global commodity markets.
Source: Own elaboration based on data from IBRD (World Bank 2016: 35 ff.)

South America's relevance in global commodity markets	
Raw materials	Worldwide ranking (five most important producers) 2015
Mineral raw materials	
Copper	Chile – Peru – China – USA – Dem. Rep. Congo
Iron ore	Australia – Brazil – China – India – Russia
Lead	China – Australia – USA – Peru – Morocco
Silver	Mexico – Peru – China – Australia – Chile
Tin	China – Indonesia – Myanmar – Bolivia – Peru
Zinc	China – Australia – Peru – India – USA
Agrarian basic products	
Bananas	Ecuador – Philippines – Costa Rica – Guatemala – Colombia
Cocoa	Ivory Coast – Ghana – Indonesia – Ecuador – Cameroon
Coffee	Brazil – Vietnam – Colombia – Indonesia – Ethiopia
Cotton	India – China – USA – Pakistan – Brazil
Maize	USA – China – Brazil – European Union – Argentina
Industrial roundwood	USA – Russia – China – Canada – Brazil
Soybeans	USA – Brazil – Argentina – China – India
Sugar	Brazil – India – European Union – Thailand – China

In all historical phases with dominating extractive economies, infrastructure implementation was crucial, and this is also true for the new period of neo-extractivism. A central reason was the ongoing expansion of extractive activities towards peripheral regions transforming them into new 'resource frontiers'. A new characteristic of today's resource frontiers is their incorporation into the global economy, transferring these extreme peripheries into a battleground between local and global interests. The cooperation of South American countries in terms of infrastructure development intensified regional integration. Already in 2000, the South American Ini-

The regions affected are considered to be among South America's most sensible regions in terms of social and ecological diversity. The planned exploitation of the hydro-electrical potential of the Amazon regions, for instance, has quickly become the target of (inter)national critique (e.g. the Belo Monte project, cf. *Fearnside* in this issue). The often unforeseeable consequences of the emerging socio-ecological conflict constellations and their significance for struggles over land, access to water or infrastructure is discussed by many scholars (cf. *Coy and Neuburger 2008*; *Coy and Klingler 2011*; *Van Dijck 2014b*).

Very often, official discourses regarding the new cycle of mega-projects in times of neo-extractivism refer to a – supposed – ‘sustainability’ of those projects, at least in comparison with earlier times. They are framed as contributions for a necessary transformation towards green economy (Brand 2012). Summing up, in the context of neo-extractivism many new strands of discourse have emerged, connoting resource extractivism as profitable, sustainable and modern. Meanwhile, extractivism is shaped by the same old socio-ecologically contradictory practices, which could be observed for many years during the implementation of mega-projects in infrastructure, mining, energy production or in agribusiness.

3.4 The end of the ‘super-cycle’ and the return of the ‘resource curse’?

Since the end of the ‘super-cycle’, new crises and risks have emerged, threatening to ruin the overall positive development of the last decade (cf. Fig. 1). In the aftermath of the 2008 global financial crisis, South American countries did not only feel the effects of this economic crisis; deep political crises occurred as well. Several leftist governments completely lost credibility due to their involvement in extraordinary scandals of corruption and supposed political incorrectness (e.g. in Brazil with the Petrobras scandal, the subsequent *lava-jato* operation and the impeachment of President Dilma Rousseff). These political crises led to a ‘comeback’ of more conservative groups inspired by neoliberal ideas (e.g. in Argentina the new Macri-government). Consequently, several of the large and innovative measures of distribution-oriented policies (e.g. the *bolsa familia* program in Brazil) as well as some of the cornerstones of regulatory policies under the neo-extractivist paradigm (e.g. the Argentine *retenciones*) are increasingly challenged.

The most severe problem for the South American economies, however, is caused by the deep crisis of the global commodity markets, evident in the significant price drops for almost all important commodities. Reasons are, again, external factors, in this case the relative economic downturn of (new) global players, the BRICS countries (especially China). What seemed to be the chance for the South American resource economies in a growing and, above all, changing world economy, turned out to be the reoccurrence of the risk of dependency and vulnerability. The so-called ‘resource curse’ threatens to ‘take over’, again, control of South America.

4. Resource Geographies: conceptual debates

Having presented the resource story of South America, we review the latest scientific debates on resources in the following chapter. We argue that such a review can give valuable input for an intensified study of resources. We consider it useful to combine elements of existing approaches from critical and poststructuralist geography as well as Political Ecology with the debates on (neo-)extractivism in South America of the last 15 years (cf. Fig. 4). Keeping in mind that there is a vast and wide-ranging literature on these topics, our goal is not to cover the literature in its entirety, but rather to explore the possibilities and strengths of a holistic understanding of resource landscapes, a perspective we call ‘resourcescapes’.

Since 2000, the renewed interest in resource questions demanded a broader understanding of resources (Bakker and Bridge 2006; Bridge 2010; Schmitt and Schulz 2016 etc.). A new way of thinking about the exploitation of nature emerges, when taking into account poststructuralist and critical approaches in contemporary human geography. These approaches deliver necessary tools that allow for a reinterpretation of conflicts over resources in terms of their spatial, historical and social specificity.

At the same time, the current South American debate on neo-extractivism provides highly stimulating – theoretical and empirical – impulses for studying and comprehending the consequences of nature’s exploitation. The recurring social, political, economic and ecological crises turn the continent into a fertile ground for the development of alternative ways of thinking. Challenging the dominant resource-based development path, not only South America’s role in international resource politics is questioned, but also the predominating nature-society relationship.

Political Ecology is particularly suitable for combining these impulses. Due to its open and flexible framework, the integration of other concepts is easily possible. Moreover, its long-lasting research tradition on North-South relations, inequalities and resource conflicts provides a convenient background to link up other approaches. Political Ecology has always been characterized by a post-positivist understanding of nature and the production of knowledge and shows a political commitment to social justice and structural political change (Perreault et al. 2015: 8).

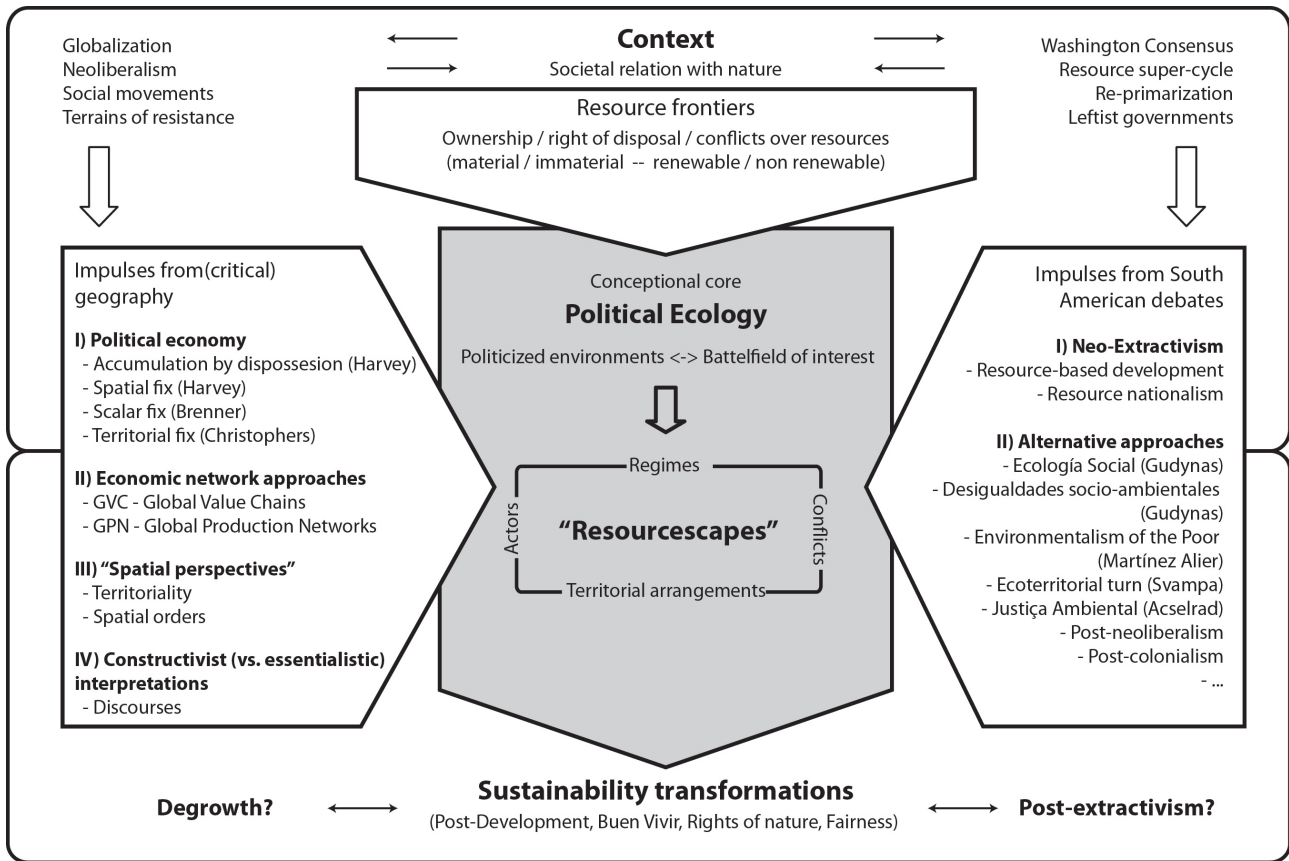


Fig. 4 Resource geographies: conceptual impulses. Source: own elaboration

4.1 Impulses from critical and poststructuralist geography

Critical geography has made significant contributions to a re-thinking of nature and nature-society relations in the last four decades. Following Marxist traditions, the perspective dominates that the geographical knowledge production on nature reflects the class interest of the most powerful social actors (both in the Global North and South) (Castree 2001: 11). Furthermore, critical scholars are interested in the influence of ‘race’, gender, colonialism, age or religion on the distribution of and access to nature. In general, they explore political, social and ecological inequalities as well as social resistance in the context of globalization and the prevailing neoliberal regime. It is especially South America where these perspectives are increasingly taken up by scientist and social movements alike (c.f. the platform *Lalineadefuego*¹ in Ecuador, the UAC² in Argentina, or many different working groups like CLACSO³ and FLACSO⁴).

From a (neo-)Marxist perspective the (social) construction of space takes place under the conditions

of the dominating capitalist system, automatically leading to contradictions, tensions and conflicts in the relations between society and nature. In the early 1980s, new spatialized theories were discussed to determine how ‘space matters’ and how ‘geography matters’ in explaining the distribution of uneven living conditions and social inequalities (Brenner 2001). In this context, Harvey’s (1981) concept of a ‘spatial fix’ explains how colonial (and spatial/geographical) expansion of capital and the associated exploitation of nature and societies helped to (at least temporarily) avoid the inherent crisis of the capitalist system. Other scholars focused on scalar hierarchies associated with organized capitalism in the era of globalization and proposed concepts, such as ‘glocalization’ (Swyngedouw 1997), ‘scalar fix’ (Brenner 1998), or ‘territorial fix’ (Christophers 2014). In a similar way, neo-Marxist scholars from Latin America use the concept of ‘accumulation by dispossession’ (Harvey 2003) to connect the dispossession of access to resources of local (indigenous) groups with the over-accumulation of capital in the Global North. The process of accumulation by dispossession in the context of resourcescapes implies the shifting of the benefits of nature from

local communities to more powerful actors (mostly non-placed and/or globalized actors).

These concepts added new theoretical vocabulary as well as valuable tools for analysing dominant regimes and territorial arrangements of resourcescapes. Adopting this perspective, the continuous frontier expansions in South America would be reframed spreading the focus to superordinate constellations. An example is the so-called Yasuni-ITT initiative, which proposed to keep petroleum underground in part of the Ecuadorian Amazon in exchange for international compensation payments (Larrea and Warnars 2009). In this case, the initiative was already doomed to fail considering the dominant socio-economic system (regime) and its demand for continuous expansion.

Originating from critical geopolitics, another impulse for resource geography can be identified: to leave aside the state-centric perspective and geographic essentialism in order to reveal the major dimensions of 'geopolitical storylines' of resource conflicts (Le Billon 2013; Kythreotis 2012; Sharp 2014). The role of states in global struggles over resources has become more complex and multi-faceted. National governments do not longer 'decide' alone over their natural resources. In South America, for instance, the re-primarization of the economy needs to be increasingly negotiated with broader parts of society in order to legitimate the exploitation of nature. The awaking new ecological conscience of society forces the governments to actively 'design' the discourses in order to combine the interests of environmentalism and economy (Peyton and Franks 2016). Hoogeveen (2015) refers to competing ontologies that need to be considered: from transnational mining companies to indigenous groups.

In a globalized economy, the role of resources in production processes is getting more and more complex. With the Global Production Network (GPN) approach, first presented by Henderson et al. (2002) and later readapted as a 'GPN 2.0' by Coe and Yeung (2015), it became possible to obtain a more realistic picture of the organizational complexity of global production processes (Schmitt and Schulz 2016). In this sense, economic 'production' does no longer mean only the 'manufacturing activity' but rather all activities involved in the creation, enhancement, and retention of value, from resource extraction to manufacturing and services, including the post-usage of material or goods (Coe and Yeung 2015: 36). The mainly actor-oriented GPN approach considers interconnected *economic* and

non-economic actors across multiple geographic locations that influence or even control the decision-making process (Schmitt and Schulz 2016: 304). The value of this approach is its consideration of social, cultural and institutional, and even normative elements, which have been mostly ignored in older approaches of economic geography (e.g. the value chain approach).

The explosiveness of socio-ecological conflicts (e.g. the Guerra del Agua and Guerra del Gas in Bolivia) has shown how local protest movements against exploitation and commercialization of natural resources can act as a catalyst for broader claims, involving livelihood improvements, political participation or regional autonomy (Perreault 2006) (cf. also Gerique et al., in this issue). Therefore, the traditional school of international relations is not sufficient anymore for understanding current conflicts resulting from nature exploitation, as it usually overlooks 'issues of scale and the multiplicity of distinct spaces and places' (Le Billon 2007: 167). The different critical approaches alternate in their focus on both *conflicts caused by resources* as well as *resources causing conflicts*. Constructivist (poststructuralist) perspectives encourage to examine the links between 'resources' and 'conflict', simultaneously bearing in mind the multidimensionality of both concepts. Therefore, resources cannot be reduced to their exchange or use value; the social practices and narratives related to resource exploitation cannot be ignored (Le Billon 2007: 164).

4.2 Impulses from South America

The recent history of extractive activities in South America has led to a special and very stimulating debate about the exploitation of natural resources. Although South American scholars from various disciplines and countries have made valuable contributions, their impact on German and Anglo-Saxon scientific communities and specifically the related discussion in geography is still limited⁵.

Current extractivism tendencies in Latin America are characterised by a new territorial and global division of labour, implying the need for new interpretations of the economic, political and environmental asymmetries between the Global South and North (Svampa 2013). Considering this notion, Svampa states that the neoliberal system of resource extraction was not replaced by another regime but has changed to another arrangement: While for decades the dominant

measures taken were privatization and deregulation ('Washington Consensus'), the current activity in the extractive sector focuses on the export of large quantities of resources ('Commodity Consensus'). This policy shift allowed the co-existence of conservative (e.g. in Mexico, Colombia, Peru) and leftist governments (e.g. Bolivia, Ecuador, Venezuela, Argentina, Brazil) and did not contradict their ideological positions (Svampa 2012: 43).

Gudynas (2013) contributes another valuable notion to the debate by asking for the purposefulness of extracting activities. He differentiates between three kinds of extractivism: predatory extractivism, sensible extractivism and indispensable extractivism. *Predatory extractivism* represents the prevailing development model with strong social and ecological implications. This type of extractivism originates from globalization processes reflecting entrepreneurial interests in profit maximization and results in a massively growing output of raw materials and incorporation of large areas in global production networks. Even if the long-term effects for national development are uncertain, this model materializes in large shares of revenue. The second type, *sensible extractivism*, takes into account social and ecological aspects and tries to minimize negative environmental effects of extractive projects. Not questioning the conventional development model, sensible extractivism aims at the introduction of just taxation systems for extractive industries and the subsequent redistribution of revenues to promote other industrialization projects. Third, *indispensable extractivism* is seen as an alternative form of development, characterized by some limited extractive activities and carried out under the condition to meet social, ecological and economical requirements. This type of extractivism aims at the generation of a direct link between quality of life, the use of resources and protection of nature. By this differentiation Gudynas highlights the possibility and necessity of alternative paths of development.

Taking into account the importance of natural resources in South American history, the discussion needs to be contextualized within the debates on development and colonialism. It has been the interest of scientific research to find emancipatory projects for a more sustainable development of South America. From this background the concept of post-extractivism has appeared, perceived as a means to end the long-lasting dependency of South American countries on extractivism, and implying a transition from *alternative developments* towards *alter-*

natives to development (Gudynas 2011; Gudynas 2013). The core goal of post-extractivism is to end poverty and environmental degradation (Gudynas 2012).

The South American scientific debate can also contribute a normative element to the debate on resources, as many scholars are strongly influenced by their engagement in social (protest) movements. Their scientific production is situated in an ethical framework (the necessity to the 'positionality' of the researchers) and their research takes place hand in hand with groups involved in socio-ecological struggles (e.g. indigenous peoples, small-scale farmers, etc.). Considering this, concepts such as 'Environmental Justice', '*Ecología Social*' and 'Environmentalism of the Poor' include the participation of activists and focus not only on socio-ecological conflicts but do make claims for more social justice and for better social inclusion (cf. Guha and Martínez-Alier 1997). Therefore, the socio-ecological research agenda in South America is dominated by the objectives to protect the interests of indigenous peoples and the most vulnerable social groups and to reveal the persistence of structural inequalities in the context of neoliberal globalization.

4.3 Political Ecology: 'conceptual core' for a better understanding of resourcescapes

In our view, Political Ecology is a good starting point for analysing socio-ecological conflicts. From its origins in the context of research on the Third World, Political Ecology has focused on the causes of socio-ecological conflicts as a result of economic, political and social struggles and uneven power relations (cf. Bryant and Bailey 1997; Peet et al. 2011; Bryant 2015; Perreault et al. 2015; Knuth 2015). Its actor-oriented view contextualizes problems between society and nature in multi-scalar 'politicized environments' (Bryant 1998).

Within the various strands in Political Ecology, most scholars focus on the organizational structures (political/administrative, social, economic, etc.), the dominant logics of action, discourses and their socio-environmental impact. To do this, a multi-scalar perspective is used in order to understand local-global interactions and interdependencies. All in all, the concept sketches a certain structure for doing empirical research, but remains simultaneously open for other perspectives, making it easy to integrate them into an already existing research framework. These

characteristics are essential assets for an approach with the objective to understand resource conflicts.

Political Ecology and contemporary resource geography share the constructivist idea that 'resources are not: they become' (Zimmermann 1933). Changes in the environmental conditions will only become a 'problem' if they have a negative impact on human interests (Bryant 1998: 87). Different actors with their specific interests, strongly influenced by uneven power relations, decide how nature is 'constructed' and resources are appropriated. The most powerful actors are able to determine the way in which nature is used and exploited (Silveira 2011: 15). According to Bridge, "resources 'become' only through the triumph of one imaginary over others" (2009: 1221). Thus, power relations, conflicts of interest and the resulting uneven distribution of negative impacts are core aspects of nature *becoming* a resource. In contrast to Political Ecology, traditional resource geography has only partially addressed these issues. The social construction of natural resources does not mean that their physical reality is ignored or denied (for the broader discussion on nature as social construction see: Demeritt 2001; Castree 2001).

Going beyond this constructivist perspective, we prefer to interpret the 'social' and the 'natural' as hybrids (Latour 1993), as Swyngedouw would say, "a thing-like appearance that is part natural and part social, and that embodies a multiplicity of historical-geographical relations and processes" (1999: 445). In this sense, resources are perceived as metabolic processes, which are neither solely natural nor solely social. Instead, they are socio-naturally produced hybrids that are highly politicized and contested (López Rivera 2015: 7). Challenging the nature-society dichotomy, this perspective might help developing a broader research perspective.

These contested hybrids must be approached by a holistic concept, one that allows the combination of impulses from poststructuralist and critical geography as well as inputs from the South American debates. We consider Political Ecology to be the basis for such a concept which allows comprehending the hybrid character of 'resource landscapes', or resourcescapes (following Swyngedouw's conceptualization of 'waterscapes'). Using this term, we understand it as produced 'landscape' comprising of material and immaterial resources in all their facets on the one hand and a complex assemble of socio-economical regimes, actor

constellations, their struggles and territorial arrangements on the other. Socioecological regimes define the arena, the scope of action for local and global actors. These actors possess various degrees of power and their continuous struggle produces socioecological conflicts and continuously new territorial arrangements.

The so-called 'soybean republic', for instance, shows how one resource is able to determine the territorial organization in several countries ignoring national boundaries (Hafner et al. 2016: 34). In this new territorial arrangement, the agribusiness actors are less bound to a certain place, shifting their profit-seeking activities in an arbitrary way. Socio-territorial consequences and resulting conflicts are similar all over this new 'soyscape'.

Adopting resourcescapes as a perspective helps to understand the metabolism of resources, as it focusses on both, the physical and the social processes. By doing this, the interactions and interrelations of the complex relation between nature and society can be uncovered, a crucial prerequisite for designing socioecological transformations.

5. Challenges for a socioecological transformation

Complex 'resource stories' from South America are told in this review paper as well as in the other contributions of this Special Issue. Since it is the approach of social sciences – and also of geography – to focus on the analysis of observable structures, interrelationships, conflicts and social processes, these stories are an important point of departure. They must be told and embedded in their specific regional context, which determines their distinct temporal and spatial manifestations. Using case studies, the multidimensional and contradictory nature as well as the conflict potential of resources is exemplified.

The aim of this introductory paper was twofold: On the one hand, we presented the generalized 'resource-story' of South America. We showed that resource issues have shaped the region's development trajectory since the beginning of the European expansion and determine their fate until today. This resource dependence results in specific temporal-spatial differentiation processes, interwoven with ever-changing political, economic, social and spatial coping strategies. On the other hand, we provided an overview

about concepts and approaches in social sciences for studying resource dependency and social, ecological and economic consequences. In our opinion, integrating and linking impulses from the latest conceptual debates in post-structural and critical geography as well as impulses from the South American debate in social sciences has great potential to enrich and intensify the study of resources.

A better comprehension of the multidimensional and contradictory nature of resources is required to find possible paths for a transition towards a socioecological transformation towards sustainability. We think that the proposed approach of resourcescapes opens up a holistic perspective, helpful for achieving a better understanding of the complex nexus between resources and transformation potentials. Similar to Political Ecology, this perspective considers the materiality of resource extraction including respective structural, socio-economic and ecological consequences in their spatial configuration as well as the necessity to embed actor constellations and conflict arenas in a setting with multiple scales. Simultaneously, it acknowledges resources as a social, ecological, societal and in the end as a political 'construct', overcoming the dichotomy between men and environment and creating a linkage to the wider concept of 'nature-society relations'.

It is consensus among stakeholders from science, politics and society that such a fundamental transformation requires a radical change of development and growth trajectories on various scales. All questions related to resources (e.g. scarcity) are of crucial importance. Which contribution can be expected from a committed and responsible science? It must be the development of visionary concepts, which take into account past and present experiences.

For this goal, learning from South American 'resource stories' provides an excellent point of departure. On the one hand, they give important examples for 'lessons learned' due to their centuries-long history of resource dependence and resource extraction. They demonstrate for different historic phases, from colonial history until internationalization of commodity markets and neoliberal globalization, how resources have shaped territorial configurations and produced unequal access and complex spatial conflicts. On the other hand, South American 'resource stories' are also stories of a continuous strive for alternative development paths. Neo-extractivist policies of the last

decades provide valuable input and ideas how the resource dependence of South America could be turned towards a more responsible and socially acceptable development path. Such alternative ideas and approaches are inevitably linked with South America's social movements. The long history of resistance against the commodification of nature has produced an immense response of civil society visible in the formation of large numbers of social movements, e.g. the indigenous and landless movement or other groups deprived from their rights by massive development interventions for resource extraction.

In the last years, these social groups have become a breeding ground for the return of 'autochthone' concepts drawing alternative development paths and challenging dominant resource extraction regimes and the unconditional belief in economic growth. One example is the debate on the indigenous conception of the 'good life' (*buen vivir*) originating from the Andean countries. Based on an acknowledgement of the 'rights of nature' this concept points out the possibility of a different men-environment relationship and has already been adopted in the constitution of several countries (Ecuador and Bolivia). If this is the right answer to tendencies of neoliberalization and globalization or if this is only symbol politics cannot be answered yet. Overall, the impact of discourses about post-development and post-extractivism becomes apparent. Similar to Europe's debate on post-growth, these discourses enrich the necessary thinking about the possibilities of socioecological transformations.

Out of the blue, the end of the commodity boom has turned South America's socio-economic development inside out. The phase of neo-extractivism as well as the political awakening has come to a halt, putting the countries back to disillusioning realities. These developments do not make the debate on resources redundant. Structures and performances, regulations and modes of governance, discursive orders, concrete conflict potentials as well as the economic, social, cultural, ecological and spatial framing of resources do remain contested. Intensive geographical studies on resourcescapes are more needed than ever.

Notes

¹<https://lalineadefuego.info>, an open platform for debates between the different leftist groups in Latin America

²<http://asambleaciudadanas.org.ar/>, the Union de Asam-

bles Ciudadanas (UAC) is an open space for discussion and exchange consisting of various (non-political) groups of activists

³Latin American Council of Social Sciences

⁴Facultad Latinoamericana de Ciencias Sociales

⁵Some exceptions must be noted: Astrid Ulloa (Colombia), Enrique Leff (Mexico), Hector Alimonda (Argentina), have periodically published, among others, in English and were included into the two main handbooks of Political Ecology published in 2015 (Bryant 2015; Perrault et al. 2015). Another exception is Arturo Escobar, Colombian anthropologist, who had an influential position in linking the Latin American and US-American debates on development, nature and natural resources.

References

- Alimonda, H. (ed.) 2011: La Naturaleza Colonizada. Ecología política y minería en América Latina. – Buenos Aires
- Bakker, K. and G. Bridge 2006: Material worlds? Resource geographies and the 'matter of nature'. – Progress in Human Geography **30** (5): 5-27
- Bebbington, A. and J. Bury 2013a: New Geographies of Extractive Industries in Latin America. – In: Bebbington, A. and J. Bury (eds.): Subterranean Struggles. New Dynamics of Mining, Oil, and Gas in Latin America. – Austin: 27-66
- Bebbington, A. and J. Bury (eds.) 2013b: Subterranean Struggles. New Dynamics of Mining, Oil, and Gas in Latin America. – Austin
- Borras, S.M., J. C. Franco, S. Gómez, C. Kay and M. Spoor 2012: Land grabbing in Latin America and the Caribbean. – The Journal of Peasant Studies **39** (3-4): 845-872
- Brand, U. 2012: Green Economy – the Next Oxymoron? No Lessons Learned from Failures of Implementing Sustainable Development. – GAIA: Ecological Perspectives for Science and Society **21** (1): 28-32
- Brand, U. and M. Wissen 2013: Crisis and continuity of capitalist society-nature relationships: The imperial mode of living and the limits to environmental governance. – Review of International Political Economy **20** (4): 687-711
- Brenner, N. 1998: Between Fixity and Motion. Accumulation, Territorial Organization and the Historical Geography of Spatial Scales. – Environment and Planning D **16** (4): 459-481
- Brenner, N. 2001: The limits to scale? Methodological reflections on scalar structuration. – Progress in Human Geography **25** (4): 591-614
- Bridge, G. 2001: Resource triumphalism: postindustrial narratives of primary commodity production. – Environment and Planning A **33** (12): 2149-2173
- Bridge, G. 2009: Material Worlds: Natural Resources, Resource Geography and the Material Economy. – Geography Compass **3** (3): 1217-1244
- Bridge, G. 2010: Resource geographies I: Making carbon economies, old and new. – Progress in Human Geography **35** (6): 820-834
- Bridge, G. 2014: Resource geographies II: The resource-state nexus. – Progress in Human Geography **38** (1): 118-130
- Bryant, R. and S. Bailey 1997: Third World political ecology. – London, New York
- Bryant, R. 1998: Power, knowledge and political ecology in the third world: a review. – Progress in Physical Geography **22** (1): 79-94
- Bryant, R. (ed.) 2015: The International Handbook of Political Ecology. – Cheltenham
- Budds, J. 2009: Contested H2O: Science, policy and politics in water resources management in Chile. – Geoforum **40** (3): 418-430
- Castree, N. 2001: Socializing the natural. – In: Castree, N. and B. Braun (eds.): Social nature. Theory, practice, and politics. – Malden: 1-21
- Christophers, B. 2014: The territorial fix. Price, power and profit in the geographies of markets. – Progress in Human Geography **38** (6): 754-770
- Coe, N. and H. Yeung 2015: Global Production Networks Theorizing Economic Development in an Interconnected World. – Oxford
- Coy, M. 2013: Environmental Justice? Sozialökologische Konfliktkonstellationen in Amazonien. In: Burchardt, H.-J., K. Dietz and R. Öhlschläger (eds.): Umwelt und Entwicklung im 21. Jahrhundert. Impulse und Analysen aus Lateinamerika. Studien zu Lateinamerika **20**. – Baden-Baden: 121-133
- Coy, M. and M. Klingler 2011: Pionierfronten im brasilianischen Amazonien zwischen alten Problemen und neuen Dynamiken. Das Beispiel des "Entwicklungskorridors" Cuiabá (Mato Grosso) – Santarém (Pará). – Innsbrucker Jahresbericht 2008-2010. – Innsbruck: 109-129
- Coy, M. and M. Neuburger 2008: Amazonien: Straße Cuiabá-Santarém. Ein Großprojekt im politisch-ökologischen Kontext. – Geographische Rundschau **60** (12): 10-17
- Demeritt, D. 2001: Being constructive about nature. – In: Castree, N. and B. Braun (eds.): Social nature. Theory, practice, and politics. – Malden: 22-40
- Dittrich, C. 2015: Ressourcen- und Umweltkonflikte in Entwicklungs- und Schwellenländern. – Geographische Rundschau **47** (12): 4-10
- ECLAC (Economic Commission for Latin America and the Caribbean) 2014: The governance of natural resources in Latin America and the Caribbean. – Online available at: <http://www.cepal.org/en/infographics/governance-natural-resources-latin-america-and-caribbean> – accessed online 31/05/2017

- Exner, A., C. Lauk and W. Zittel 2014: Sold Futures? The Global Availability of Metals and Economic Growth at the Peripheries: Distribution and Regulation in a Degrowth Perspective. – *Antipode* **47** (2): 342-359
- FDCL (Forschungs- und Dokumentationszentrum Chile-Lateinamerika) (ed.) 2012: Der Neue Extraktivismus. Eine Debatte über die Grenzen des Rohstoffmodells in Lateinamerika. – Berlin
- Furtado, C. 2013: Formação Econômica do Brasil. – São Paulo
- Galeano, E. 2009: Die offenen Adern Lateinamerikas. Die Geschichte eines Kontinents. – Wuppertal
- Gebhardt, H. 2014: Ressourcenkonflikte und nachhaltige Entwicklung – Perspektiven im 21. Jahrhundert. – Mitteilungen der Fränkischen Geographischen Gesellschaft **59**: 1-12
- Göbel, B. and A. Ulloa (eds.) 2014: Extractivismo minero en Colombia y América Latina. – Bogotá/Berlin
- Göbel, B., M. Góngora-Mera and A. Ulloa (eds.) 2014: Desigualdades socioambientales en América Latina. – Bogotá/Berlin
- Gudynas, E. 2011: Caminos para las transiciones post extractivistas. – In: Alayza, A. and E. Gudynas (eds.): Transiciones. Post extractivismo y alternativas al extractivismo en Perú. – Lima: 187-216
- Gudynas, E. 2012: Post-Extraktivismus und Transitionen auf dem Weg zu Entwicklung. – In: FDCL (ed.): Forschungs- und Dokumentationszentrum Chile-Lateinamerika: Der Neue Extraktivismus. Eine Debatte über die Grenzen des Rohstoffmodells in Lateinamerika. – Berlin: 144-161
- Gudynas, E. 2013: Transitions to post-extractivism: directions, options, areas of action. – In: Lang M. and M. Dúnia (eds.): Beyond development. Alternative visions from Latin America. – Quito: 165-188
- Guha, R. and J. Martínez-Alier 1997: Varieties of environmentalism. Essays North and South. – London
- Haas, H.-D. and R. Fleischmann 1991: Geographie des Bergbaus. – Erträge der Forschung **273**. – Darmstadt
- Hafner, R., G. Rainer, F. Ruiz Peyré and M. Coy 2016: Ressourcenboom in Südamerika: alte Praktiken – neue Diskurse? – Zeitschrift für Wirtschaftsgeographie **60** (1-2): 25-39
- Halperin Donghi, T. 1991: Geschichte Lateinamerikas von der Unabhängigkeit bis zur Gegenwart. – Frankfurt am Main
- Harvey, D. 1981: The spatial fix – Hegel, Von Thünen, and Marx. – *Antipode* **13** (3): 1-12
- Harvey, D. 2003: The new imperialism. – Oxford
- Heinberg, R. 2007: Out of time? The end of oil. – *Public Policy Research* **14** (3): 197-203
- Heinberg, R. 2010: Peak everything. Waking up to the century of declines. – Gabriola Island
- Henderson, J., P. Dicken, M. Hess, N. Coe and H. Yeung 2002: Global production networks and the analysis of economic development. – *Review of International Political Economy* **9** (3): 436-464
- Hoogeveen, D. 2015: Sub-surface Property, Free-entry Mineral Staking and Settler Colonialism in Canada. – *Antipode* **47** (1): 121-138
- Humphreys, M., J. Sachs and J. Stiglitz (eds.) 2007: Escaping the Resource Curse. – New York
- Kaag, M. and A. Zoomers (eds.) 2014: The global land grab: beyond the hype. – London/New York
- Knuth, S. 2015: Seeing Green in San Francisco: City as resource frontier. – *Antipode* **48** (3): 626-644
- Kythreotis, A.P. 2012: Progress in global climate change politics? Reasserting national state territoriality in a 'post-political' world. – *Progress in Human Geography* **36** (4): 457-474
- Lang, M. and D. Mokrani (eds.) 2013: Beyond development. Alternative visions from Latin America. – Quito
- Larrea, C. and L. Warnars 2009: Ecuador's Yasuni-ITT Initiative: Avoiding emissions by keeping petroleum underground. – *Energy for Sustainable Development* **13** (3): 219-223
- Latour, B. 1993: We have never been modern. – Cambridge
- Le Billon, P. 2013: Resources. – In: Dodds, K., Kuus, M. and Sharp, J. (eds.): The Ashgate research companion to Critical Geopolitics. – Farnham/Burlington: 281-304
- Le Billon, P. 2007: Geographies of War: Perspectives on 'Resource Wars'. – *Geography Compass* **1/2**: 163-182
- Li, T.M. 2014: What is land? Assembling a resource for global investment. – *Transactions* **39** (4): 589-602
- Little, P. 2014: Mega-development projects in Amazonia. A geopolitical and socioenvironmental primer. – Lima
- López Rivera, D.M. 2015: Contested Urban Waterscapes: Water, Power and Urban Fragmentation in Medellín. – Dissertation, Freie Universität Berlin – Berlin
- Meißner, S. 2013: Ressourcengeographie: Eine Einführung. – In: Reller, A., L. Marschall, S. Meißner and C. Schmidt (eds.): Ressourcenstrategien. Eine Einführung in den nachhaltigen Umgang mit Rohstoffen. – Darmstadt: 38-64
- Peet, R., P. Robbins and M. Watts (eds.) 2011: Global political ecology. – London/New York
- Perreault, T. 2006: From the Guerra Del Agua to the Guerra Del Gas: Resource governance, neoliberalism and popular protest in Bolivia. – *Antipode* **38** (1): 150-172
- Perreault, T., G. Bridge and J. McCarthy (eds.) 2015: Routledge handbook of political ecology. – London/New York
- Peyton, J. and A. Frank 2016: The New Nature of Things? Canada's Conservative Government and the Design of the New Environmental Subject. – *Antipode* **48** (2): 453-473
- Pichler, M., C. Staritz, K. Küblböck, C. Plank, W. Raza and F. Ruiz Peyré (eds.) 2016: Fairness and Justice in Natural Resource Politics. – London/New York
- Prudham, S. 2009: Commodification. – In: Castree, N., D. De-

- meritt, D. Liverman and B. Rhoads* (eds.): A Companion to Environmental Geography (Blackwell Companions to Geography). – Malden: 123-142
- Reinhard, W.* 2016: Die Unterwerfung der Welt. Globalgeschichte der Europäischen Expansion 1415 - 2015. – München
- Reller, A. and H. Holdinghausen* 2011: Wir konsumieren uns zu Tode. Warum wir unseren Lebensstil ändern müssen, wenn wir überleben wollen. – Frankfurt am Main
- Reller, A., L. Marschall, S. Meißner and C. Schmidt* (eds.) 2013: Ressourcenstrategien. Eine Einführung in den nachhaltigen Umgang mit Rohstoffen. – Darmstadt
- Schmitt, T. and C. Schulz* 2016: Sustainable resource governance in Global Production Networks – Challenges for Human Geography. – Erdkunde **70** (4): 297-312
- Sharp, J.P.* 2014: Critical Geopolitics. – In: *Cloke, P, P. Crang and M. Goodwin* (eds.): Introducing human geographies. – Milton Park et al: 530-541
- Silveira, M.L.* 2011: Nuevo orden espacial de la globalización: encrucijadas y horizonte. – In: *Revista de Geografía Espacios* **1**: 1-17
- Svampa, M.* 2012: Resource Extractivism and Alternatives. Latin American Perspectives on Development. – Journal für Entwicklungspolitik **27** (3): 43-73
- Svampa, M.* 2013: Resource Extractivism and Alternatives: Latin American Perspectives on Development. – In: *Lang M. and M. Dunia* (eds.): Beyond development. Alternative visions from Latin America. – Quito: 117-143
- Swyngedouw, E.* 1997: Neither global nor local: 'glocalization' and the politics of scale. – In: *Cox, K.* (ed.): Spaces of globalization. Reasserting the power of the local. – New York: 137-166
- Swyngedouw, E.* 1999: Modernity and Hybridity: Nature, Regeneracionismo, and the Production of the Spanish Waterscape, 1890–1930. – *Annals of the Association of American Geographers* **89** (3): 443-465
- Van Dijck, P. and S. Den Haak* 2006: Troublesome construction. IIRSA and Public-Private-Partnerships in road infrastructure. – *Cuadernos del CEDLA* **20**. – Amsterdam
- Van Dijck, P.* 2014a: Linking natural-resource exploitation with world markets: Road infrastructure and its impact on land use conversion in Amazonia. – In: *Castro, F., P. Van Dijck and B. Hogenboom* (eds.): The extraction and conservation of natural resources in South America. – Recent trends and challenges. *Cuadernos del CEDLA* **27**. – Amsterdam: 23-69
- Van Dijck, P.* (ed.) 2014b: What is the future of Amazonia? Socio-economic and environmental transformation and the role of road infrastructure. – *Cuadernos del CEDLA* **28**. – Amsterdam
- Weizsäcker, E.U. v.* 2013: Vorwort. – In: *Reller, A., L. Marschall, S. Meißner and C. Schmidt* (eds.): Ressourcenstrategien. Eine Einführung in den nachhaltigen Umgang mit Rohstoffen. – Darmstadt: 8-9
- World Bank* 2016: Commodity Markets Outlook. From energy prices to food prices: Moving in tandem? A World Bank Quarterly Report, July 2016. – Online available at: <http://documents.worldbank.org/curated/en/561181469610329636/pdf/107237-WP-PUBLIC.pdf> – accessed online 31/05/2017
- Zimmerman, E.* 1933: World resources and industries. – New York