Mining Towns as Portals of Globalization: The Arrival of the Global Aluminium Industry in West Africa

Johannes Knierzinger

ABSTRACTS

The article discusses the cultural, political, and technical dimension of West African bauxite mining and processing towns as portals of globalization. In the analysed company towns of Fria, Sangarédi, Kamsar (all in Guinea) and Edéa (Cameroon), mining and processing went along with the emergence of new systems of rule that (1) strongly depend on profit-maximizing investors; (2) rest on transnational corporate chains of command, and (3) install new "plutocratic orders" in remote regions, where little capital has circulated before the installation of the facilities. Previously existing social orders have strongly changed with the influx of workers' salaries and diverse measures of corporate social responsibility. Transnational mining companies and their managers on-site assume, in fact, political functions. The article questions the long-term societal impact of these portals of globalization.

Der Artikel behandelt die kulturelle, politische und technische Dimension von westafrikanischen Bauxitminenstädten als „Portale der Globalisierung". In den untersuchten Minen- und Firmenstädten in Guinea und Kamerun ist Bergbau mit der Entstehung neuer Herrschaftsverhältnisse einhergegangen, die (1) stark von profitmaximierenden Investoren abhängen, (2) über firmeninterne transnationale Kommandoketten gesteuert werden und (3) eine „plutokratische Ordnung" in abgelegenen Regionen etablieren. Bis zu diesem Zeitpunkt existierende lokale Machtkonstellationen änderten sich umfassend mit dem Kapitalzufluss über Arbeiterlöhne und durch Maßnahmen im Rahmen von Corporate Social Responsibility. Transnationale Konzerne und deren lokales Management wurden auf diese Weise zu dominanten politischen Akteuren vor Ort. Der Artikel geht den langfristigen gesellschaftlichen Konsequenzen solcher Portale der Globalisierung nach.

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1. Introduction

In this article, I discuss how export enclaves, such as African bauxite mining and processing towns, can be considered "portals of globalization." The core texts on this concept[1] identify three different dimensions of the places where "globalization makes its way into one's own country:"[2] a cultural, political, and technical dimension. The enclave character of African company towns of the global aluminium industry can also be found in many other economic sectors in sub-Saharan Africa. John Agnew's notion of "sovereignty regimes," based on the rescaling of infrastructural power, helps us to define this special character.[3] I analyse four important African company towns of the global aluminium industry, with the help of Agnew's concepts and through the lens of the three aforementioned dimensions of portals of globalization. Before doing so, however, I provide an overview of the production network of the aluminium industry in Africa.

This article's findings are mainly based on field research in Guinea in 2012 and 2014, and on research in the archive of the French aluminium company Pechiney at the Institut pour l'Histoire de l'Aluminium (IHA) in Paris.[4] Among the most important sources was an account of the Guinean mining industry by Ibrahima Soumah,[5] a former Guinean minister of mines, and a dissertation on the company town of Fria by Céline Pauther.[6] As Pauther herself points out, almost all the available sources are strongly biased.[7] Thanks to the IHA, a considerable amount of literature on the history of Pechiney in Africa has emerged, but most of it has either been written by veterans of Pechiney themselves, or was based almost exclusively on accounts of the company.[8]

1 M. Geyer, Portals of Globalization, in: W. Eberhard (ed.), The Plurality of Europe: Identities and Spaces, Leipziger Univ.-Verl., Leipzig 2010, pp. 509–520; M. Middell and K. Naumann, Global History and the Spatial Turn: From the Impact of Area Studies to the Study of Critical Junctures of Globalization, in: Journal of Global History (2010) 5, pp. 149–170.

2 Geyer (fn. 1), p. 509, 512.

3 J. Agnew, Sovereignty Regimes: Territoriality and State Authority in Contemporary World Politics, in: Annals of the Association of American Geographers 95 (2005) 2, pp. 437–461.

4 This research is based on my dissertation research, which was later published as Johannes Knierzinger, Bauxite Mining in Africa: Transnational Corporate Governance and Development, Cham, 2017.

5 I. Soumah, The Future of Mining Industry in Guinea, Paris 2008.

6 C. Pauther, Fria: Une ville-usine en Guinée. Des dernières années de la colonisation à la République Populaire 1956–73, Paris, 2002.

7 See Pauther (fn. 6), pp. 4–5.

8 See for example J. Larrue, Fria en Guinée: Des aspects humains d'une industrialisation differente, in: Cahiers d'histoire de l'aluminium 7 (1991), pp. 37–49, and M. Laparra and I. Grinberg (eds.), Alucam, An African Destiny: 50 Years of Aluminium in Cameroon, 1957–2007, Paris: 2007. Jaques Larrue, for instance, had been *Administrateur de la France d'outre-mer* (administrator of overseas France) and *Inspecteur de Travail* (labour inspector), and had thus been part of the (post-)colonial enterprise before he wrote his book on Fria. Maurice Laparra was director of the smelter in Edéa before he wrote a book on this topic, and he later became director general of Aluminium Pechiney and president of the Insitut pour l'histoire de l'aluminium. For these entanglements, see Laparra and Grinberg (fn 8), p. 422; P. Thaure, Péchiney vendu: grandeur et décadence du plus grand groupe industriel français, Paris 2007, p. 10, and. I. Grinberg, Le patrimoine, nouvelle danseuse pour l'entreprise? Le cas de Pechiney, Paris 1994.

2. Aluminium Production Network in Africa: Companies Create Cities

Primary aluminium, which has to be processed and blended before it can be used, is extracted through a high-energy consuming process from aluminium oxide (alumina), itself refined out of bauxite, the basic material of the aluminium production chain. Africa is involved in this process mainly by providing bauxite to aluminium-oxide refineries and aluminium smelters around the world. The only African aluminium-oxide refinery is located in Fria, Guinea, and has produced about one per cent of world output since the start of production in 1960. Since this time, primary aluminium has also been produced in Edéa (Cameroon), Tema (Ghana), South Africa, Mozambique, and, more recently, in Nigeria.[9]

Particularly in Guinea, the needs of the global production network of aluminium resulted in extensive social transformations; this mainly concerns the mining towns of Fria, Sangarédi, Kamsar, and Débélé. All of these towns were planned, created, and maintained by multinational corporations, and they experienced impressive population growth. Similar developments can be observed in several other African countries connected to the production network of aluminium.[10] This also concerns the Cameroonian company town Edéa, which will be part of this analysis, because it was constructed by the same company that built Fria, the French aluminium company Pechiney, and also received aluminium-oxide produced in Fria. By the time the aforementioned cities blossomed in the 1960s and 1970s, Guinea had become one of the most desired targets of what could be called a global mycelium of mining enterprises. During this time, the first important Guinean mining complex, Fria, was owned by a joint venture of Guinean, French, American, Swiss, British, German, and Canadian mining companies (with changing shares). The largest African producer, the Compagnie des Bauxites de Guinée (CBG), comprising the company towns of Sangarédi and Kamsar, started to export bauxite in 1973 and belonged to Guinean, Canadian, American, French, German, and Italian companies. The third Guinean bauxite mining complex, the Compagnie des Bauxites de Kindia (CBK), started production in 1974 and still exists today; its mine in Débélé had been constructed with the help of Russian experts, was fully owned by the Guinean state, and exported almost exclusively to the Soviet Union. Today, the mines of Fria and Débélé are owned by Rusal (a Russian aluminium company), and CBG is owned by Alcoa (United States of America), Rio Tinto Alcan (Great Britain / Australia), and Dadco Alumina & Chemicals Ltd (GB / Switzerland).

This list of companies and countries includes five of the so-called "Six Sisters": the American companies Alcoa, Reynolds, and Kaiser (the latter has never owned any facilities in Guinea); the Canadian Alcan; the Swiss Alusuisse, and Pechiney. In the 1970s, the Six Sisters produced 50–60 per cent of worldwide primary aluminium. All the firms and state enterprises working together in Guinea produced almost 70 per cent of worldwide

9 See Knierzinger (fn. 4).

10 Ibid.

primary aluminium in 1960 and more than 60 per cent in 1975.[11] As part of a hedging strategy against so-called resource nationalism in the 1960s and 1970s, a similar cooperation was established in all new bauxite mines. Table 1 shows the combined presence of the Six Sisters in Guinea, Australia, Jamaica, and Brazil:

Table 1: New Joint ventures of the Six Sisters in the 1970s

	Alcoa	Reynolds	Kaiser	Alcan	Pechiney	Alusuisse
Guinea	x	x		x	x	x
Australia	x	x	x			x
Jamaica	x	x	x	x		
Brazil	x	x		x		

Source: S.G. Bunker/P.S. Ciccantell, The Evolution of the World Aluminum Industry, in: B. Barham/S.G. Bunker/D. O'Hearn (eds.), States, firms, and raw materials: The world economy and ecology of aluminum, Madison 1995, pp. 39–62.

Since the 1970s, the global players have, therefore, been linked from one mine to another in some sort of "intermarriage system," which also included technology exchange. In combination with the low value-added bauxite production stage[12] and the high vertical integration of the major companies – they produce primary aluminium and often even finished products like cans out of their own bauxite – this dense network of joint ventures created something we could call a black box of global corporate interest, which makes it hard to determine where and if competition takes place. This united front of private producers would have reduced political actors to mere spectators of extensive industrial development in their own countries, had they not participated in the joint ventures themselves. This further obstructs the view on concrete interest constellations and rupture zones. Having been mainly dependent on war until the 1960s, the aluminium industry was highly entangled with public administrations from the start, and the mushrooming of joint ventures in the 1970s also led to an increase of government shares in the producer countries. The Six Sisters were, therefore, not only almost as dominant as their equivalent in the oil industry, the so-called "Seven Sisters", but they were also highly interconnected, mainly through their shared production facilities but

11 Ibid., p. 6.

12 Because it is almost exclusively traded within companies, the price of bauxite is hard to determine. According to Norman Girvan, the production costs of bauxite account for less than 1.7 per cent of primary aluminium production and only for 0.55 per cent of semi-fabrication. Including taxes and shipping, the price for bauxite amounts to 5–12 per cent of primary aluminium. See United Nations, Transnational Corporations in the Bauxite/Aluminium Industry, New York 1981, p. 8; N. Girvan, Foreign Capital and Economic Underdevelopment in Jamaica, Kingston 1971; R. Graham, The Aluminium Industry and the Third World: Multinational Corporations and Underdevelopment, London, 1982, p. 78; G. Habig, Möglichkeiten und Grenzen einer Kontrolle internationaler Rohstoffmärkte durch Entwicklungsländer. Das Beispiel des Kupfer- und Aluminiummarktes, Hamburg 1983, p. 85, and M. Forster, Struktur und Risiken der deutschen Nichteisen-Metallversorgung: dargestellt am Beispiel Kupfer, Aluminium, Nickel, Zink, Blei und Zinn, Hamburg 1976, p. 133.

also through technology exchange, and they maintained strong relations with all involved governments.[13]

In Guinea and Cameroon, this global industrial network resulted in considerable migration flows: The company towns of Fria, Sangarédi, Kamsar, and Edéa all grew from several thousand to (several) hundred thousand inhabitants from their creation in the 1950s, 1960s, and 1970s to the 2000s. This concentration of manpower also corresponds to the companies' massive need for energy. By the start of production, the facility in Edéa, where a substantial part of the alumina from Fria was smelted to produce aluminium, consumed 50 times more energy than the largest city in Cameroon, Douala, with a population of about 250,000.[14] Until its shutdown in 2012, the industrial complex of Fria consumed as much petrol as the rest of Guinea.[15]

3. Which Portal to Which Globalization?

According to Michael Geyer, the nation state has historically been one of the most important portals of globalization, in that the state, through particular transit points, controls flows of goods and people. At the same time, the state is portrayed as the victim of these flows and the density of connectivity that it can never fully manage.[16] Geyer also addresses the following central question, which was already at the centre of the globalization debate in the late 1990s: How do states uphold political sovereignty while being increasingly confronted with what John Agnew calls the "simultaneous scaling-up and scaling-down of the relevant geographical fields of infrastructural power,"[17] which criss-cross and undermine formal decision-making spaces?[18] Mining towns as local manifestations of global production networks are "neat" manifestations of this deterritorialization,[19] as they quite justly overlap with the subnational identity space of the city. Particularly in remote mining towns, the corporate decision space almost completely replaces the formal political space. According to their economic position as export enclaves, these cities are thereby sometimes more interlinked with the global production network of the operators than with the concentric political hierarchy of spaces in the area.

13 See for instance Graham (fn. 12), pp. 5–6.
14 J. Matter, Noël 1959, in: Bulletin Alucam, 9 (1959), p. 3. Today, the smelter consumes about a third of total power consumption in Cameroon. See C. Husband et al., The Aluminum Industry in West and Central Africa: Lessons Learned and Prospects for the Future, 1999, p. 30.
15 World Investment News, Interview avec Monsieur Ibrahima Soumah, 2009, http://www.winne.com/topinterviews/soumah.htm (accessed 1 March 2013).
16 Geyer (fn. 1), p. 520.
17 Agnew (fn. 3), p. 444. For a definition, see below.
18 M. Geyer, Portale der Globalisierung, in: W. Eberhard, C. Luebke, and M. Benthin (eds.), Die Vielfalt Europas: Identitäten und Räume, Leipzig 2009, pp. 545–557; C.S. Maier, Transformations of Territoriality 1600–2000: Space, Place, Territory, in: G. Budde (ed.), Transnationale Geschichte: Themen, Tendenzen und Theorien, Göttingen 2006, pp. 49–50.
19 See Middell and Naumann (fn. 1), pp. 163–166.

The company – or rather the global, privately run, public-private aluminium mycelium – thereby creates new systems of rule that (1) depend on profit-maximizing investors; (2) rest on a corporate chain of command, and (3) install new "plutocratic orders" in remote mining regions, where little capital has circulated before the installation of the facilities. In member countries of the Organization for Economic Co-operation and Development (OECD), most workers and the surrounding population have both the option to "exit" (quit their job) or to "voice" (protest or appeal), but these options do not exist for large parts of the population of the Guinean bauxite towns.

Having been constructed and maintained almost exclusively by the global aluminium-production network, these mining towns are therefore very particular portals. They rarely have "door handles" on the inside, and if they do, they seem to be locked. The bauxite mining towns are export enclaves with few spin-off effects. In this sense, they really are portals "of" globalization rather than portals "to" globalization. The keys to these portals belong to the global investors and can be sold. Once a mining town no longer fits in a firm's transnational network, its portal can be sealed, leaving its inhabitants without electricity, water, and social services, as was the case in Fria in 2012.[20]

Until the recent resource boom, Africa was often said to having been left out of globalization because its share in world trade diminished or stagnated.[21] However, a market share of a continent's population in world trade only shows how much this population receives as remuneration in the form of profits and wages. As work is remunerated unevenly (or even not remunerated at all), these numbers do not capture the actual contribution to global wealth by Africans. It is therefore much more likely that Africa has never been left out of globalization, but only barred from its benefits. In the same way, since the turn of the millennium, with the new price peak in raw materials, a veritable euphoria took place as Africans increasingly seem to participate in world trade. In most industrial mines, however, only the yields per unit, not the number of employees, have increased significantly. With falling raw-material prices as a consequence of slower global economic growth, African elites are about to lose these windfall profits again.[22]

Naturally, this exchange of unequally powerful and differently skilled actors can have a positive long-term effect: it can lead to accelerated development through the diffusion and exchange of knowledge, an effect which can be considered the technical dimension of portals. However, economic exchange between unequal partners also leads to exploitation. People with fewer social protections and less cultural capital have to work more for the same reward (consisting of rights to labour time of others). For instance, unskilled

20 J. Knierzinger, Fria in Guinea: A Dismissed Bauxite Town, in: Stichproben – Vienna Journal of African Studies 30 (2016), pp. 137–161.

21 Agnew also argued against the thesis of Africa "falling out" of world trade, but not on the same basis: He does not criticize the instruments of measure but the selection of countries. See J. Agnew and R. Grant, Representing Africa: The Geography of Africa in World Trade, 1960–1992, in: Annals of the Association of American Geographers 86 (1996) 4, pp. 729–730.

22 See, for instance, I. Taylor, Africa Rising?, Oxford 2014, and B. Lee et al., Resources Futures: A Chatham House Report, London 2012.

dock workers around the world do have very similar jobs and often work for the same transnational companies (TNCs). However, a dock worker in Kamsar, Guinea, is only entitled to a fraction of the purchasing power of a dock worker in Hamburg.[23] From this point of view, portals of globalization are at the same time portals of command, providing the spatial setting for corporate chains of command[24] and unequal exchange. Following the ideas of John Agnew, these forms of direct or despotic power can be discerned from infrastructural power, derived for instance from roads, electricity, tap water, etc.,[25] which add to the ascribed power of what he calls a "sovereignty regime," a concept that is centred on states but underlines the different grades of territorialization of these states.[26] These issues will be treated as the political dimension of portals of globalization. Based on the particular historical development of these mining towns, we can additionally discern a "cultural" dimension, which I refer to in the following section.

3.1 Cultural dimension

According to Matthias Middell and Katja Naumann, portals are "places that have been centres of world trade or global communication, have served as entrance points for cultural transfer [and] have always been known as sites of transcultural encounter and mutual influence."[27] From the Guinean perspective, mining towns are without a doubt points of global encounter, but this encounter depends strongly on the handling of "culture" by corporate actors. While Pechiney, for instance, had entered the country during colonialism with a paternalist civilizing mission based on the corporatist encyclical Rerum Novarum of Pope Leo XIII,[28] North American corporations rather tried to preserve their status as private companies.[29] The recent shutdown of the facilities in Fria was strongly connected to the different "company cultures" of French and Russian firms.[30]

Fria was conceived and constructed by the late colonial regime in the 1950s as part of a plan to shift industrial capacity to the colonies. As the French colonial empire was about to dissolve, Fria was to become a showcase for planned industrialization, as well as "civilization" in Africa. The self-portrait of Pechiney emphasized Christian values and com-

23 Knierzinger (fn. 4), p. 46.

24 In his work of reference, which is still in use today, Henry Fayol, director of a French iron mining enterprise around the start of the twentieth century, defines the scalar chain or chain of command as the "the chain of superiors ranging from the ultimate authority to the lowest rank." See H. Fayol, Allgemeine und industrielle Verwaltung, München 1929.

25 Agnew (fn. 3), p. 443. Agnew borrows the concept from M. Mann, The Autonomous Power of the State: its Origins, Mechanisms, and Results, in: European Journal of Sociology 25 (1984) 2, p. 188.

26 Agnew discerns four different ideal types of sovereignty regimes: classic (e.g. China today); globalist (e.g. the USA during the Cold War); imperialist (e.g. colonial powers), and integrative (the EU at the time of publication). See Agnew (fn. 3), p. 445.

27 Middell and Naumann (fn. 1), p. 162.

28 C. Pauther (fn. 6), pp. 16–20. Pechiney began to question this world view in the 1960s, primarily based on economic considerations. See P. Jouven, M. Jouven, Président de la Compagnie répond aux gestions du Bulletin, in: Le Bulletin Pechiney 152 (1968), pp. 1–3.

29 Research in Guinea in 2012 and 2014. Cf. M. Diallo et al., Guinée: Pour un nouveau syndicalisme en Afrique, Paris 1992.

30 Interviews in Fria, January 2014.

munity-building policies to fit this paternalistic image. Based on Rerum Novarum, the company at the same time underlined the "organic" and harmonious relation between workers and employers, and was critical of governmental intervention in economic affairs. The company advised its workers and their partners on topics like hygiene, work ethics, education, diet, polygamy, and even house work. Publications and social interventions aimed to introduce the French ideal of a core family.[31] The employees of Alucam in Cameroon, which was constructed at the same time as Fria, were to become "agents in spreading human and social development" as "distributors of purchasing power […] to the benefit of local and regional craftsmen and food crop growers."[32]
To do so, they had to become more productive:

> *And you ask yourself: W h y all that agitation? Why all that noise which seems to be an eternal monotony? Well! Some people have realized that all this movement, all these manifestations, all these delights, constitute a DUTY, or even better, a LAW that obligatorily rules over all living creatures. This duty, this law, which is the real human IDEAL, is called WORK.*[33]

The workers' journals of Pechiney can therefore be read as an example of the diffusion of Weber's spirit of capitalism, all the more as Pechiney's mission was at the same time profoundly Christian.[34] Starting in the late nineteenth century, this longstanding corporatist tradition was reinforced by a shift in French colonial policies towards the end of French rule,[35] but it soon came into conflict with newly independent governments.[36] The facilities of Pechiney in Fria and Edéa were still under construction when Guinea became independent in 1958. Independence led to a total break in relations with France, with the exception of the bauxite mine and the alumina refinery in Fria, which provided aluminium oxide to a smelter in Edéa. In the case of CBG, a Guinean joint venture that started production in 1973 and has been run by the American company Alcoa since then, Soumah mentions a yearly budget for "social investments" of USD 500,000 since 1988 and direct payments to the villages.[37] Both in Sangarédi and in Kamsar, a considerable proportion of the non-worker population receives electricity and running water for free. CBG also announced that it would give the nearby population the right to harvest cashew-nut plantations, which were erected as part of the rehabilitation measures in areas

31 Knierzinger (fn. 4), p. 74.
32 A. Pezet et al., Corporate Social Responsibility before CSR, p.27 https://www.researchgate.net/publication/228698287_Corporate_Social_Responsibility_before_CSR (accessed 2 May 2013).
33 E. Tcheby, La page camerounaise: Causeries sur le travail, in: Bulletin Alucam 13 (1960), p. 21; translation JK, accentuation Tcheby.
34 Cf. Le Bulletin Pechiney, Noël 1957, p. 1.
35 See for example Pezet et al. (fn. 32), p. 4.
36 Cf. Pauther (fn. 6), pp. 16–23.
37 Soumah (fn. 5), p. 141.

that had already been mined.[38] These voluntary measures reinforce the absolute dominance of the companies in these cities.

The combined crisis of the oil shock and the regime's radicalization eventually led to the decline of Fria, which had until then been called the "little Paris" of Guinea. Fria had been visited by the Guinean elite to buy products, like foreign rice, milk, and butter, and "to rest, have fun and get medical care."[39] After a long general strike and public upheavals in 1975, the American run towns of Kamsar and Sangarédi became the new places to be. Soumah quotes the personal assistant to the general management at Friguia, Mrs. Benjamin, who stated that everything "went through very well" until a general strike began, which was triggered by the reduction of benefits, such as medical care and food supplies, "that were painfully felt by the overall community which also started to expand with numerous children."[40] Until today, all workers receive certain foodstuffs, like milk or rice, exclusively imported from abroad, in addition to their normal wages. This mainly came about due to the high number of expatriates during the initial launch of mining operations from the 1950s to the 1970s.

Pauther describes Fria as a "social and humanitarian success story" as compared to Edéa, being a severely segregated and heavily guarded state in the state.[41] The housing estates initially consisted of one *cité* exclusively reserved for about 135 European workers, and two African *cités* for another 200 workers. Apart from that, the company built a sports court, commercial centre, kindergarten, housekeeping school, and medical centre. The extent of racist segregation was striking: the schools, the clubs of every *cité*, and even the sports teams were segregated. The only swimming pool in town was in the European *cité*.[42] Institutionalized racism also continued in Kamsar and Sangarédi in the 1970s. There, too, swimming pools were explicitly reserved for (white) expatriates, and even today, local workers rarely use them; non-employed inhabitants are usually not allowed to enter. Soumah quotes Alfa Issa Thiam, an employee at CBG since 1968, who speaks of "total apartheid" in Kamsar until the late 1970s. Even the son of the (then) Guinean president, Ahmed Sékou Touré, was allegedly denied access to the company's swimming pool because of his skin colour.[43]

Thiam also gives a negative account of the "Africanization" programme in Kamsar. In the beginning, 200 expatriates were employed in Kamsar, and had to train Guinean senior staff, but the training did not take place or was obstructed because, unlike in Sangarédi, these expatriates had no guarantees of retaining their jobs after successfully training the Guinean staff.[44] The initial aim of CBG to replace all expatriates with Africans within

38 Compagnie des Bauxites de Guinée, Welcome at Sangaredi. A Reference Bauxite Mine since 1973: Powerpoint presentation of CBG for visitors, Sangarédi 2012.
39 Soumah (fn. 5), p. 215.
40 Soumah (fn. 5), p. 106.
41 Pauther (fn. 6), p. 27.
42 Ibid., p. 27.
43 Soumah (fn. 5), p. 142.
44 Ibid.

five to ten years was not reached. Soumah relates this also to the strong nepotism in the recruitment of Guinean personnel, which reduced the possibility of employing skilled workers.[45]

The differences in corporate governance between French and American run firms, are not as big as one would suggest and have also been reduced with the advent of corporate social responsibility (CSR). In a way, CSR was already in use in the mining sector long before it had been marketed; also, the geographically isolated facilities of American companies in the USA necessitated considerable investment in the local workforce, not only in terms of wages and basic needs. In order to compensate workers for the distance from urban centres, mining companies created benefits and pension schemes, responded to the various needs of families, and built recreation centres. This resulted in "truly autonomous cities" and "discrete communities," as Anne Pezet et al. put it,[46] based on infrastructural power. In both French and American settings, these policies were in sharp contrast to the economizing nature of capitalist endeavours, leading to the minimization of taxation, the externalization of ecological costs,[47] and the disregard for everything that took place outside the protected realm of the enterprise. The advent of CSR in the 1990s then aggravated the paradox of these policies: while mining companies in West Africa continued to fiercely fight against taxation,[48] which would – at least in theory – have enabled local and national political institutions to function, their marketing departments began to implement proper programmes with the very funds that were openly reserved first and foremost to increase the reputation of the company with its customers.

3.2 Political Dimension: Corporate Rule

The residential areas of these company towns have running water, electricity, hospitals, well-maintained roads, etc., which have all been provided almost exclusively by the corporations. In Fria, the French colonizers managed to establish the best hospital in Guinea, and built two schools, one for expatriates and one that the company "lent" to the public administration. Most of these buildings and services were neither referred to as gifts to the state, nor did the company demand repayment. The Guinean state, having constructed neither ward nor school independently, thus became more and more indebted to the private company.[49]

When production began in Fria, the city had only three representatives in government and five police officers for 200 expatriate senior officers and 500 employees on the corporate side. Already in 1957, one of the three administrators called on the government

45 Soumah (fn. 5), p. 212.

46 Pezet et al. (fn. 32), pp. 10–11.

47 Pechiney began to recognize ecological concerns much later in Guinea than in Metropolitan France. See D. Boullet, Pechiney and the Environment, 1960–1980, in: Les Cahiers d'histoire de l'aluminium. 26 (2000), pp. 10–37 (fn. 32), p. 33, and Knierzinger (fn. 4), p. 79–81.

48 On transfer pricing, see T. Bauer and T. Maissen, Silbersonne am Horizont: ALUSUISSE – eine Schweizer Kolonialgeschichte, Zürich 1989, pp. 92–100.

49 Knierzinger (fn. 4), p. 77.

to prevent the town from becoming a "concession Pechiney."[50] The company was apparently directly addressed by the population to construct a church and apartments for priests, and distributed permits for merchants in the shopping arcade.[51] Based on similar findings, Soumah concludes that "[i]n fact it is the plant that set up the town as well as the public civil service of Fria."[52]

The most important momentum of control in these typically remote places, however, is the simple fact that the firm becomes the most important source of financial liquidity.[53] The global chains of command of the TNCs, stretching from headquarters around the world to the mine workers, is accompanied by a "plutocratic" chain of command based on "purchasing power." Previously existing social orders, based on lineage, seniority, ethnicity, gender, religion, etc., have changed drastically with the influx of workers' salaries, creating a "worker aristocracy" at the top that possesses much of the land, shops, and even the town's schools. According to Soumah, wages in the Guinean mines are on average four times higher than wages in public administration, and are accompanied by numerous benefits like company cars and fuel, free medical care for workers' families, basic foodstuffs, school libraries, sports and cultural centres, the possibility to own private property, and retirement schemes.[54] People living in these towns who are not part of this private polity, become necessarily dependent on the "working class." The majority of the population lives mostly in huts without running water or electricity, and tries to make a living out of selling agricultural goods and artisanal products to the upper 10,000. In 2011, the CBG employed about 500 core workers and 730 contractors in Sangarédi, and maintained 489 houses in a city of about 75,000 inhabitants. In Kamsar, the reserve army of labour is even larger: the facilities there employ less than 2,500 people against 140,000 inhabitants living mainly off trade and fishing.[55] Even if we suggest that every worker "nourishes" 20 other persons, this leads to a large part of the population that is both excluded from and dependent on these production centres.

However, these control relations go far beyond company towns. The final decision-makers in a corporate chain of command are investors and, to a certain extent, consumers (especially if they are organized). Such faraway decisions can trigger the forced relocation of Guinean farmers and even the closure of whole mining towns. As a matter of fact, all of these decisions are always embedded in (inter)national regulatory frameworks.[56] Cost

50 Ibid., p. 75.

51 Ibid., pp. 74–88.

52 Soumah (fn. 5), p. 103. Cf. Knierzinger (fn. 4), p. 78.

53 Cf. Agnew (fn. 3, p. 443) underlining currency as a form of infrastructural power.

54 Soumah (fn. 5), p. 213.

55 See Knierzinger (fn. 4).

56 This argument naturally leads to a series of questions, which cannot be addressed here. Three points are important: (1) (inter)national regulation is central to the structure of these global chains of command; (2) consumers cannot be considered as fully rational and independent decision-makers, and (3) on every node of a global chain of command (e.g. from an investment decision in Austria to the relocation of a village in Guinea), actors are also "power brokers." By passing down orders from above (e.g. the CEO of an enterprise trying to raise the profits for shareholders), they can always make use of their position for their own means.

reduction in times of decreased demand for aluminium, naturally result at first in cuts in voluntary (charity) measures for these parts of the population. Particularly in Kamsar and in Fria, living conditions have deteriorated and social unrest has augmented tremendously in the last years because of such cost reductions.[57] The plant in Fria had been managed by Rusal since 2002, and was finally bought by them in 2006. In April 2012, Rusal evacuated all its Russian personnel because of violent strikes, and did not clarify the status of the remaining Guinean workers until today. Instead of closing the factory officially, Rusal only stopped paying salaries and most basic services. According to the town's mayor, Amara Traoré, Fria

> *is in danger of disappearing if the factory stops.* […] *Today I've got a starving population. People are selling their property, their homes, plots of land and even furniture to survive.*[58]

But these global power relations do not only affect the mining towns. In 2008, the overall number of CBG employees amounted to 3,390, subcontractors included, mainly in Kamsar and Sangarédi.[59] These employees, constituting about 0.03 per cent of the 12.5 million Guineans, generate about 70 per cent of Guinea's foreign earnings[60] and, thereby, most of the governmental budget that is not accrued from international grants. The majority of the rest of the budget comes from the other two bauxite mines in Fria and Débélé, jointly employing no more than 1,500 core workers since the lockout in Fria in 2012. Because of the all-embracing arms of the company, the representatives of the production facilities in these cities are de facto governors, partially replacing the formal apparatus of local and national politicians. With the new price peak in raw materials since the turn of the millennium, one could observe how this power struggle plays out. In 2012, the government announced that it would create fully public mining corporations and increase taxes. However, the global economic downturn since 2008 had already taken its toll: in April 2013, Guinea's President Alpha Condé announced a cut of mining profit tax from 35 to 30 per cent, and reduced taxes on bauxite from 0.55 per cent to 0.15 per cent of the international price.[61] While the recent "Scramble for Africa"[62] had enhanced the political leeway of African governments considerably, business as usual seems to have set in again since the 2008 economic downturn. In exchange for more favourable business conditions, a large portion of Guinea's debt was cancelled only recently.[63]

57 Alfa Issa Thiam in Soumah (fn. 5), p. 143.
58 Ibid.
59 Soumah (fn. 5), p. 138.
60 S. Delasnerie and A. Diallo, Guinea: Transforming a Geological Scandal into an Economic Miracle?, in: Aluminium International Today, (2004) 6.
61 Zawya, Dark Clouds Hang Over Guinea's Bauxite Market, http://www.worldal.com/news/others/2013-05-23/136930598342864.shtml (accessed 29 April 2014).
62 See, for instance, Lee et al. (fn. 22), p. XI.
63 L'Express Guinée, La France annule 75 millions d'Euros de la dette guinéenne, http://lexpressguinee.com/

3.3 Technical Dimension: Further Processing and Spin-off Effects

During the first two stages of the aluminium chain (mining and refining), the spin-off effects of the industry are very small compared to other industries. Guinean artisanal gold mining, for instance, provides jobs to more than 100,000 people, whereas Guinean bauxite mining currently employs around 5,000, including subcontractors.[64] Backward linkages are scarcely developed. CBG's procurement agencies in Brussels and Pittsburgh very rarely order Guinean or African products.[65] Even the provision of the workers with local food has never been put into practice due to, according to CBG, the lack of stable providers of these commodities.[66] This export-enclave character enforces the mines' development into separate sovereignty regimes.

This danger was already known during independence, and it prompted the government of (former) President Touré to demand plans for further processing, as a condition for giving out mining concessions. For all three bauxite mines (and since then, in the case of at least another eight bauxite mining projects that have not been realized), these promises were made, but until now no smelter has been erected in Guinea, in spite of its vast hydroelectric potential (because of its many rivers, Guinea is often referred to as the African "water castle").[67] The Canadian firm Alcan, for instance, announced in 1974 that its part of the bauxite of CBG was not to be locally processed, as previously claimed; instead, it would be processed in Aughinish, Ireland, which would in turn produce for a smelter in Lynemouth, England. This change of plans happened in a period comparable to the rise of "resource nationalism" in the 2000s. In 1974, one year after the first oil crisis, the International Bauxite Association was formed, which encouraged producer countries to raise taxes and nationalize production. Bonnie Campbell remarks that it "would be quite impossible to explain the logic of the Aughinish project in terms of the comparative costs of the factors of production."[68]

If we analyse the aluminium industry from a regional angle – as most of the African governments after independence did – Fria could nonetheless be regarded as a success story because it delivered a good part of its alumina to Alucam in Edéa, where much of it was processed into finished products. Edéa started production in 1957, several years before the completion of the alumina refinery in Fria,[69] and was thereby the first foreign direct investment of Pechiney outside Metropolitan France.[70] Part of the primary aluminium produced in Edéa was further processed by Socratal, which is still the largest

fichiers/videos5.php?langue=fr&idc=fr_Cooperation_La_France_annule_75_millions_d_Euros_de_la_dette (accessed 15 November 2017).

64 Knierzinger (fn. 4), p. 209.

65 Interviews in Guinea 2012.

66 Ibid.

67 See B. Campbell, Negotiating the Bauxite/Aluminium Sector under Narrowing Constraints, Review of African Political Economy 51 (1991), p. 29.

68 B. Campbell (ed.), Mining in Africa: Regulation & Development. Ottawa 2009, p. 79; see also B. Campbell, Les enjeux de la bauxite. La Guinée face aux multinationales de l'aluminium, Montréal 1983.

69 R. Vitry, Éditorial, in: Le Bulletin Pechiney Christmas issue (1957), pp. 2–3.

70 Pezet et al. (fn. 32), p. 28.

producer of rolled aluminium in West and Central Africa: it produced 23,000 tons per year in 2007, of which only 30 per cent is exported; the rest is used in various factories to produce finished goods. Most of these facilities – producing roofing, building materials, and household gadgets for clients in West and Central Africa – are subsidiaries of Alucam.[71] A small part of Guinean bauxite production, thus, really reaches consumers in West Africa, and it most likely even goes into the recycling loop.[72] The rest of the primary aluminium is mostly exported to Europe and the USA.

4. Conclusion

In company towns like Fria or Sangarédi, global control relations are shrunk to the size of a town: aluminium corporations need to attract technicians and managers from around the world, by offering high pay and other comforts as incentives to stay in these remote but globally integrated locations for several years or more. These bearers of high cultural capital also exchange money and, thereby, working time with people at the local markets, buy land, and send their kids to school, etc. The resulting local control relations, based on income and property, overshadow all other previously existing regimes of rule in the area, whether based on elections, ethnic ties, religion, gender, or other conventions.

Analyses of portals of globalization in high-income countries show striking similarities with this situation. In her analysis of "global cities," Saskia Sassen talks about the "beginning of transnational urban systems [being] increasingly disconnected from their broader hinterlands or even their national economies,"[73] and shows how strongly their functioning depends on increasingly informal and impoverished service providers.[74] Similarly, the sociologist Klaus Dörre analyses how over-exploitation (in his terms, "secondary exploitation") has transcended former centre-periphery borders and has arrived in high-income countries.[75] However, even if the logics of exploitation are similar, their extent differs significantly. According to United Nations Development Programme estimations, in 1820, the income ratio between the poorest and the richest fifth of the world population, measured in terms of state affiliation, was only 1:3. By 1960, the gap had risen to 1:30; in 1997 it was at 1:74.[76] My own calculations showed that expatriate geologists

71 See M. Carbonell, Aluminium in Cameroon: Markets and Uses, in: Laparra/Grinberg (fn. 8), pp. 125–48; C. Husband et al., The Aluminium Industry in West and Central Africa: Lessons Learned and Prospects for the Future, 1999, p. 30; Pechiney Ugine Kuhlmann, Pechiney Ugine Kuhlmann en Afrique, in: Fusion 5 (1972), p. 2; E. Senghaas-Knobloch, The Internationalization of Capital and the Process of Underdevelopment: The Case of Black Africa, in: Journal of Peace Research 12 (1975) 4, p. 286, and Habig (fn. 12), p. 154.

72 For example, for artisanal cooking pot production in West Africa, see E. Osborn, Casting Aluminium Cooking Pots: Labour, Migration and Artisan Production in West Africa's Informal Sector, 1945–2005, in: African Identities 7 (2009) 3.

73 S. Sassen, The Global City: Introducing a Concept, in: Brown Journal of World Affairs 9 (2005) 2, p. 29.

74 Ibid.

75 K. Dörre, Social Classes in the Process of Capitalist Landnahme. On the Relevance of Secondary Exploitation, in: Socialist Studies / Études socialistes 6 (2010) 2, p. 50.

76 UNDP, Human Development Report 1999, New York 1999, p. 3.

buying oranges on the streets of Sangarédi, exchange working time in the ratio of up to 1:1,000 with local vendors; for working one day in the mines, a geologist gains the right to tell 1,000 street vendors what to do for him for one day. This kind of unequal exchange is probably the most visible difference between the African situation since the 1960s and mining towns in Europe and the USA dating back to the onset of industrialization. At the same time, this rising unequal exchange between workers goes hand in hand with a globally rising gap between capital and labour,[77] leading to exchange rates of working time in low-income countries like Guinea, where "purchasing power" becomes political power. The dominating global investors in possession of the aluminium companies enjoy annual incomes more than 100,000 times higher than those of the residents of Guinean mining towns.[78] This undermines local decision-making processes, as local politicians control almost no resources compared to the TNCs. Calculations in Kamsar showed that the CBG provides about 99 per cent of all investments in publicly used infrastructure and social services.[79]

From this point of view, I argue that portals of globalization in low-income countries are places or institutions where unequal exchange becomes apparent because global elites and the world's most vulnerable inhabitants (are forced to) interact in a relatively confined area. In these places, opaque and spatially separated relations of global control emerge from the hidden fabric of world economic exchange, and openly interfere with local systems of rule. While these relations of control are as real in the rest of the world as in these nodes, they are normally mediated through long commodity chains – and they are less extreme. The difference with portals of globalization in high-income countries, therefore, lies in the scope and the visibility of the "international" division of labour in these cities, and the consequences of this close interaction between unequal partners for the hierarchical order on-site. In the short and medium term, this clash of highly unequal cultural capital (in the sense of Bourdieu) leads on the one hand to exploitation, dispossession, and disempowerment, and can lead on the other hand to formal employment, better medical care, and generally better living conditions, at least for a fraction of the local population. Without this new constellation of rule, the few people who had been living in these areas before the arrival of aluminium companies would continue with small-scale farming or fishing, or migrate to other urban accumulations. The population with access to schools, wards, electricity, and running water would without a doubt be smaller.

In the long run, this also implies the possibility of knowledge transfer and spin-off effects, and therefore more self-sufficient development, which would be less affected by external crises. The latter point appears to be the most important and unsolved up to now, and corresponds to what could be called the sociopolitical aspects of the resource

77 T. Piketty, Le Capital au XXI^e siècle, Paris 2013.

78 J. Knierzinger, Überlegungen zu Steuerung und ungleichem Tausch in Rohstoffgüterketten mit Beispielen aus Guineas Bauxitbergbau, in: Journal für Entwicklungspolitik, 30 (2014) 3, p. 75.

79 Knierzinger (fn. 4), p. 172, and J. Knierzinger, Après le boom: la laborieuse mise en œuvre de nouvelles régulations dans le secteur minier guinéen, in: EchoGéo 38 (2016).

curse.[80] All mentioned consequences depend to a certain degree on the business culture of the companies, but this should not be overstated, as we have seen in the differently organized cases of Fria, Edéa, Sangarédi, and Kamsar.

There seems to be some evidence in our case studies that especially the re-emergence of "deterritorialized" sovereignty regimes – the outcome of the replacement of public services by CSR measures – has had negative long-term consequences. During colonialism, when the French empire mediated similar economic exploitation, the creation of regionally integrated chains of production was also in the interest of the colonizers.[81] Resistance against this unified political system and, therefore, empowerment was easier to organize. Trade unions were the spearheads of independence and had been financed by French metropolitan parties. The success of Pechiney to create possibilities of downstream, small-scale economic activity in Edéa, depended heavily on the territorialized colonial system of rule, even if this territorialization was weak and the French empire was only just about to start with the installation of territorialized infrastructural power, when it was already on the brink of disintegration.[82] The numerous broken promises to create integrated industrial complexes since the 1960s, on the other hand, show the meagre effects of deterritorialized systems of control in terms of mutual learning processes in portals of globalization: with a multiplicity of economic actors, all trying to hedge their own interests, the possibility for nationally or regionally integrated production chains – thus, the opposite of export enclaves – is considerably low.

To Agnew, the democratic answer to the challenge of globalization is overcoming the "normative categories of consent and legitimacy based on territorialization,"[83] that is, as I understand him, the deterritorialization of democratic processes as such. In the case of Guinea, this is worth contemplating because its mining towns already are transnational decision spaces controlled by mining companies. Rather than cutting the branches of this widely ramified decision space, ranging from company headquarters to mining towns around the world, why not try to democratize it in the sense of economic democracy or solidarity economy?[84] Given the current global geopolitical situation, this is

80 Cf. M.L. Ross, The Political Economy of the Resource Curse, World Politics 51 (1999), p. 308.

81 In the early 1950s, France still intended to create a fully integrated aviation industry in Guinea. See R. Pré, L'avenir de la Guinée Française, Conakry 1951. To Agnew (fn. 3), the imperialist regimes were also weakly territorialized and were based on a weak state. Corporate rule as described in this article, however, is not part of his analysis, and can surely be described as less territorialized than the French colonial empire (which does not mean that it is less regulated). Cf. B. Daviron and S. Ponte, The coffee paradox: Global markets, commodity trade and the elusive promise of development, London 2005, p. 85. Agnew's conceptualization also does not explicitly capture the territorial claims of localized forms of power like neotraditional rule or precolonial African states, which did not enforce clear borders but were nonetheless bound to a certain territory.

82 See L. Adamolekun, Sekou Toure`s Guinea, London 1976, pp. 42–45; S. Amin, Neo-Colonialism in West Africa, Harmondsworth 1973, p. XI; A. Condé, Guinée: Albanie d'Afrique ou néo-colonie américaine?, Paris 1972; Daviron and Ponte (fn. 81), p. 85; M. Rempe, Decolonization by Europeanization? The Early EEC and the Transformation of French- African Relations, Berlin 2011, p. 7, and S. Touré, L'Afrique et la revolution, Paris 1967, p. 34.

83 Agnew (fn. 3), p. 439.

84 See M. Auinger, Impetus for Democratization and Starting-Points for a Transformation of the Working Process in Brazil, in: Journal für Entwicklungspolitik 21 (2005) 2, pp. 45–63.

probably a bit far-fetched, but social movements around the world, in fact, increasingly seem to organize along global commodity chains.[85]

85 See for instance K. Lukas et al., Securing Labour Rights in Global Production Networks: Legal Instruments and Policy Options, Vienna 2010.