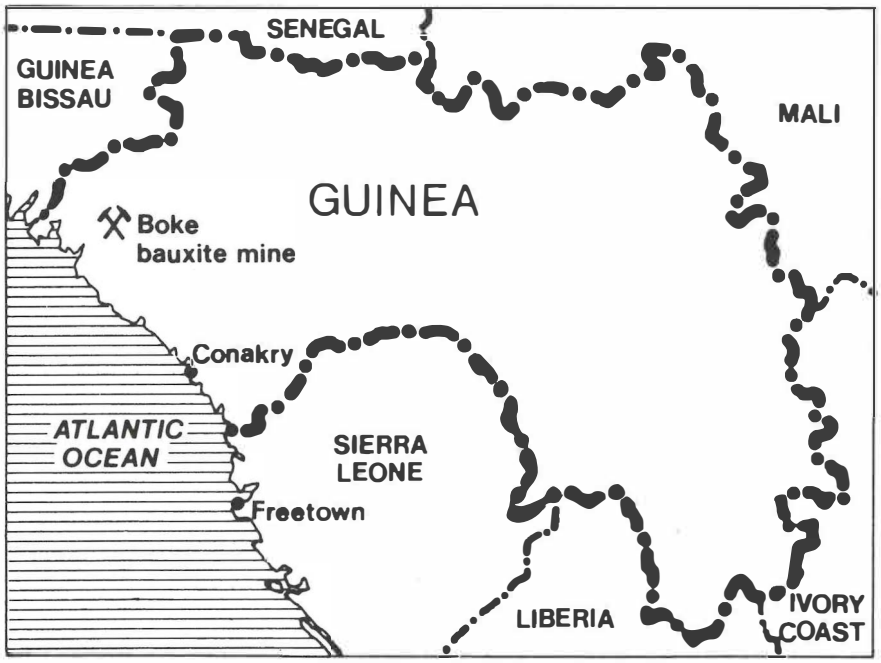
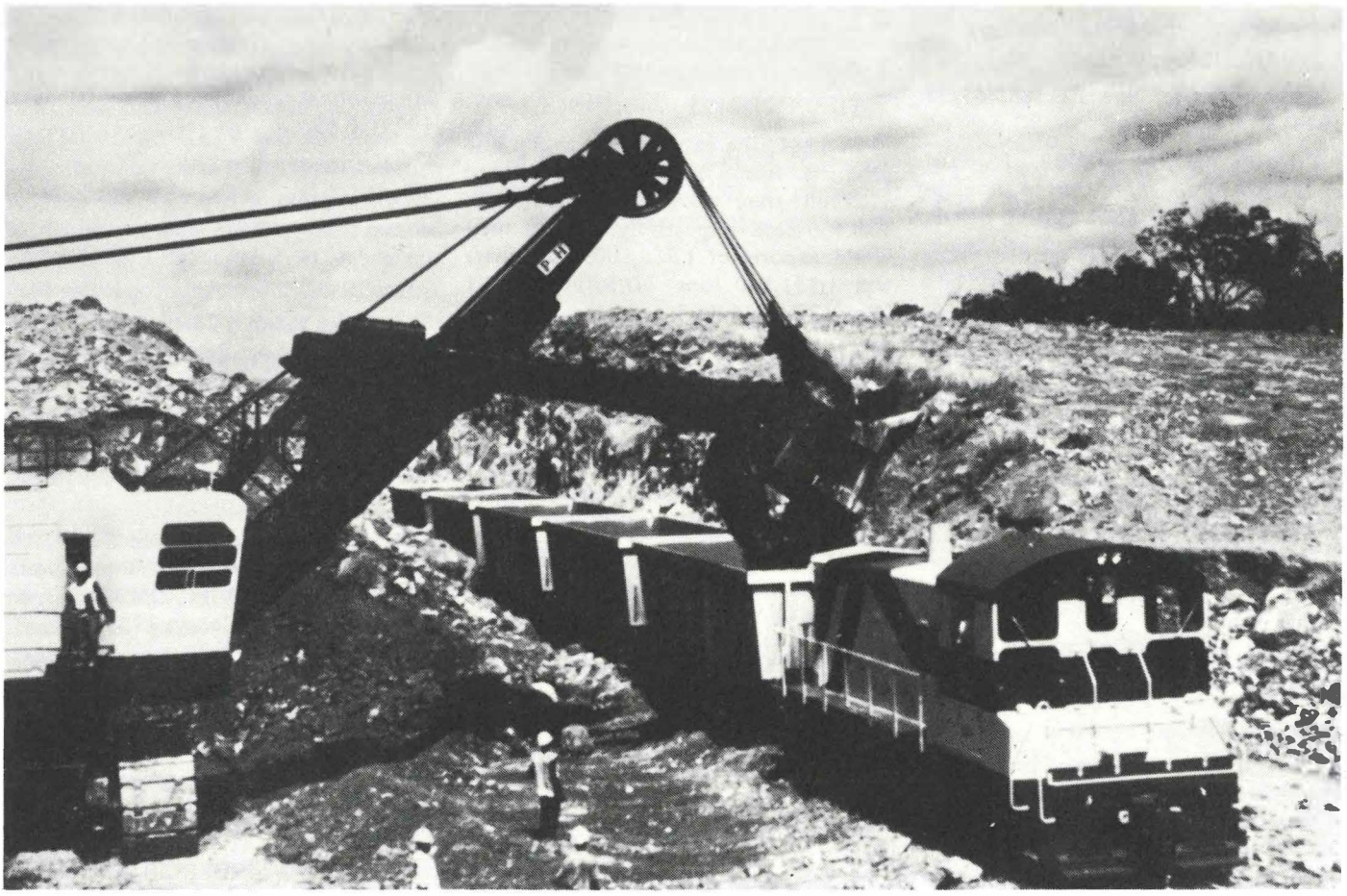


The Boké bauxite complex is the largest in Guinea, the second largest bauxite producer in the world. (Below).



Bauxite bargaining: Guinea versus the aluminium multinationals

By Bonnie K Campbell

Guinea possesses all of the "factors of production" (very high grade bauxite, hydro-electric energy potential, etc) which traditional economic analysis suggests necessary to permit local transformation of the raw material. However, raw bauxite from the important Boké site was shipped until recently to be processed in Quebec, and as of 1983 will be exported thousands of miles to be transformed into alumina at Aughinish, Ireland, then shipped to Lynemouth, England, to be processed into aluminium.
The above paradox led to a study which has as its object to understand the causes which limit and condition the capacity of a bauxite producing country to negociate with the multinationals of the aluminium industry.

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Introduction

The hypothesis defended in this study is that the capacity of a bauxite producing country to negotiate with the multinationals of the aluminium industry does not rest simply at the level of the political determination of the country concerned, nor at the level of the strategies of the firms involved, nor even at the level of the interaction of these two types of factors. A government's policies vis-a-vis foreign firms, just as the strategies of the firms themselves, only become comprehensible if the analysis take into consideration the forces which act on and through these policies and strategies. An evaluation of the negociating capacity of a raw material producing country depends on another level of analysis, that of the conditions of accumulation specific to the industrial branch in question, and more generally, the conditions of accumulation on a world scale.[1]

The study of Guinea's negociations with the aluminium multinationals suggests:

- First, that while a slow process of "delocalisation" or transfer of certain stages of processing towards producer countries may well be taking place, it is a far more contradictory process than is usually suggested by UNCTAD or OECD studies on the aluminium industry, and involves the creation on new zones of "intermediation" – such as Ireland – whose importance is minimized by an overly mechanistic centre-periphery or North-South approach.
- Secondly, although this study is based on the example of a site called Boké, where local transformation has *not* taken place, the Guinean case is important because it reveals the divers and contradictory strategies of firms within an oligopolistic industry.

While the bauxite from the Boké site is to be exported in an untransformed state, the multinationals present at the site called Fria process Guinean bauxite into alumina locally. Moreover, there exist other important projects such as that of Ayéko Koyé which bring together Arab interests, East European countries and certain multinationals such as Alusuisse, in a project in which it is planned to process bauxite locally, not only to alumina but to aluminium as well. Consequently, in spite of a widespread tendency to view the large aluminium firms as forming a coherent and monolithic "block" of interests, the different strategies in operation in Guinea reveal the continuing necessity, imposed on all firms, of reproducing positions of dominance under increasingly competitive and changing conditions of production. In fact, Alcan's delocalisation towards Ireland may itself be seen to reflect an explicit restructuring of world operations in the face of hightening competition.

- Finally, the study suggests the central importance of understanding the contradictions involved in the process of delocalisation, as these contradictions open new areas for alternative strategies whether they be those of producer countries, individually or in associations, or of workers organized in unions, who seek to inscribe new orientations and open new spheres of autonomous action vis-a-vis multinational firms.

The specifics of accumulation in the aluminium industry

The case of the Boké site in Guinea is of particular interest not only because of its potential for local transformation, and the Guinean government's explicit desire to ensure it, but because of its links to Canada and now to Ireland and the UK. Although Canada possesses not a single bauxite deposit, it is the world's largest primary aluminium exporter. This is due to the fact that it has tremendous resources of hydro-electric power. Energy represents approximately one third of the production costs in the transformation of primary aluminium. Hydro-electricity re-

mains the least expensive and most important source of energy for the industry, accounting, according to a OECD 1976 study, for 53 per cent of energy resources for primary aluminium, while other sources were coal 21.0 per cent; petroleum 12.6 per cent, natural gas 10.6 per cent, nuclear energy 2.3 per cent.

In view of Guinea's enormous hydroelectric potential, the largest in West Africa, its high grade bauxite deposits, as well as each of the other factors of production needed for local transformation which was in fact foreseen to begin in 1974 by agreements for the Boké site, how can one explain the logic of shipping tons and tons of raw Guinean bauxite thousands of miles to Ireland?

The study attempts to find an answer by replacing the history of the Guinean bauxite sector, in the context of the development of the bauxite-aluminium industry on a world scale. In order to do this, it is essential to look first at the specific characteristics of the process of accumulation of the aluminium industrial branch. The conditions of accumulation and realization of surplus value in a given industry may be clarified if one takes into account a series of variables. These variables are important in determining the form and degree of competition among firms, and the nature of their strategies. Moreover, there is a dynamic interaction between the impact of the strategies of the firms and the evolution of the conditions of accumulation in the industry. The following five variables are proposed by J–P Vignolle[2]. Applied to the aluminium industry they suggest the following characteristics:

The rapidity of the renewal of the techniques of production.
The great stability of techniques may be explained by the fact that the tranformation process remains that by electrolysis. The nature of this process explains in turn the critical size of production units, the importance of fixed capital, and the degree of economic concentration, etc.

The degree of interdependence of the firms in the industrial branch.
The high degree of interpenetration of markets in the aluminium industry is a result, among other things, of the geographic redefinition of productive regions at the time of the second world war, and the expansion of the capacity of North American producers.

The relation between the productive capacity of the firms and demand.
The industry is characterized by a strong tendency for over-capacity, which reflects factors such as those noted above, e g critical size, fixed capital, etc.

The nature of the final product – whether it is a raw of finished product.
In the aluminium industry, due to the high degree of concentration, competition has shifted from the raw material (bauxite), to the finished product.

The nature of relations between this industrial branch and those branches which use its output as an input – whether the branch may be considered dominant or not.
The aluminium industry has become dominant and has tended to replace competing products such as copper, paper, cardboard, etc. The tendency to dominate is illustrated by the economic and financial integration of client sectors and competitors. For example Noranda Mines, initially a multinational copper producer, recently became the largest private shareholder in the Guinean site at Fria, ahead of the French firm, PUK, which initiated the project during the colonial period.

The historical evolution of the industry

These variables help to explain the structural characteristics and historical evolution of the aluminium industry. In this regard, one may distinguish two important phases: The first between *1888–1942,* when the industry was characterized by a structure composed of monopolies on a national scale and oligopolies on an international scale. The second from *1942 to the present.* As a result of American anti-trust legislation, several new-comers were encouraged, and the structure evolved to that of oligopolistic control both on a national and on an international scale.

This historical evolution of the industry reflects four main characterictics:

- *The vertical integration of production.*

The leading aluminium producers have control over the major sources of bauxite and a very important proportion of processing operations. In 1974, the six leading companies, Alcoa, Alcan, Reynolds, Kaiser, Pechiney Ugine Kuhlman, and Alusuisse controlled:
69 per cent of world productive capacity of bauxite;
75.8 per cent of productive capacity of alumina of western countries;
67.9 per cent of productive capacity of aluminium of western countries.

- *The diversification of production.*

Finance capital has facilitated not only the integration of activities within the aluminium industry, but also control over diversification between this industry and others as illustrated by the above example of the association of Noranda Mines in Guinean bauxite operations.

- *The development and updating of horizontal ententes.*

Since the anti-trust actions of the American government, formal cartels have been replaced by informal ententes which take the form of agreements to keep the price of the aluminium ingot low; of control via joint-ventures and holdings of bauxite deposits, or new associations such as the International Primary Aluminium Institute formed in 1972 to monitor production, inventories and expansion plans throughout the capitalist world.

- *The internationalization of production.*

Although there was a trippling of world production of aluminium between 1960 and 1971, it cannot be said that there has been a significant displacing of processing centres towards bauxite producing countries. In 1979, the member countries of

the International Bauxite Association were responsible for:
75 per cent of world bauxite production;
47.7 per cent of world alumina production, and only
4.5 per cent of world aluminium production.

It is this latter characteristic which interests us: why has a country like Guinea, and more specifically the Boké site, not attracted the processing stages which would permit local transformation of Guinean bauxite to alumina and even to aluminium?

The explanation for the strategies of the firms involved at this site requires an approach that goes beyond an analysis merely in terms of factors of production, or interpretations which offer the "political situation" as an explanation. The transformation of bauxite to alumina at the Fria site which produced 700 Kt of alumina in 1980, provides ample refutation of the latter argument.

A brief history of bauxite production in Guinea

Although the existence of important bauxite deposits in Guinea had been recognized since the beginning of the 20th century, it was not until the industry had undergone a reorganization under the leadership of North American interests that important exploitation of resources began. War production gave a tremendous boost to the industry and brought about massive expansion to North American productive capacities. In 1948 and 1950, Guinean bauxite from the islands of Los began to be shipped in small quantities to Alcan's Saguenay Lac St Jean smelters in Quebec. Production continued until 1961 when installations were nationalized by the new Guinean government which came to power after independence in 1958.

During the colonial period, another important project had begun as noted, at Fria under the leadership of the French firm Pechiney Ugine. Although initiated in 1957 by colonial interests, by 1963 the site was controlled by an international consortium in which Olin Mathieson Chemical Corp (USA) held the dominant place, 48.5 per cent of shares; Pechiney Ugine 26.5 per cent; and the remaining shares were distributed among British Aluminium Co 10 per cent; Aluminium Industrie AG (Switzerland) 10 per cent; Vereinigte Aluminium Werke AG (Germany) 5 per cent. Alumina production began in 1960 and reached 460 Kt in 1962 representing 58 per cent of the total value of Guinean exports.

Concerning Guinean independence, it is of considerable irony that the country's radical break with the French colonial system, was to facilitate and even accelerate its integration and subordination to even more powerful foreign interests.

In spite of the country's attempt to break colonial ties, the process which led to political independence was imposed by the colonial power and tended to limit the degree of internal social, political and economic transformation. For Guinea's gaining of independence depended neither on a radical redefinition of social relations of production, nor on a general mobilization of the population, nor a transformation of the structures of political participation. The Guinean government's subsequent experience of negociating with multinationals was therefore conditioned by these internal factors, as well as the developments of the world aluminium industry on which the country depended for the sale of its chief export product.

The limits of the process of internal transformation are reflected in the objectives of Guinean development strategy. If it may be said that for a few years after independence, namely the period covered by the First Economic Plan (1960–1963), there was an attempt to base development on a pattern of national accumulation, this orientation was not sustained. Around 1968–1970, and very explicity in the 1973–1978 Five Year Plan, the initiative for growth was clearly placed in the hands of international capital.

Although it is not possible to enter into the details of the developments of the Guinean bauxite sector, a few points will serve as summary.

In November 1961, the government took possession of the Kassa and Boké sites because of the failure of the private firm, Bauxites du Midi (a 100 per cent subsidiary of Alcan), to respect its agreement to transform locally bauxite to alumina by 1964. The project was to be taken up by a second rank American firm, Harvey Aluminium of Delaware. Significantly, the new negociation for the Boké site between the Guinean government and Harvey, coincided with the ressumption of closer relations between the US and Guinea. In 1962, Guinea was admitted to the IBRD, and in 1964, USAID approved a loan for the new Boké project and guaranteed Harvey's initial investment.

Harvey's agreement with the Guinean government, signed in October 1963 was to become the prototype for other sites. A semi-public corporation was formed in which the Guinean government held 49 per cent of shares and the remaining 51 per cent were divided among the private partners as follows:

Alcan Aluminium Ltd 27 per cent;
Aluminium Company of America 27 per cent;
Harvey Aluminium Inc 20 per cent;
Pechiney Ugine 10 per cent;
Vereinigte Aluminium Werke AG 10 per cent;
Montecatini Edison 6 per cent.

At the time, certain clauses concerning taxation, local transformation, etc, were considered to be important gains on the part of the Guinean government. By the mid-1970s, however, President Touré denounced the private firms for not respecting their agreement, notably the clause concerning local transformation. Important Guinean state participation in the project, considered when the agreement was signed, as a guarantee of control, appeared with time as perfectly compatible

with the logic of accumulation of the multinationals involved.

The operations at the Boké site began in 1973. All output was exported as raw bauxite and purchased in proportions reflecting the shares of the private partners. Consequently, 26 per cent of Boké's production was shipped as of 1973, to Port Alfred, Quebec, to be processed into aluminium at Alcan's Arvida smelters.

In order to replace developments in Guinea in the context of the world aluminium industry, it should be recalled that at the beginning of the seventies, world aluminium productive capacity increased more rapidly than demand. The price of the ingot dropped between 1971 and 1974 and stocks increased. It was in this context that the International Primary Aluminium Institute was formed. It was also in this context that Alcan Aluminium Limited announced a restructuring of its international operations, on the basis of three new zones. Each of the three geographical regions should be assured its own internal coherence in that it combined:

- control over access to the raw material;
- vertical integration of all stages of production and transformation;
- a certain degree of autonomy of each region vis-a-vis the others.

The plan which was made public in June 1975 contained the following zones:

- Canada, the United States and the Caribbean;
- The Far East (including Japan and India) and Oceania (including Australia and New Zealand); and finally,
- Continental Europe, the United Kingdom, Africa and Latin America.

While the division into geographical zones may at first appear arbitrary, the reorganization may be seen as an example of a multinational's strategy in the face of worsening economic conditions. This strategy entails the creation of a series of coherent trading blocks which combine all conditions of accumulation. Moreover, the reorganization seems important in order order to understand the company's strategy vis-a-vis a producing country such as Guinea. For in 1974, and the coincidence of date is worth underlining, it was announced that one of the important partners of the Boké holding, Alcan Aluminium Limited was to procede to transformation of bauxite from the Boké site not locally, as stipulated in the agreement signed with the Guinean government, but in Ireland.

Alcan's Irish project

Alcan's project entailed the construction of installations at Aughinish, near Shannon airport, permitting the transformation of imported raw bauxite into alumina which would then be exported to be processed into aluminium at Lynemouth (UK). Annual capacity at Aughinish is to be 800 Kt of alumina. The factory will employ 800 workers and costs are estimated at 550 M USD. Production was expected to begin in 1983.

Alcan's partners in the project are Billiton, of the group Royal Dutch Shell (35 per cent), and Anaconda, of the group Atlantic Richfield (25 per cent). Alcan Ireland will control 40 per cent of shares. The three associates formed Aughinish Alumina. In December 1981, Aluminium Co of Canada bought the shares which were held by the parent company, Alcan Aluminium Ltd, thus gaining control of 40 per cent of the shares of Aughinish Alumina.

In view of the very considerable costs entailed in shipping Guinean bauxite to Ireland, the choice of the Aughinish site appears paradoxical. Moreover, if one attempts to find an explanation in terms of the comparative costs of the factors of production, it is quite possible to explain the logic of the Aughinish project.

It appears far more useful to adopt a broader perspective capable of taking into account what C Palloix has called "the unity of the conditions of production and circulation". For the logic of the Irish project reflects new forms of integration of the stages of production, the interpenetration of industrial branches, and above all, the diversification and internationalization of capital among different industrial branches.

The Aughinish project depended on the one hand, on the very advantageous conditions of production offered by the policies of the Irish government, and on the other, on the markets offered by the access of Irish exports to the EEC. Moreover, this favourable ensemble of factors was reinforced by the generous grants and subsidies of state financial bodies both in Britain and in Canada, in support of the project:

Irish policies concerning foreign investments

The attractiveness of the terms offered investors in the Aughinish project is well described by the title of an article which appeared in a Quebec newspaper which analyzed them in detail: "L'Irlande: tout pour séduire l'investisseur", (*Le Devoir*, 1978-06-27):

- New companies pay no taxes on products destinged for export up until 1990;

- The Industrial Development Authority of Ireland (IDA) offers subsidies of up to 50 per cent of the costs of acquiring new installations;

- Because it is not always possible to find fully qualified personnel in Ireland, the state assumes all the costs of training, whether in the country or abroad;

- The IDA assembles the lots and constructs the plants which will be made available at favourable conditions to new companies;

- The IDA also offers subsidies for the modernization of plants, and research and

Alcan's Aughinish alumina complex, near Shannon, Ireland.

development undertaken by the Irish companies.

Moreover, at the time the same article was written, the Irish hourly wage was on average half of that on the continent. It appears that it is in the ensemble of conditions of production created by the industrial policies of the Irish state, which permit reducing capital and wage costs, and not just in the presence of favorable "technical" conditions, such as access to a deep water port, that one must seek an explanation for the choice of the Aughinish site.

The EEC market

As for the guarantee of market outlets (260 million consumers), this is perhaps the determinant element for the choice of the Irish site. From the very beginning of Alcan's project in Ireland, there was never any question of exporting Irish alumina to Canada, but always towards Europe. The new integration of the stages of transformation appear to correspond to the redefinition announced in 1975. Aluminium Co of Canada's 1981 annual re-

port, Form 10 K, to the American Securities and Exchange Commission confirmed:

> "It is expected that the Company's (Aluminium of Canada Limited) bauxite supply will come from Guinea and that the Company's share of alumina will be consumed or sold in Europe in place of existing commitments thus releasing Jamaica alumina for use by the Company in its Canadian smelters."

The consequences of the Irish project

For Ireland, the consequences of the project may be considered in the short, medium and longer term. To summarize briefly, in the short term, as a counterpart to the creation of 800 new jobs (which will do nothing to alter the overall orientation of the economy which is the cause of the chronic high rate of unemployment), the project will entail considerable costs for Ireland. By accepting to become a European "tax holiday" zone, the tax waver until 1990 will permit Alcan to export its entire production of alumina, of an annual value of 150 M USD, without paying a single penny to the Irish treasury. Moreover, Alcan received a 35 M USD subsidy from the IDA for the construction of the Aughinish plant and as well, the Irish government will assume the costs of training the personnel required.

In the more long term, in view of the fact that the entire output is to be exported, the project will do nothing to alter the extraverted nature of the country's economy. Since Irish entry into the Common Market may be expected to have increased Irish dependence on world markets, the establishment of new companies which are attracted precisely because of access to the EEC will inevitably accentuate this tendency.

The Aughinish project may be explained therefore, by a logic of localization which seeks to establish the stages of processing near markets, while at the same time taking advantage of the generous conditions of production which one has a tendency to associate with the conditions offered by neo-colonial regions of the "Third World". In these new zones, which Palloix has called zones of "intermediation", because of the nature of the concessions offered foreign investors, it becomes possible for a multinational firm, through various accounting practices, to declare as in this example, at the stage of Irish operations which benefit from complete tax exemption for a decade, the profits which accrue at the stages both before and after the processing of bauxite to alumina.

As for the consequences for Guinea, it will be recalled that the date for the abandonment of the agreement to transform the bauxite at the Boké site locally, corresponds with the confirmation that the Aughinish project was to go ahead. The favourable conditions created by the Irish policies towards foreign investment, and public financial support notably from Canada and Great Britain[3], and finally the logic in favour of European regionalization which reinforces not only North-South specialization, but also the division of labour within Europe itself, created a determinant context but one diametrically opposed to the objectives set by Guinean mining policies in favour of local processing of its raw material.

Finally, it appears that the Aughinish project is diametrically opposed as well to the demands of the IBA and perhaps also, those of OPEC. On the one hand, there is every reason to believe that for the Aughinish operation to be profitable and to compensate for the enormous costs of transporting millions of tons of raw bauxite, Guinean bauxite will be sold at a price which undercuts current bauxite prices which the IBA is attempting to establish. On the other hand, Shell's participation through Billiton, suggests a very real possibility that the argument of the low profitability of alumina processing will be invoked in an attempt to force petroleum producers to supply the company at special rates for petrol destined for alumina production.

Alcan's Aughinish project goes against all attempts to redefine the international division of labour which in the past has assigned certain regions a subordinate and marginal role in relation to other dominant social formations. This is as true for Ireland which is given the role of "intermediation" vis-a-vis England and Europe, as it is for Guinea, which in spite of the "radical" context in which the country gained independence, does not appear, at least as far as this project is concerned, to have escaped the role of a "peripheric" supplier of unprocessed raw material.

Furthermore, to the extent that the project opens a breach in the attempts at collective bargaining of countries producing and exporting raw materials with a view of improving the terms on which these products are marketed, the Aughinish project goes against attempts to ensure a fairer distribution of resources *even within* the existing pattern of economic relations on a world scale.

Conclusion

The present stage of capitalist development characterized by the internationalization of production entails the transfer of certain stages of processing and transformation to countries traditionally exporters of raw materials. The process is not a simple and straightforward one, however. The internationalization of productive activities which is clearly taking place in the aluminium industry entails a complex set of developments which must be analyzed in a global and historical perspective.

Between the hegemonic social formations, the western capitalist nations, and the so-called under-development regions of the "Third World", there exists an ensemble of social formations which assume the role of "intermediation" in the reproduction of the international division of la-

bour, and which may or may not win or conserve a certain degree of control over their productive activities, as a result of the world scale reorganization.

In these zones of "intermediation", one may find certain advanced capitalist social formations, (France, Spain, Italy), as well as certain formations of the "periphery", (Mexico, Iran, Brazil, etc).

What do these propotions bring to our understanding of the Guinean bauxite sector?

Guinea presents a very interesting case because it is impossible to identify at the present time, a single dominant trend which might invite a somewhat mechanistic interpretation of the process we are attempting to study. The new logic of accumulation in industrial sectors where internationalization of production is taking place, suggests that Guinea is destined eventually to process its rich deposits of bauxite locally.

Several indications in favour of this interpretation exist already:

- The Fria site paradoxically, a project which began operations at the beginning of the 1960s and entails local transformation of bauxite into alumina, now appears as the "avant-garde" in terms of local processing.
- The project which brings together Arab interests, East European countries, and Alusuisse – the Ayékoyé site. A very important smelter is projected (bauxite–alumina–aluminium) and local transformation will entail the development of the hydro-electric resources of the Konkouré. kouré.

At the Boké site, the move to delocalize processing appears effectively to have taken place away from Canada, but the pattern has been "deferred". It is Ireland which will act as the relay in the process of delocalization. Why this indirect, deferred pattern? The answer seems to depend on an ensemble of factors: fiscal concessions, Ireland's membership in the EEC, factors which constitute what has been called "the unity of the conditions of production and circulation".

If one accepts this general framework of interpretation, Guinean demands concerning agreements and mining policies which, at the beginning of the sixties appeared to be major "wins" in the negotiations with the companies concerned, appear now to have reflected the logic of accumulation which has accompanied current transformation in the international capitalist system. Guinean demands may be shown, with twenty years hindsight, to have been perfectly compatible with the new patterns of capitalist accumulation in the aluminium industry.

Obviously, this vast reorganization of productive activities on a world scale, reorganization initiated by the centre, and necessary for the enlarged reproduction of capitalist relations, can take place according to a wide variety of patterns, more or less favourable to Guinea, whether it be in quantitative terms of industrialization, the redistribution of revenue, the share of profits, relative control over production, etc.

It is in this context that one must analyze the demands of the Guinean government, as well as attempts of associations of producer countries with a view of articulating common negotiating strategies vis-a-vis multinational firms, in their attempts to draw the maximum profit from the reorganization of production on a world scale.

On the basis of the Boké project, one must conclude that this project reflects the extent to which the hegemonic social formations of the centre are successful in reproducing their control and in maintaining the initiative in the extension of the productive system on a world scale. However, the existence of several other new important projects, notably that at Ayékoyé, which brings together new partners whether they be Arab, western, or East European, in an international context which is continually changing, suggests the very real possibility of the effective local transformation of Guinean bauxite into alumina and even aluminium.

It is important that studies be undertaken which analyze the nature and impact of these new projects. For the outcome of the strategies of firms in their negotiations with producer countries is not predetermined. Although one must recognize the complexity of each particular situation, the conditions of accumulation may be identified, as well as the contradictions they entail. Moreover, the contradictions involved in the on-going process of reorganization of productive activities on an international scale, open areas for alternative strategies, whether they be those of producer countries, worker and popular movements which seek to inscribe new orientations and to open new spheres of autonomous action vis-a-vis the strategies of multinational firms.

Notes:

[1] The theoretical framework of this study draws on Christian Palloix, *Travail et production,* Petite Collection Maspero, Paris 1978, and *L'internationalisation du capital,* Eléments critiques, Edition Maspero, Economic et Socialisme, no 23, 1975; and Charles-Albert Michalet, *Le capitalisme mondial,* Presses Universitaires de France, 1976.

[2] J–P Vignolle, *La politique commerciale d'une grande entreprise,* Ecole des Mines, Centre de sociologie de l'innovation, document de travail, March 1972. Quoted by Pierre Francois, "Stragégie du capital: l'aluminium", *Travaux sur le capitalisme et l'economie politique,* no 12, Département d'economie politique, Paris VIII, Vincennes n d.

[3] Canadian Export Development Corp is to lend up to 30.6 M USD to support the sale of equipment and engineering services by Canadian suppliers. *The Wall Street Journal Index*, p 10, 1975-05-06–09.

A loan of 60 M GBP was granted by the British Export Credit Guarantee Department, "Alumina plant closer to reality", *The Globe and Mail,* Toronto, 1978-10-03, p B 5. ■