

1) *The Zaire River Basin*

With its 650 billion kilowatt-hours of annual reserves of hydraulic energy (almost two-thirds of world production) the Zaire River Basin is destined to become the leading industrial region of Africa, the principal center of our heavy industry. In the final stage, hydraulic energy will supply all the electricity needed for the various branches of industry using the resources of raw materials in neighboring territories: the coking coal of South Africa and Southern Rhodesia (Zimbabwe), the iron of Angola and even Zaire, cobalt (65 percent of world production); chromium (one third of world production); tantalum (85 percent of world production in Nigeria alone); cadmium, vanadium, manganese, tin, copper (overlapping from Upper Shaba into Zambia), the richest ore in the world; zinc, lead, silver, industrial diamonds, gold, uranium (the Shinkolobwe mines, top exporter in the world, 60 to 70 percent of total mined).¹

The simultaneous abundance of hydraulically created electricity and nonferrous metals makes the region especially suited to the fabrication of specialized steels for strategic or domestic uses, having numerous industrial applications: chromium steels (armor, corrosion-resistant), chromium-wolfram-cobalt steels (for rapid cutting), silicon steel (industrial uses, dynamos), cobalt steel (for the manufacture of permanent magnets, because of the large coercive field they may hold: 300 oersteds), tantalum steels (high-temperature resistant), magnesium steels (shock resistant).

Only regions privileged in electric power can specialize in the production of such electrosteels (refined in electric fur-

naces). The same is true of electrometallurgical industry in general for the handling of by-products of copper ores (lead, tin, silver), refinement of that metal or zinc, tin or lead, manufacture of electrolytic iron, of magnesium through electrolysis of sea water, extraction of heavy hydrogen from such water, at a later date when thermonuclear energy has been brought under control.

This region is as privileged as Canada for the handling of bauxite from other countries and the creation of an aluminothermal industry. Eventual discovery of iron ores with a yield above 25 percent and bauxite would give this country an indisputable primacy for the location of heavy industry.

Thanks to light alloys, the Atlantic coast seems a good prospect for a center of aerospace construction. Likewise, our steelmills would supply naval, automobile, farm combine and other such production centers. Zaire might even export sheetmetal and tubing to other eventual naval or aeronautical construction centers, such as Dakar, Mombasa or others.

Its virgin forest also makes it a favored site for the creation of a varied lumber industry, from plywood to the chemical distillation of wood with its derivatives (methyl alcohol, acetone, tar, cyclical derivatives that may serve as the raw material for synthesis in a dye industry), a woodpulp industry and manmade fabrics from cellulose, plastics and so on—all coming out of the forest. Thanks to the use of specially selected noncarcinogenic insecticides, Equatorial Africa will be the coming cattle-raising region with immense year-round green prairies.

The other industrial vegetation cultivated in Zaire, oleaginous plants (palm trees), hevea (rubber), cotton, sugar cane, coffee, cacao, give some idea of the multiplicity of industries which would necessarily concentrate in this region: tires (using rubber and cotton, the latter supplying the fabric, while the sulfur resulting from zinc-smelting for

armorplating would be used to vulcanize the rubber or else to produce sulfuric acid); in the same way, there would be sugarmills and refineries, spinning and weaving mills and oil/soap production. Some of these industries are already extant in the region but only in the most sporadic manner; they are merely complementary industries, quite inadequate to satisfy the needs of the African continent, let alone provide a surplus for export.

Once having supplied all of these industries, the excess electrical energy of the Zaire River Basin could serve as a seasonal supplement for the other regions of Africa, especially the tropical ones, through an interconnection of grids. This would, of course, presuppose an understanding among the various African territories before the first of these installations was made, standardizing of certain norms, such as the cycle of current to be produced, and so on.

While our major share of uranium comes from this region and South Africa (which also has significant thorium deposits), it would be absurd to create nuclear power plants here in the future, since there are such large quantities of other energy: hydraulic and perhaps petroleum. Nuclear and thermal plants, in general, should be restricted to regions which are apparently lacking in other energy sources (but in the meantime we will stockpile radioactive wastes, pending future study). I say "apparently lacking," because it is almost certain that systematic oil exploration currently under way in tropical Africa (Senegal, Sudan, Niger and southern Sahara) will completely alter the energy picture in those regions. This seems especially true in Senegal and the Ivory Coast. Moreover, we are far from having exhausted the possibilities of nonprohibitive hydroelectric plant-building in the tropics, whatever the level of the waterways.

Zaire might create a significant chemical industry (various fertilizers), a synthetic chemistry industry and cement works. The latter could call upon local clays and chalks and

the noncoking coals of other regions (Nigeria and Tanzania with its more than 7 billion metric tons in reserves).

Systematic development of rice growing in Zaire, Nigeria, Dahomey (Benin), south Togo, Ivory Coast, Guinea, the Casamance, Senegal and Niger valleys, Sudan, around Lake Chad and elsewhere as well as in East Africa must be carried out in such a way as totally to change eating habits on the continent, replacing millet with rice as the basic dietary staple. In a near future, in three vital areas—food (rice), clothing (cottongoods), housing (cement and concrete)—Africa will be able to forego its dependence on the outside by ceasing imports from either Asia or Europe.

Industrial shark fishing (for vitamin oils) and whaling in the Gabon region is famous. The well-stocked fisheries of the African West Coast are generally in contrast to those of Europe, which are becoming increasingly depleted. We can anticipate a national fishing industry up and down the African coast, especially in Zaire. We must not overlook freshwater fishing in view of the density of fish in the Zaire River and the canning industry that is its counterpart. Here again, tin smelting would provide the necessary containers, as it would for other canned foods, such as equatorial fruits. A special refrigeration or ice industry will be developed or created correlatively throughout equatorial and tropical Africa.

In an almost dramatic contradiction, the Zaire River Basin today holds almost all of our continental wealth while being the least populous area of the continent. It has 19 million people against 14 million in the Sahara, with a density of only two to three per square kilometer. This makes the region as rich as it is deserted, virtually as deserted as the desert itself.

This internal weakness will have to be remedied in the future by a policy of hygiene and systematic birth encouragement, that is, an appropriate demographic policy, ex-

cluding any massive influx of foreigners or import of a foreign labor force. For the immediate future, the first years of industrialization, a selective resort to manpower from neighboring African territories should be sufficient, since mechanization of agriculture and automation will be able to make up for some of the manpower shortage.

Our notion of optimum populations must be revised. It does not mean the same thing it did before automation. However that may be, the problem of repopulating Africa, of reconstituting its population decimated by slavery far beyond the toll of what has often been attributed to illness, remains an acute problem for all Africans.

Zaire and the Congo, with a large part of Equatorial Africa, form a unified natural zone with the same economic characteristics. That is why I made no effort artificially to differentiate between the two banks of the Zaire in an overview such as this.

The importance of the Zaire Basin is undeniable for all Africans, especially for us French-speaking Africans, who are more likely than our comrades of English, Portuguese or other tutelage to enter into direct relations with the population of this territory with a view to establishing permanent links among our peoples so we may build our common future together. All the countries of Africa should participate in the industrial development of this region, in particular in the construction of the Inga Dam, which was projected to produce 400 billions kilowatts per annum in Zaire.

2) The Gulf of Benin Region

The region with Nigeria (the Niger delta) at its center, bordered by Dahomey (Benin) and Togo on the west and Cameroon on the east, is also a future industrial center.

Its hydraulic reserves total 250 billion kilowatt-hours (200 in maritime Sanga, 50 in Nigeria). Moreover, oil has just been discovered in Gabon; all existing indications point to oil becoming a significant factor among the various sources of energy that will industrialize the country.

We have already said that Nigeria has a monopoly of tantalum. It also has tin, noncoking coal and immense reserves of lignite, amounting to some 200 million metric tons. Cameroon produces uranium, tin and gold. There is already an aluminum industry in the area, thanks to the Edea Dam. It would be proper to encourage development here of a powerful electrosmelting, electrochemical and chemical industry, the last of these making use of low-grade coal as a raw material for synthetics.

All of southern Nigeria, Togo and Dahomey although very humid has been deforested to permit planting. Dense forest has disappeared there, but there is still such forest in seaside Cameroon in the basin of the Sanga River. There the possibility still exists of seeing the growth of a powerful wood chemical industry: distillation, pulp, manmade fabrics.

Low-grade coal could also be used in some of the thermal plants to the north. The presence of oil palms, coconut trees (copra), hevea in Cameroon, sugar cane and cacao, permits creation of the corresponding industries: oil/soap works, tire factories using local cotton for fabric base, sugarmills and refineries, etc. The cultivation of rice as a food staple could systematically be developed in the delta region.

3) *Ghana and the Ivory Coast*

These two countries jointly have 25 billion annual kilowatt-hours in energy reserves, once harnessing the Upper Volta, Bandama and Comoe rivers is complete. Ghana's suitability for the development of an aluminothermal industry is obvious: bauxite is abundant close by the hydraulic energy. Ghana entered the era of aluminothermy in 1970, producing 157,200 metric tons of aluminum in 1974. The Akosombo Dam produced 3,304,000 kilowatt-hours of hydroelectric power in 1972.

Manganese, on which Ghana has a virtual African monopoly, might find appropriate local use in electroplating if systematic exploration by plane or other methods revealed the presence of iron and nonferrous metals in Ghana and the Ivory Coast. Even in that case, Ghana would be better advised to import coal from South Africa, Rhodesia or even from Europe rather than to take advantage of the proximity of the Ivorian forest, which is dense forest, to try to make wood steel. Absolute lack of coal alone would justify recourse to such a method which, if I may say so, would be barbaric.

Even in Equatorial Africa, in the Congo where dense forest is dominant, I cannot envisage such a course. Our forest, especially that of the Ivory Coast, must be reserved for essentially chemical utilization, and the Ivory Coast is especially suited for housing such a forest-based chemical industry on the same basis as the two regions mentioned earlier with the same variations: a wood industry in all its aspects.

Ghana and the Ivory Coast together account for more than half the world's production of cacao. The gold of the Ivory Coast, Ghana and Cameroon and the diamonds of Zaire and Angola are destined to have special application.²

The wealth of the Ivory Coast until now has been essentially agricultural. Throughout this region there is the possibility of setting up canneries for fruits and vegetables (pineapples, bananas, cacao, yams), oil/soap plants and of fostering intensive rice-growing.

4) *Guinea, Sierra Leone, Liberia*

This is a metallurgical region par excellence, ideal for the installation of a powerful combine, as several authors have already pointed out. Indeed, it has more than 25 billion annual kilowatt-hours of hydraulic energy reserves. The Konkouré Dam in lower Guinea is expected to deliver 200,000 kilowatts of power.

The iron ore of the Kalum peninsula has a yield of 50 percent. It is estimated to reach 2 billion metric tons. The bauxite of the Loos Islands in Guinea is estimated at 10 million metric tons. Bauxite is also found, disseminated here and there, in other regions as far as Upper Guinea. To these ores we should add the iron of Liberia (Boni Hills). There are also industrial diamonds and uranium in the Macenta. This whole region, from Liberia to Guinea, is good for raising hevea.

By importing coal, a powerful metallurgical industry could be developed here along with aluminothermy and tire factories, which is to say that the region is a future center for the automotive and aerospace industries (planes, ballistic missiles, interplanetary rockets and the rest). It could also accommodate oil/soap works, since it has oil palms and other oleaginous flora, and canneries for such fruits as bananas and pineapples.

It would lend itself well to intensive cultivation of rice, cola nuts and as in the Ivory Coast spices, coffee and indigo.

5) *Tropical Zone (Senegal, Mali, Niger)*

These regions are supposed to be energy-deficient, but such an unfavorable reputation does not mean we cannot look beyond appearances to see what industrial future they might conceivably have. Oil exploration, being carried out more and more systematically in the South Sahara, will in all likelihood totally change the energy picture in these heretofore seemingly energyless tropical regions. Petroleum would supply both the indispensable energy source for the establishment of thermal power plants and the necessary raw materials for a petrochemical industry. Everyone is aware of the line of products and by-products extracted or synthesized from petroleum derivatives (fertilizers, pharmaceuticals, plastics, insecticides, synthetic rubber, man-made fabrics and so on). The abundance of hydroelectric power in other African regions (especially the Equatorial) has led to minimizing the hydroelectrical potential of Senegal and Mali in particular.

If we look at the industrialization of these regions and their energy development within an overall plan, Africa-wide, the setting-up of certain industries as the exploitation of certain energy sources becomes ridiculous if not absurd, at least within the first phase of a general industrialization. Only in case of a kind of industrial autarchy (if Senegal and Mali could not readily reach understanding with the other territories) could one foresee the setting-up of, say, a micro-metallurgy at Kédougou.

Otherwise, mutual concessions permitting not only interconnection of power distribution lines but also industrial specialization of different areas, Senegal and Mali would have to move resolutely toward the establishment of powerful textile, cement, petroleum and fishing industries.³

The Senegal River valley, the Macina region and the bend of the Niger would be laid out according to the old Niger

Office Project for intensive cotton raising (at the same time as rice).

In the tropical and equatorial regions of the world, and especially Africa, it can be forecast that hygiene and climate considerations will keep synthetic fabrics from ever totally displacing cottongoods for clothing.⁴ The two tropical zones of Africa on either side of the Equator could be turned into textile-producing zones not only for domestic consumption but also for export.

Textiles: A peculiarity of the textile industry is that its equipment is robust and may last up to half a century, but it quickly becomes out of date. That is why the textile industries of old countries with timeworn equipment (especially France) have been left behind by the industries of younger countries with ultramodern highly mechanized machinery. Japan and India are now exporting cotton goods even to Black Africa.

An entire spinning and weaving industry will have to be set up so that it can produce not only apparel cotton but also jute and sisal for packing (peanut shipping-sacks). This means that jute- and sisal-raising would also have to be considered with shortages to be made up by imports from Zaire and Tanzania.

There would also be the weaving of artificial fibers, based on the wood-chemistry plants of the Casamance (see below). Likewise fabrics manufactured in the north might eventually become the textile base for tires made in the Casamance factories from the product of the hevea plantations. The textile industry employs mainly womanpower (50 to 60 percent), which makes it good for a total-employment program, and beyond that it could bring new life to cities such as St.-Louis-du-Sénégal.

Dyes: This industry goes right along with that of tex-

tiles, so Senegal and Mali would have to develop it at the same time. This tropical region should, therefore, become the site of a veritable African IG Farbenindustrie.

In view of the abundance of energy resources in Black Africa, it seems less and less necessary to manufacture synthetic fuels from low-grade coals (e.g., gasoline extracted by the Fischer-Trops process). A chemical-dye industry in our regions would be the natural beneficiary of Nigeria's low-grade coal as raw material from which the needed cyclical derivatives could be distilled for use in printing the fabrics. In reality, so powerful an industry might easily diversify to various areas of synthetic consumer products.

Cement: The African market is as insatiable for cement as for textiles, if not more so. The entire Senegalese coast, with chalk and clay found everywhere,⁵ could develop a first-magnitude cement industry. All that would be needed is coal from Nigeria, Tanzania, South Africa or even Europe for firing the ovens. There could also be brickworks and tileworks, likewise glassworks using the sands of the beaches and elsewhere. Glass is nothing but a silicate of sodium, and its manufacture is a simple chemical process.

The day when enough oil has been found in the territories of Senegal, Mali or Niger or in the Sahara, the problem of heating the furnaces will be solved: oil replacing coal.⁶

Oil seeds: The oil-palm forests, growing wild from the Casamance to St.-Louis-du-Sénégal by way of the region of the Niayes, could supply significant oil/soap factories at Ziguinchor, in the Djander, at St.-Louis, beyond those already in existence at Dakar, which currently process two-thirds of the peanut production of Senegal. Peanut-raising can be increased with little human effort by substituting an intensive method for the extensive one, using fertilizers and mechanization (pickers, thresher/crackers, collecting sta-

tions and so on). African oileries making peanut oil have ceased using imported coal and replaced it by coke. And the oilcakes are used for feeding cattle.

The castor-oil plant can be raised generally, since it furnishes a highly appreciated industrial oil, among other reasons because it can withstand high temperatures without igniting (as in airplane motors, for example).

Increased cotton-raising would, of course, provide additional oil to be processed from the seeds.

Fishing: In years to come, it will be seen that an entire deepsea fishing fleet will be needed off the coasts of Senegal to reap maximum industrial benefits from the banks of fish and shellfish in these regions. The fisheries of Port-Étienne are well known for their lobsters and tuna, and European fishermen (primarily from Brittany), whose coasts are losing their supply of fish, spend months each year all along the Atlantic coasts of Africa.

There are a great many sharks off Dakar, and this fish, as is known, gives a high-vitamin oil of much value in pharmacy.

A fleet, if well equipped, might go down as far as Pointe-Noire off Gabon and even try its hand at whaling, which is industrially profitable. Detailed scientific studies have shown that regions of the African coast would prove fruitful. All sorts of by-product industries could grow out of the catch, from canneries to margarine factories to pharmaceutical enterprises.

An ice industry supported by solar energy or other sources of energy would make available fresh fish not only in the coastal regions but in the interior as well the year round.

Wood Chemistry: For lack of concluding an agreement, southern Senegal (the Casamance) will have to de-

velop a wood-chemical industry that would be superfluous under other circumstances.

The Casamance is a relatively wooded humid region, but really dense forest, characteristic of Equatorial Africa, is found there only in isolated spots. To supply a wood-chemistry industry, considering the weak annual new growth in our forests (.22 square meters on an average), scientific reforestation will be required. In order to renew the forest in optimum time, it may even be necessary, as has been advised in other regions, to concentrate on quick-growing plants (cactuses or even annuals such as papyrus). The golden rule in the economies of Mali and Senegal must be never to deforest the smallest piece of land. Deforestation of the Casamance in order to make way for wider peanut-planting by private companies is a national catastrophe. The spaces available in the north (as outlined above) are more than sufficient for raising this oil-seed if new and scientific methods are applied.

The Casamance, methodically reforested, might supply the raw material for a wood-chemical industry, set up on its own territory, say, in the suburbs of Ziguinchor. It would produce pulp, paper for internal consumption (newspapers, stationery, printing), textile fibers for use in weaving factories in Senegal and the Niger bend, and raw materials for match and explosives factories. The distillation of wood would yield tars, cyclical derivatives for the dye works, methyl alcohol, acetone and so on for local chemical synthesis.

The Casamance might, moreover, return to rubber-raising, discontinued around 1910 to make way for peanuts, and likewise to sugar cane with a view to creating sugar refineries.

Hevea culture, resumed with a methodical, scientific plan, would make the Casamance the southern tip of the natural-rubber zone that extends from the Ivory Coast by way of

Liberia and Guinea. The tire industry would be set up in the region and might help relieve the load of the Guinea-Sierra Leone complex.

Whatever may be said, the new synthetic processes are far from having dethroned natural rubber, for the question of getting raw materials has not been satisfactorily resolved. The new process for synthesizing rubber uses isoprene as raw material and lithium as a catalyst. This gives the same regular pattern of methyl radicals on either side of the main chain as in natural hevea. The cost of the basic isoprene is low enough to allow competition with natural rubber to a point. For decades to come, it will remain absurd for a continent as favorable as Africa is to hevea plantations to turn its attention to synthesizing natural rubber.

In the truck-gardening areas, such as Bargny near Rufisque, Tivaouane, Diourbel, Kaolack, Ziguinchor, there could be large and varied food canneries (mangoes, guavas, pineapples, etc.).

Senegal could also extend its specialization in the chemical industry by setting up fertilizer factories using phosphates (Taïba), potassium and nitrates to supply various agricultural zones of Africa.

Rice: The old project for domestication of the lower valley of the Senegal River called for highwater fillings of the Lac de Guiers so that at low water these stored reserves could be used to desalinate the river's banks. This would allow for planting fifty thousand hectares (125,000 acres) of rice. We might add that such a reserve water supply upon its release for agricultural purposes (and even when flowing in) might serve as motor force for crushing cereals (millet and others) in industrial mills (the lake is approximately 50 by 10 kilometers, or 31 by 6 miles). The other no less old project, the Niger Office (1932), also planned to provide about a

million hectares for cotton and rice, partly in the Niger bend (Lake Debo region) and partly in the interior delta (Macina) between the Niger and the Bani rivers.

Raising rice, as cotton, requires abundant manpower, so that before the day of mechanization Asia with its population density virtually monopolized rice production.

We have already pointed out that automation and mechanization today are totally changing the concept of optimum population and that relatively meagerly populated regions (such as Senegal or Mali), if they adopt new scientific methods as well as a repopulation policy, might be able to get by, thanks to extreme mechanization of agriculture and as great automation as possible of the final-stage industries. Rice must replace millet in the national diet.

Entirely automated oil-production centers have been built in the Volga Basin, remote-controlled by one central headquarters, and have quintupled the Soviet Union's petroleum output.

At Dartmoor, England, the first totally automated powerplant in the world, run by controls almost a hundred miles away, has been in operation since 1960.

Reforestation: The Sahel zone, the more desert the farther north one goes, is ideal for reforestation. As early as 1950, we suggested a plan for replanting here. Although approved at the time by the Senegalese people and taken under consideration by the administration, this plan has since lain dormant.

The methods used in the southern USSR (Voronezh) to recreate moisture in the region would be greatly useful to us. We ought to draw maximum lessons from them before today undertaking reforestation of the Sahel on a continentwide scale. Man can recreate humus of his own on arid sand.

However evident Mali's suitability for chemical and textile industries and rice-raising may be, the last word has not yet been spoken. In a later phase, if the unification of Africa were to meet with sufficient temporary difficulties, Senegal might set up its own heavy industry by importing coking coal for the smelting of iron from Mauritania (50 million metric tons of reserves at Iron Mountain near Fort-Gouraud) and from its own Kédougou.

Copper from the same region could be processed with the hydroelectric power generated by the Gouina Dam, which we shall presently discuss. Titanium, found in abundance in the coastal sands (Casamance, Rufisque, Petite Côte), with other nonferrous metals could form a base for the smelting of light alloys that in the future with the growing importance of aeronautics and astronautics will take on capital significance.

It is also important to mention the main future source of materials for metallurgy, the recycling of all sorts of old iron. Obviously, as different metal mines begin to be exhausted, recycling of old metals will increasingly become a prime source of supply. In the years before World War II, German heavy industry (Krupp and Thyssen) was kept going in large part through such recycling; in other words, many of Hitler's tanks and armored ships were constructed from recycled materials. We can still remember the ships that stood off Dakar for weeks on end, buying scrap—even in lots as small as a kilogram—collected by idlers, children and the unemployed.

For this resource, which even now is most significant, Senegal is as well off as any territory. For the present the main source must remain the pure iron of Mauritania, and the natural refinery for that is in Senegal. To establish a refining complex in Mauritania, either by extracting fresh water from the sea and piping the desalinated water hundreds of miles inland or doing the necessary digging and

installation of wells in appropriate places to reach the freshwater lake that underlies the Sahara⁷, even apart from other improvements required in this desert region without up-country, would be prohibitive.

However that may be, Dakar's future as a principal port for air and sea construction can clearly be seen. With or without local heavy industry, Dakar in the future, thanks to its privileged location and the shelter it affords, must become one of the main African centers of naval construction, importing sheet-iron pressed in the neighboring complexes of Guinea and Zaire.⁸

While Dakar continues to develop, some of the many industries enumerated above, especially textiles and dyes, would be set up at St.-Louis and would restore life to that old capital with its delightful abundance of neglected womanpower.

Cattle: The skinniness of livestock in the Sahel region (Senegal and Mali) is proverbial. A cow gives a tenth the milk she would in Europe. The irrigation ditches that will be dug to bring water from the rivers will permit, in addition to rice and cotton planting, the raising of grazing plants and the creation of manmade prairies for the cattle. Their droppings in turn will supply a complete fertilizer, containing nitrogen, potassium and phosphate, the three mineral elements that vegetation is constantly sapping out of the soil.

Similarly, other by-products of the future food industry will serve systematically as cattle fodder: oilcakes, fruit pulps from the canneries, and so on. While there are no tse-tse flies, neither are there any prairies in those areas to the north. Windmills will be needed, not only to produce electricity but also to bring water for the cattle in Ferlo to drink, for irrigation and for making tobacco crops possible. In the Casamance, dusting with insecticides by plane will be

required to wipe out the tse-tses. A study of the marketing of certain flora with industrial potential will also be a must.

Energy problems: On the Senegal River resumption of planning and construction of the huge Gouina Dam in Mali upstream from Cayes is imperative. The site was chosen, among other reasons, probably because this part of the riverbed is still on that old shelf where less water is lost to infiltration than in sedimentary terrain. The dam was to allow for irrigation of all the upper valley for cotton and rice, to regulate the flow of the river seasonally for navigation and at the same time to produce an enormous quantity of electric power, the future application of which need not concern us today.

Interconnecting the grid of high-tension powerlines carrying electricity produced by the waterfall at plants below the dam with lines coming from remote thermal powerplants on the Atlantic coast or in Mali would pose no special technical transport problem. The distances involved are relatively small, often smaller than those between French powerplants. The electrical power available after construction of the Gouina Dam alone would in itself be enough to feed all the industries of Mali and Senegal that we have outlined in this study.

Farther down the Senegal River Valley, since the flow is so irregular as water seeps away in the calcareous terrain, one would have to consider the feasibility of constructing a dam at Dagana as well as micro-generators strung out along the river's course down to the lower valley. The creation of large reservoirs would allow these to operate even in low-water periods. It would remain to be determined whether the addition of such reservoirs would be more economical than construction of the micro-generators without reservoirs, supplying supplemental power only at certain periods

of the year and the rest of the time operating at something like one-hundredth of their potential capacity. The flow of the Senegal varies, to be sure, from ten cubic meters at its lowest to four thousand to five thousand cubic meters at its crest. The water rises at such periods to twelve meters (almost forty feet). Similarly, the feasibility of dams on the Upper Gambia and Casamance rivers will have to be studied, since these two waterways have until now been overlooked, hydroelectrically speaking.

In the final stage, there will also be occasion to study the feasibility of tidal generators at the mouth of the Senegal. Sea waters here ride in as far as Dagana and Podor, representing a volume of several millions of cubic meters, which nature shuffles back and forth in the flow and ebb of each tide. There is nothing absurd in the idea of mechanically harnessing this tidal energy into electric power rather than letting it dissipate in thin air as it does now.

Indeed, the three factors involved—unit of height, tidal coefficient and establishment of the port—are no less favorable here than in certain spots on the French coast which are considered the best in the world. A chart of tidal ranges (twice the product of the unit of height by the tidal coefficient or factor) shows 5.4 for Africa's west coast at the level of the Senegal River as against 4.6 for the Bay of Arcachon and the mouth of the Garonne, 5.4 for the Bay of La Rochelle, 5.2 for the mouth of the Loire and 6.4 in the Finistère (Brittany). The small tidal ranges of other points on the African Atlantic coast (1.6 in the Gulf of Guinea) rule them out as locations for such projects.

Only in the estuaries on the English Channel, which constitutes a special kind of resonance basin, do these ranges reach greater heights, almost rivaling those of Canada⁹: 11.4 for the estuary of the Rance and 12.5 for the Bay of Mont-St.-Michel, both in Brittany.

The abundance of favorable sites in France and the huge

costs involved in installing tidal powerplants, according to Robert Gibrat, have led the French government to drop plans for any plants of lesser power. The problem is analogous to that for the harnessing of waterfalls. It can be summed up in two factors: the mass of water involved and the height of the drop under which it is to be handled. The latter factor is the one that for our coasts is slight, while the former (in this case, the stretch of the basins) is extremely high.

Along the same lines, it would be good to consider the possibility of harnessing the estuary of the Sine-Salum, where the sea drives in as much as seventy kilometers (almost forty miles) at Kaoleck, and those of the Gambia and Casamance, in which the sea also reaches tens of kilometers inland. Hydroelectric plants set up there would be equipped with double-action turbines, operating both at influx and at outflow. Such installations are expensive, and we will have to be content to start with thermal plants while building Gouina.

We know that a certain minimum drop is required for the motive force of water to be transformed into turbine-generated electricity. If after study it turned out that this fundamental condition were not satisfied by the estuaries of our rivers, we might try without much conviction to compensate for this major drawback by:

- a) siphoning into higher and higher basins, as is already planned in the English Channel projects (Rance and Mont-St.-Michel);
- b) building underground works that would operate by the direct action of water ebbing at low tide.

We must not overlook the fact that tidal power is only a supplemental source of energy for Black Africa. It is not included in the calculations that give our continent half of the

world's leading energy-rich countries. That classification has not changed one iota; the picture is still optimistic.

It was only in order to effect a complete inventory that we considered this complementary, truly secondary, indeed hypothetical source of energy. Let no one misjudge its relative importance.

In the immediate future, powerplants in Black Africa will most likely use coal, in view of the proximity of this fuel.¹⁰ In the second stage, we could set up diesel generators, using heavy oil, as soon as sufficient oil strikes have been made in Mali and Senegal. At the same time, we could produce power from natural gas. Finally, as we develop technical expertise, we will in a not-distant future set up atomic plants using plutonium. We will resolutely orient ourselves toward breeder reactors, which have the greatest potential. We need not repeat that these reactors perform a kind of industrial miracle: as they operate, they throw off more fuel (plutonium) than they have consumed. Such an operation presupposes the simultaneous creation of plutonium-producing piles fed by natural enriched uranium. For the first time, plutonium would be put to use for peaceful purposes.

Future African reactors will of course have to stockpile their waste, the solid wastes at least, until serious studies allow us to determine the best way to dispose of them. The English method, in which wastes are piped down to the bottom of the sea, is absolutely to be ruled out.

Solar energy could as of now be employed for home use by relatively modest methods. In India, the National Physical Laboratory of Delhi has perfected different types of solar cookers, often parabolic in shape. They are practical for the preparation of medium-sized meals. Further perfecting the process and popularizing the use of solar cookers might lead to their adoption as domestic labor-saving devices that

would significantly contribute to conservation of the few forests left. To the extent that such kitchen ranges were in use, we would see a drop in the unobtrusive, but nonetheless intense and disastrous, deforestation practiced by dealers in dead wood, the Laobés and others.

In France, there is the campers' solar cooker created by N. Doumé. Maria Telkes's model can reach 100° Centigrade (212° Fahrenheit), according to Félix Trombes. Solar energy could be used in water heaters and air-conditioned homes, for distilling water and for freezing, in a coil using the solution and liquefaction of ammonia under eight atmospheres at ordinary temperature.

Félix Trombes believes we can anticipate low-level (5 percent) solar motors delivering mechanical energy that can be used to produce cold with an efficiency of 300 percent, utilizing the principle of the refrigeration cycle (that is, Carnot's cycle operating in reverse). On an industrial scale, nothing immediate can be expected; at present, solar-driven motors are too costly, and Trombes estimates that installation would come to between half a million and a million old francs per kilowatt. As for its direct application, he could then see two possible means, either a reduction in cost of low-yield machines or construction of high yield ones that would allow for the use of turbines.

It seems the Italians have attempted to commercialize a motor fueled with vaporized fluids, such as liquid and gaseous sulfur anhydride.

It will be recalled that experiments had been made in Egypt in 1912 by Schumann of Philadelphia, using cylindrico-parabolic mirrors and working at reduced pressure; he succeeded in generating fifty horsepower and an efficiency yield of about 5 percent. But that plant, set up at Maadi, was abandoned in 1914.

Before making this industrial attempt, Schumann had experimented in the laboratory, as it were, by combining

reduced pressure with a hothouse effect, surrounding a flat boiler with a vitreous cuff. It is a fact that light rays penetrating a glass enclosure, after being reflected by the object within, take on greater wave lengths that come close to the hot radiations of infrared light and, as a result, no longer can escape from the enclosure. Since the wave length has been increased, the glass becomes impermeable, hermetic so to speak, in relation to them. The consequent accumulation of energy raises the temperature, creating the "hothouse effect."

Our goal, in thus referring to the technical details of certain past efforts, is to show eventual young African researchers the perspectives that are open to them.

Finally, according to du Jonchay, the site of Cayar in the Diander by the sea is a good one for the installation of a hydrothermal generating plant of the type now being set up at Abidjan.

6) Nilotic Sudan, Great Lakes, Ethiopia

This region, several times as large as Europe, has its principal energy source in the reserves of the Nile and its tributaries: potentially more than 60 billion kilowatt-hours per year. The major part of this energy is to be furnished by the dam at Owen at the issue of Lake Victoria. There are also uranium deposits.

The port of Mombasa in Kenya on the Indian Ocean is due to become a great naval-construction center.

Growing cotton, sugar cane, hemp, sisal, oil palms and cocoanut trees (in the coastal plain) calls for setting-up of corresponding industries. On the other hand, maize and other cereals, coffee and tea, are grown for consumption and export.

The country is equally well suited to sizable cattle spreads in the savannah. It has the whole range of climatic zones, right on up to the snows of the Mountains of the Moon.

Many of the sites that appeal to tourists would also be ideal for the establishment of sanitariums and rest homes.

7) Zambezi River Basin

The energy potential here, according to figures published by du Jonchay, is 45 billion kilowatt-hours annually. Again, there are uranium deposits.

Du Jonchay calls the coal basin of the Wankie in Zimbabwe with its coking coals Africa's largest reserve. The basin of the Ruhuhu River in Tanganyika has 6.5 billion metric tons of coal reserves.

In Southwest Africa, there are vanadium deposits enough to feed smelters of resistant steel for aeronautics and electrical construction. With the huge Kabora-Bassa Dam and the iron ore this region has, it can be considered an African Ruhr Basin.

8) Union of South Africa

This country has already been industrialized by its European minority inhabitants. It has gold, diamonds, coking coal (in Transvaal, Natal), uranium, thorium (at the Cape) and wool of international quality from merino sheep.

There is prosperous sugar-cane raising on the Indian Ocean coast, and it would appear that the Kalahari Desert at its northern border is as oil-rich as the Sahara.

Transport

In a first phase, all of the above calls for the building of modern highways, transcontinental blacktop or concrete expressways and strong civil air lines.

The building of new railroads, considering the difficulties involved, may be postponed until later. On the other hand, all specialists agree on the importance of the hydroplane as a method of internal travel over Africa, in view of the many lakes and waterways available. Hydroplanes and helicopters would be especially useful for middle-distance travel, and they then would in no way interfere with high-speed commercial air transport. What must be pointed out here is the absurdity from an economic viewpoint in a new country like Africa of a policy of railroad-building in the initial stage of development. Those railroads that prove indispensable after thorough study will be necessarily electric-powered or at least diesel-fueled and will come into being along with the development of electrical power and the exploitation of petroleum.

As for sea transport, we will later build only a minimum of luxury liners for ocean tourism, but the whole continent will devote its efforts to the construction of high-tonnage freighters (forty thousand tons minimum): tankers, banana boats, gas tankers and so on.

This seems worth delineating right now, for it is important from the start to establish a technical and industrial doctrine that will eschew present and future trial-and-error and the costly luxury of false starts.

Training Key Personnel

To begin our industrialization, we will first import prefabricated factories with trained foreign personnel who are accustomed to using the machinery, having conceived and tested it. Such factories may fall into every category; heavy-metal industries, chemistry, electronics, etc., all as automated as possible.

We know that an African technician placed in optimum conditions of responsibility must and can quickly assimilate the knowledge needed so that he in turn can direct a whole complex on which the life of the nation, or in due time the life of the whole continent, will depend. When the moment comes, we will have to be ready to place African technicians squarely before their responsibilities. In other words, they will have to be ready in the shortest possible time to replace foreign technicians at their machines and with their tools.

When this first industrial infrastructure has been set up, we will have to establish assembly plants for various machines and implements: tractors, planes, automobiles, what have you.

At the same time, we must acquire foreign patents for the production under license of our first modern engines and machines: motors, various modern propulsion systems (turbo-reactors), electronic apparatus and more.

This period will be as brief as possible so that Africans may rapidly go on to the phase of autonomous native technical construction and accomplishments.

Second-level personnel will be trained in large part right on the job, in factories, shops and on work sites.

¹These uranium reserves have been since exhausted, by intense extraction; part of the ore is very probably being stored at Oolen, Belgium.

²See: *Conclusion, Investment Funds*

³First there has to be nationwide access to power; then later research will lead toward the transport of energy by direct current (as in the Switzerland-Germany-Italy complex).

⁴Unless chemistry, that wonderworking fairy of the industrial era, one day develops an artificial fiber with all the good properties of cotton.

⁵Tertiary calcareous rock and marns along the whole coast from Dakar to Joal.

⁶An enlightened economic policy should systematically favor petroleum exploration under given conditions.

⁷A fifth of the whole Saharan surface is said to overlie fresh water, at twelve hundred to fourteen hundred meters depth, in the Albien.

⁸The Dakar-Marine project appears since to have borne this out.

⁹The world's greatest tidal ranges are in the joint Canadian-American Bay of Fundy, 16 meters (almost 53 feet) and Passamaquoddy Bay, 15 meters. Three other Canadian sites have ranges exceeding 12 meters. (*Translator's Note*)

¹⁰Barring the creation of an African common market for coal, fuel oil remains most practical. The study, mastery and organization of our internal African market, a determining component of the world market, is an urgent task.

Conclusion

To this point, I have traced a general outline of industrialization in the absolute without bringing out the rhythm to be adopted so that it might be realized, nor establishing any close correlation between it and actual present possibilities. It goes without saying that there have been certain sporadic industrial accomplishments at various spots on the continent, but there has been no overall plan, for reasons easy to see. There could be none prior to political unification or at least establishment of multilateral agreements. However that may be, even such limited industrialization cannot be crowned with success unless there be participation of the State and the people as a whole.

Investment Funds

In all that has gone before, we have tried to show, contrary to current assumptions, that the continent does have an industrial destiny. We have especially underlined the fact that the economic and industrial future of Mali (that is, the old Senegal-Sudan Federation) will necessarily be prosperous, whatever pessimistic prophets may say, if industrializing efforts resolutely take the direction we have indicated. We must note, having made this overall absolute appraisal, the real investment means available now to prepare so vast an enterprise.

Where would risk capital come from? There are five sources for it:

1. At the beginning we would have to adopt a NEP (New Economic Policy, adopted by Lenin in 1921) of our own. Repeating this old Russian economic experiment will have to be surrounded by the greatest precautions; at the very least, right from the start companies would have to be jointly owned and operated with the State's share constantly increasing.

Within the framework we have traced, we now have to define areas of investment for private companies. Instead of letting them come into the country with their teams of technicians to evaluate its treasures and then freely select among them what they think would prove most lucrative for their investment, the State—basing its decisions on the needs of its own industrialization plan—must put a brake on such anarchy by holding the reins of economic development.

2. For hard currencies and machinery we would exchange our precious metals, gold, silver, and platinum: what is left of old gold and the ores of the Bambouk and the Falémé, the N'Galam in Senegal and Mali; the gold of Ghana, Cameroon, Zaire, the Ivory Coast, Guinea; the gold of Central and East Africa and Rhodesia and the Union of South Africa, once the continent has been unified on the basis of our own supremacy.

The same applies to the diamonds of Guinea, Cameroon, Angola, Zaire, Tanzania and South Africa.

3. We would sell our excess strategic raw materials, as long as our own industry could not absorb them: manganese from Zaire, Ghana, Ivory Coast, South Africa and Cameroon; tantalum of Nigeria; titanium of Senegal and the coastal areas; cobalt from Zaire; South African and Mozambiquan chromium; copper from the Shaba and Zambia; uranium from Zaire, Cameroon and Central Africa; vanadium and cadmium from Southwest Africa; bauxite from Guinea and Ghana; on and on. All of these nonferrous ores would in a first stage be exchanged for establishing factories

of various kinds, for machinery and for machine tools with a view to later industrialization.

To the above must also be added the seed oils of all of Africa (especially Senegal), the phosphates of Senegal and Mali, the hevea of the forested regions, cacao, coffee, sugar cane, tea, bananas and other tropical fruits, such as cola nuts; finally, the ironbearing ores themselves of Guinea, Sierra Leone, Mauritania and elsewhere.

A systematic survey of the continent, and Mali in particular, should yield a definitive list of the treasures to be mined, so that once and for all we might get a picture of what industrialization could be like.

4. In the last analysis, the most important investment is of a human character; it is the collective will of the peoples to serve their countries. The establishment of a collective public manpower pool is possible only if none feels frustrated. Before that can be achieved, it would be necessary that, through judicious paring, salaries paid for political positions be brought down to the range of workers' wages.

5. Loans could then be made against international investment funds, but they must never get so high as to risk becoming a delusion. Before everything else, we must help ourselves. What is termed "aid to the underdeveloped countries" might for a long time be used all too easily as blackmail.

There are certain American industrialists who try to prevail on their government to aid only those underdeveloped countries that agree to limit their own emergence. At all times, we would have to be ready to refuse any aid that carried strings with it, however unbinding these might appear to be.

Africa must win and hold in a large part its own domestic market, one of the greatest in the world. A whole book should be devoted to the study of this market with a view to organizing the economies of the African states.

Scientific Research

Basic research will always remain essentially a university concern. Therefore, right at the start, with full objectivity, the university will be rightfully entitled to claim the required funds for the construction of high-energy accelerators, for example, to contribute to the further elucidation of elemental particles, behavior of matter at high levels of energy and other such problems. Applied research must be shared as quickly as possible with specialized institutes under university supervision.

If we wish to see the African Nation everyone is talking about these days adapt itself to the needs of the modern technical world, we have from its very beginnings to provide those technical institutions that guarantee the life of a modern nation. We should forthwith create the following institutes:

A) an institute of nuclear chemistry and physics, to be split in two later, if need be;

B) an electronics institute;

C) an aeronautics and astronautics institute;

D) an institute of applied chemistry for industry and agriculture (organic synthesis, metallurgy, mineral chemical industry and so on);

E) an institute of tropical agronomy and biochemistry (soil study, fertilizers, extraction of vegetable products with a view to finding industrial or pharmaceutical applications for certain flora);

F) an institute of health, specialized in the study of tropical diseases.

The University of Dakar would thus become one of the main training centers for African key personnel.¹

¹A few tentative starts have been made toward this end: a University Institute of Technology at Dakar, the Polytechnic Institute at Thies.

Comparative Production Figures

- Production of electrical energy in the United States (in 1975) was approximately 2,000 billion kilowatt-hours in contrast to that of the USSR, 1,038 billion kWh.
- Worldwide steel production (1974) was estimated at 705 million metric tons, of which 132 million were produced in the United States alone.
- In order to build and put into operation a steel-works complete with rolling mills with a capacity of 4 to 5 million metric tons per year, an African country would have to invest 8 to 10 billion French francs (as of 1974), or approximately \$1.6 billion to \$2 billion.
- French governmental foreign aid to the French-speaking states of Black Africa and the Indian Ocean in 1977 was estimated at 2.67 billion francs (or approximately \$530 million).

A Federated Black Africa has the potential to become both industrially and politically as powerful as either the USSR or the United States.

14 Steps to African Unity

In conclusion, we can specify the following fifteen essential points as basic principles for concrete action:

1. To restore consciousness of our historic unity.
2. To work for linguistic unification on a territorial and continental scale, with a single African cultural and governmental language superseding all others; the European languages, then, whichever they may be, would remain in use or be relegated to the status of foreign languages taught in secondary schools.
3. To raise our national tongues to the rank of governmental languages used in Parliament and in the writing of the laws. Language would no longer stand in the way of electing to Parliament or other office a person from the grass roots who might be unlettered.
4. To work out an *effective* form of representation for the female sector of the nation.
5. To live African federal unity. The immediate unification of French- and English-speaking Africa alone can act as a test for this. It is the only way to start Black Africa along the slope of its historic destiny, once and for all. To wait while invoking secondary considerations is to allow the various states time to harden in their shapes and become unsuited to federation—as in Latin America.
6. To oppose out of hand any idea of creating White states anywhere in Black Africa, no matter where the idea comes from.
7. To make sure our Constitution is so written that no industrial bourgeoisie can come into being. This would prove that we are truly socialist by preventing in advance one of the fundamental ills of capitalism.

Who, today, would oppose a preventive measure of this sort against a class that does not even exist in Africa?

8. To create a powerful State industry, giving primacy to industrialization, development and mechanization of agriculture.
9. To create a powerful modern army, possessing an air force and endowed with a civic education that would make it unlikely to indulge in Latin American-type putsches.
10. To create the technical institutes without which a modern State cannot exist: nuclear physics and chemistry, electronics, aeronautics, applied chemistry and so on.
11. To reduce luxurious living standards and judiciously equalize salaries in such a way that political positions are comparable to workers' jobs.
12. To organize production cooperatives, made up of volunteers owning adjacent fields, in order to mechanize and modernize agriculture and permit large-scale production.
13. To create model State farms with a view to broadening the technical and social experience of still ungrouped individual farmers (peasants). Countryside collectivization will meet with a thousand times less resistance among us than it did in European countries for all of the reasons the author has previously adduced in *L'Afrique noire pré-coloniale* (Pre-Colonial Black Africa).
14. To repopulate Africa in proper time.
15. To carry out with conviction a policy of full employment in order progressively to eliminate the material dependence of certain social categories.²

²It will be noted that these fifteen points were the essential ones of the programs of the BMS (Bloc des masses sénégalaises: Senegalese Masses' Bloc) and the FNS (Front national sénégalais: Senegalese National Front).

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Appendix

Interview with Cheikh Anta Diop

by Carlos Moore

Professor Diop was persuaded to break a 15-year silence to speak to Africa and the world, when he was convinced that Afriscope is a highly serious-minded and uncompromisingly African organ.

1: Africa's Political Unity

AFRISCOPE: Since the early 1960's the African Continent has shown itself to be coup prone. How do you account for the growing political instability of African regimes?

DIOP: I had foreseen the 'South-Americanization' of the African continent and in my work, *Les Fondements culturels, techniques et industriels d'un future etat federal d'Afrique noire* (Presence Africaine, 1960), I alluded to this phenomenon. Earlier, in 1956, I also touched on the subject in an article "Alerta sous les tropiques" (*Presence Africaine*, No. 5, Jan. 1956), warning that unless we took care the African continent upon independence would go down the road of 'South-Americanization.' No matter how much one may claim that history doesn't repeat itself, I have nonetheless been haunted by Simon Bolivar's failure to unite the South American continent in a single bloc. It can no longer be denied that Africa is the victim of 'South-Americanization.' That Africa is 'politically unstable' is a fact. We can't even talk anymore about 'balkanization' since

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the Balkan regimes are stable, whereas in Africa we have a change of regime almost every week or every month. At any rate, every year. And this instability is growing. . . .

In my opinion, what has been lacking are national leaderships which could set an example. Had this been the case, military overthrows would have been made much more difficult. At any rate, stability in Africa would have been much greater. Political selfishness is killing Africa; it's the basis of the problem. Once African interests become merely a pretext for individual selfishness, instability necessarily rears its head. When the only organized force in the country—the army—ceases to respect the civilians in power, it will seize power for itself.

AFRISCOPE: However, practically each time the army has seized power, it has perpetrated the same evils it pretended to overthrow. In turn, there is still another coup.

DIOP: Yes, this is true because the army has not in the meanwhile been educated along patriotic and political lines. What generally happens is that the army wakes up one day and discovers that it is merely an instrument of civilians wielding power. Yet, the army also knows that the survival of civilian rule depends on army-backing. The contradiction is solved by a seizure of power. But when the army overthrows civilian rule, without having had any political formation, and when this very army is itself devoid of any profound ideals, the result of army rule cannot be any better than the civilian rule it overthrew. . . .

AFRISCOPE: The Economic Community of West African States (ECOWAS) is the latest regional attempt at regroupment in black Africa. We have seen at least four other such attempts fail in the past, including the East African Community. Why have all of these projects failed? What chances do you give ECOWAS?

DIOP: Once again we're putting the cart before the horse. We want to create regional economic organizations from

which member states can draw maximum benefits, yet we refuse to relinquish even an inch of our respective national sovereignties. There is a serious contradiction here. My opinion is that all such regroupments are bound to fail. In the past, each attempt at regional economic regroupment was shortlived. The reason they have failed and will continue to fail is simple: the links uniting the parties to all such regional agreements have never been irrevocably binding; *nor have the terms of economic cooperation ever been indissoluble*. Moreover, all such attempts at economic regional regroupment have lacked an important and indispensable counterpart: *a supra-national political umbrella, in the sense of an executive organism, able to take political decisions that are binding to all parties*. Consequently, whenever and for whatever reasons one of the parties to the agreement decides to withdraw, the regional grouping starts crumbling. In the absence of a supra-national executive body with full powers, what can prevent a state from pulling out of a regional grouping? In the absence of *irrevocable* commitments, quite naturally involving the partial loss of national sovereignty, what can prevent the party to a regional agreement from withdrawing on a mere whim? . . .

To overcome the tremendous obstacles in the way of the economic unification of Africa, decisive political actions are required in the first place. Political unification is a prerequisite. *The rational organization of African economies cannot precede the political organization of Africa*. The elaboration of a rational formula of economic organization must come *after* the creation of a federal political entity. It is only within the framework of such a geo-political entity that a rational economic development and cooperation can be inserted. The inverse leads to the type of results we have witnessed over the years. If, for example, West Africans had the courage of creating a federal political executive

entity with full decision powers, and to which West African states would renounce a definite portion of their national sovereignty, then that would be another matter. In that case, the federal executive body could be asked to draw up carefully studied plans for a rational organization of West African economy. The full powers attributed to such an executive body would allow it to take consequential decisions without fearing that the day after one or another head of state would announce: 'I don't like what's happening; I'm leaving.' It's a vicious circle and we must have the courage to face that fact.

AFRISCOPE: How to break out of this vicious circle?

DIOP: In my opinion, the way out of the present deadlock is quite clear. The rational, economic organization of the African continent or any part of it cannot precede a common political organization along regional or continental federal lines. The first step would be to politically organize a geographic entity and, then, within that geographic space proceed to a rational economic organization. The inverse is not possible. Yet, this is what African heads of state have been trying to do from the very beginning. Why? Simply out of selfishness, out of personal and egoistic power interests. Where does Africa stand in all of this? Selfish African heads of State want to reduce continental and regional exigencies to their own personal and national egoisms. In other words, they latch onto power, have no intention of abandoning it and they talk about creating regional economic interests. However, the defence of power interests is in direct opposition to the avowed wish for regional economic cooperation and unity. It just isn't true that Africa is uppermost in the minds of these heads of state. It is not in the interests of Africa to latch onto power and monopolize it to the extent of refusing to relinquish even a portion of it to a supra-national executive body so as to be able to arrive at an economic union. No one wants to relinquish an iota of

national power. That's why all previous regional associations have failed. There's a long list of these and the list is getting even longer. My most sincere wish is that ECOWAS would reverse the trend. But I have no illusions about it. ECOWAS lacks the essential, the one element conditioning its success or failure.

AFRISCOPE: E. Wilmot Blyden in the 1850's, Marcus Garvey in the 1920's and Kwame Nkrumah in the 1960's championed the project of a continental state of Africa. For two decades you have championed the idea yourself. Why, in your opinion, has no African leader taken concrete and decisive steps towards its realization?

DIOP: Whether an African leader has or has not taken concrete steps towards the implementation of this goal, the fact remains that a continental federation is an urgently vital necessity for the totality of African peoples. In my opinion, it is the pre-condition for our collective survival. The more time goes by, the more it will be seen that we must either join in a continental federation or fall into a generalized and endemic state of anarchy. In fact, we have already arrived at that stage . . .

AFRISCOPE: What other concrete instruments of federal control do you propose for a continental union?

DIOP: The links between a federation of African states should be flexible enough to allow each one breathing space. Each national grouping must be left to enjoy the largest possible internal autonomy. But political and economic life must be rationalized from a federal perspective. A certain number of federal agencies must be created; defence, external trade and foreign affairs must definitely be unified. We need a modern continental army worthy of the name, capable of facing any eventuality, rather than our present armies which are mere auxiliaries to the police force. In fact, our armies were not created with the intent of facing up to any external threat. . . .

Whereas there would be administrative autonomy of each member state, the Federal umbrella government would be fully in charge of such activities that go beyond the national prerogatives. For instance, in terms of defence, the armed forces would be on a continental basis. The individual states would have a territorial guard. Troops would be based in various African countries, whether Tanzania, Gabon, Algeria or Libya, and officers would equally come from all regions of the continent. That is, officers and troops based in a state would not necessarily be indigenous to that particular country. Along the same lines, federal administrative cadres would be drawn from all areas of the continent and would serve wherever posted. Continental citizenship is a must. No African should need anymore than an I.D. card for travelling to and from any part of the continent.

A federal African state would have to rationalize African economies on a continental basis. External trade would necessarily fall under the attributions of such a state. The general integration of African economy would allow for the global bargaining of all of Africa's commerciable surplus of raw materials at prices advantageous to us, besides providing a very important source of capital accumulation. The development of our countries, the accelerated formation of technological cadres, as well as the transferral of advanced technology become possible in this context through a rationalization of our commerciable surplus on a continental basis. Naturally, whatever is indispensable to the internal functioning of national economies can be left in the hands of local governments after careful study. As you see, the viability of such a state is certain. In fact, it is the prerequisite for the survival of African peoples. It's the only way out for our countries.

AFRISCOPE: In practical terms, how in your opinion does one go about creating such a state?

DIOP: To begin with a group of states could already band together in an open federation and actively incite the other states to join. I understand that this is more easily said than done, but a start has to be made somehow, somewhere. I see no other way for such a state than in one, two or three states taking the initiative of surrendering a good part of their own national sovereignty and accepting to be the initial nucleus of an open federation. This demands courage, a lot of courage, political foresight and, above all, a deep profound commitment to Africa as a historical, cultural, and political entity.

AFRISCOPE: How would the wielding of political power be organized?

DIOP: A collegial system of political leadership could be envisaged, based on the concept of rotation. For instance, an executive council of the federated states, comprised of the heads of those states could be set up. The federated states would have to accept a permanent, *irrevocable* transfer of part of their national sovereignty to such an executive council. That is, from the outset, the nucleus of federated states would integrate their defence, economy, external trade, civil service and foreign affairs. These would be prerogatives of the federal executive council. Equally, universities and scientific research centres would be unified and rationalized on a federal basis. The president of such a federation could be elected from within the federal executive council itself. That system could be adopted at a first stage, since continental-wide elections presuppose the existence of a continental federation. In as much as the functions of a federal president would be symbolized by a person, such a person could be one of the heads of the federated states. Leadership, however, would be exercised on a collegial basis. Also, the presidency of the federal executive council would be on a rotative basis. Every two, four, or seven years, or whatever the case may be, the

presidency would go to one of the heads of the federated states. We need some kind of convenient formula that would ensure stability. In fact, we could even envision a rotative system based on alphabetical order. This would eliminate the type of rivalries that could jeopardize the stable functioning of such a federal state. The important thing is that the federal executive council be a truly democratic and collegial body, open to discussions and thorough analyses of each and every problem that might affect Africa as a whole. However, once decisions have been democratically arrived at by consensus, all federated states should be bound to them. In synthesis, I am in favour of any sort of formula that would allow African peoples and countries to bind together democratically in defence of their common interests and that would ensure their own survival. . . .

AFRISCOPE: On the informal plane, what measures would you suggest for arousing a continental African consciousness?

DIOP: We could go and on. . . . But a practical thing leading to a continental consciousness is inter-African contacts on an informal free and leisurely basis. An aspect of the problem of the unification of the African continent, and which is seldom stressed, deals with an inter-African tourist circuit. A special agency must be created for this purpose. Africans do not know Africa. How can you love a country, or have faith in its destiny, if you don't know it? All the more, how can we love our continent or develop a continental consciousness without knowing it? . . .

2: Obstacles to Emancipation and Unity

AFRISCOPE: The western bloc is setting up South Africa as a permanent white bastion-state enclaved in Africa. The 'bantustan' policy and so-called 'independence' of Transkei

are the corollaries to this plot. Isn't the existence of a white South Africa a monumental obstacle in the way of a continental African state?

DIOP: Without a shadow of a doubt. The setting up of a continental African state presupposes the eradication of the South African threat. The establishment of a white state anywhere on the continent of Africa is inconceivable, inadmissible. The whites who are in southern Africa could remain there, but only within the framework of black majority rule. A borderline between a white state and a black state is inconceivable. Sooner or later it will lead to a racial war. . . . The white South African regime is a permanent danger which should act as a mobilizing force for all Africans. We should have no illusions about this. It is either unity or destruction!

AFRISCOPE: With the active complicity of the West, fascist South Africa is developing its nuclear capability at an alarming speed. This poses the threat of extermination of black peoples. Yet, some African leaders insist that dialogue is the only way of averting that danger.

DIOP: Nothing could be more dangerous than to initiate dialogue with white South Africa. It would merely give her the necessary time to put the finishing touches on her nuclear program. South Africa only believes in one solution and speaks only one language: brute force. Look at Soweto! To the white fascist leaders of South Africa, any black country is Soweto. South Africa is feverishly preparing for a showdown. Pretoria now knows that *any technically organized minority, fully equipped and enjoying a high educational standard can successfully face and repulse by violent means an entire continent which has remained at the level of semi-development*. South Africa is actively working to achieve an equilibrium of terror. Pretoria is going about acquiring the most sophisticated and efficient nuclear weapons, along with the vectors to deliver them to any point on the African continent.

South Africa is virtually a nuclear power and is preparing to put up a long and terrible resistance to the rest of the continent. Objectively speaking, South Africa does not consider anyone on the African continent as her 'friend.' What we have are these so-called pacifists who are trying to camouflage their cowardice and capitulation by proposing a so-called dialogue with a regime that has vowed to destroy the black man. The policy of dialogue with South Africa, presented to us as the product of political 'realism' can only be judged as political blindness or the surrender of the best interests of African peoples. It takes two to dialogue. South Africa is not seeking dialogue but time; the necessary time to develop her nuclear arsenal. I don't think any African leader ignores this, though some pretend to.

Whereas it was previously believed that Pretoria would fabricate nuclear weapons by 1983, the latest developments force us to drastically revise that prediction. South Africa is now in the position to become a full nuclear power within the next few years at maximum. *If only for this reason, the struggle for the overthrow of white supremacist South Africa must be intensified immediately!* No compromise! No procrastination! The armed struggle in southern Africa must be intensified immediately! It's the only way to avert a nuclear war in Africa in the near future. Once South Africa acquires nuclear weapons, it will be too late. At that time, the African states which are today invoking 'realism' to justify their inaction and capitulation in face of Pretoria will definitely have a good argument to preach permanent peaceful coexistence with the white South African regime. However, what they might not realize is that once South Africa acquires nuclear weapons, a *modus vivendi* will be impossible, no matter how much African states bend over. *Once South Africa acquires nuclear weapons, she will take the offensive. Therein lies the reason why a borderline between a white and black state is impossible on the Af-*

rican continent. It signified war sooner or later. South Africa knows it and is preparing for it. . . .

It is irrational to think that any African, wherever he may be, can make plans for the future as long as the South African threat is not eradicated. South Africa is the stumbling block in the way of African development. In fact, it has become imperative to liberate South Africa in time so as to avert a nuclear war. To wait is to allow South Africa the time to leisurely develop its nuclear capability. If this is allowed, there will be an equilibrium of terror whereby the other African states will be impotent to act. *So, in the interests of world peace itself, we must immediately intensify the struggle for the liberation of southern Africa.* Otherwise, whatever political or other projects we might conceive will be devoid of any meaning. The racist regime of South Africa must be liquidated without delay. *Otherwise, there will be an atomic war in Africa in the next five to ten years.* Already, within less than six years from now, South Africa will dispose of a small stockpile of nuclear weapons; quite enough to create mass panic among Africans. . . . *AFRISCOPE:* Technologically speaking, at what stage of development can South Africa's nuclear capability be assessed now?

DIOP: With the complicity of the West, South Africa has been able to come up with an absolutely revolutionary and efficient method for the separation of isotopes. . . . When first announced, it was believed Pretoria was bluffing. It was no bluff at all! At Velindaba there is a pilot centre where South Africa has been able to experiment with this new method of isotopic separation. She was helped by the German firm, Steag. That centre is now fully operational and can allow Pretoria to assemble the most difficult of atomic bombs; that is, the Uranium-235 bomb. Moreover, South Africa definitely has the know-how of reprocessing spent nuclear reactor fuel (uranium fuel). She can therefore

manufacture plutonium atomic bombs. [Spent uranium is the waste from a nuclear power reactor; that when processed through a special reprocessing plant, creates plutonium. It takes about 13 pounds of plutonium to make a small atomic bomb.—Ed.] Thus, with her present nuclear installation, South Africa can build atomic bombs based on plutonium-239. Furthermore, she will be able to go directly into the U-235 category. This is extremely serious, for unless science comes up with another shortcut, the U-235 bomb is indispensable as a *trigger* for a thermonuclear bomb. What all of this means is that South Africa is not only in possession of advanced nuclear technology, and on the verge of building classical plutonium atomic bombs, but more importantly, very close to the thermonuclear stage!

Right now, South Africa has what we can call a *nuclear capability*. I don't believe she will wait another five, six or ten years to build atomic weapons, considering the mounting political pressures she faces from black Africa. At present, she would have to enlarge the pilot installation she already has, discreetly improve it and make it run day and night to isolate enough U-235 to build the type of bomb acquirable *without* a nuclear plant. It's quite possible that Pretoria already has the data whereby she could manufacture an atomic bomb without the need for a nuclear plant. Needless to say, whenever South Africa does acquire a nuclear plant, her production of fissionable material will have been multiplied by one hundred. Whereas she may now be able to build one or two bombs, with a nuclear plant she will be turning out one hundred bombs instead. There's no doubt about that. The danger is staring us in the eyes. In fact, the situation will be untenable whenever her nuclear plants become operational.

AFRISCOPE: South Africa invaded Angola in 1975. Israel attacked Uganda in 1976. Israel and South Africa are allies; they are both virtual nuclear powers. Shouldn't we read in

their actions against Africa an ominous sign of things to come?

DIOP: Concerning South Africa, the dangers are real; there's no question about it. The connivance between South Africa and Israel is really astonishing. One would have thought that a people such as the Israelis, who had suffered from racism in modern times, would have aligned themselves with black people, the veritable historical victims of racism. To my great surprise I realised that something essential was missing in the relationship between black and Israeli peoples. We have seen Israel choose the western camp. Yet, the recent past of the Israeli people would have justified the expectation of their aligning themselves with those who have also suffered as the Israelis, if not more, from the ravages of racism. In other words, we would have expected Israel to have sided with black peoples particularly and the Third World in general. We would have expected a non-expansionist attitude on the part of Israel, which is not the case. We would have expected understanding on the part of Israel, which is not the case. We would have expected sympathy from the Israelis for the cause of the Third World in general, which is not the case. Instead, Israel chose the western camp. . . .

AFRISCOPE: After Vorster's visit to Israel, are we not to fear that Tel Aviv will help Pretoria develop its nuclear weapons?

DIOP: The Israeli-South African alliance defies the imagination! Against all expectations, Israel has done the unimaginable. From this point on, anything can be expected. We know Israel to be in possession of a small stockpile of operational nuclear weapons and to be a highly advanced technological nation. We're now justified in believing that Israel will put her advanced nuclear technology at the disposal of the fascist South African regime, enabling it to skip the stages in the obtaining of operational nuclear

weapons. More specifically, Israel is in the position to help South Africa develop the triggering device for her nuclear weapons. In fact, with Israeli aid, South African atomic scientists and engineers will be able to considerably cut down the period normally necessary for achieving operational nuclear devices. This new alarming development is to be feared. South Africa has the raw materials, advanced technology and the material means to become a nuclear power in a very short period of time. With Israeli aid, that period of time will be even shorter. Moreover, once Pretoria will have received the nuclear plants recently negotiated with France, she will be able to multiply by 100 her nuclear capacity production. As I've said before, I fear South Africa will manufacture nuclear weapons in a record time, thus surprising the entire African continent. Once this becomes a *fait accompli*, the struggle against South Africa will have acquired entirely new and foreboding consequences.

AFRISCOPE: Once South Africa is ready to take the offensive, no doubt using nuclear weapons, isn't it conceivable that Israel would equally join Pretoria in a two-pronged assault against the black continent?

DIOP: South Africa, no doubt, wouldn't hesitate to commit nuclear genocide on the black peoples of Africa. In fact, it's certain that such a plan is in the back of the minds of the white supremacist leaders of that black country. Could we foresee the possibility that Israel, from the Middle East, and South Africa, from the southern tip of the continent, would combine their forces to launch a nuclear attack on black Africa with the aim of exterminating its peoples? An answer to that question is, perforce, hazardous. . . . Yet, in view of recent events, we must pay the most serious attention to strategic possibilities of that nature. . . .

AFRISCOPE: Do you think that Israel's position in the Middle East vis-à-vis Arabs is analogous to the position of white South Africa in respect of Africans?

DIOP: Within the Arab world the state of Israel finds itself in an entirely different context. My opinion is that whether one likes it or not, the state of Israel will in the long run be absorbed by the Arab world. True, there is a technological gap between both at present. As long as a portion of the Arab world remains at a nomadic stage, Israeli technology will of course make itself felt. In that context, Israel will continue to appear as a western prolongation in the Middle East. However, Middle Eastern Arab countries will develop technologically, closing the present gap. The state of Israel will then be completely absorbed demographically by the Arab World. Therefore, in the long run, the Arab-Israeli conflict will abate. In fact, if the state of Israel would right now desist from its bellicose attitude and would seek a viable *modus vivendi* with her Arab neighbors, Arab-Israeli peace would come about very quickly. My opinion is that the Arab-Israeli conflict will necessarily evolve in the direction of a peaceful solution acceptable to both parties. This is all the more likely given the historical context underlying the relationship of these two Semitic peoples.

I foresee a time in the near future when the Arab and Israeli ethnic groups, which have a very old common historical past in the Middle East, will peacefully resolve their differences. Both peoples belong to the same Semitic branch. The defeat of Israel can already be determined by the geographic context of the Middle East. Israel finds herself too isolated in that region not to ultimately seek a peaceful solution. Arab and Israeli cultures are very close to one another. Such affinities extend into the realm of religion. As we know, the Muslim and Judaic religions emerged from a common source, from practically a common people and from the same geographical area. Eventually, both Semitic groups will again fuse. None of the foregoing considerations apply to South Africa in regards to the rest of Africa.

AFRISCOPE: The aim of Pan-Arabism, as defined by Gamal Abdul Nasser, is the formation of a federation of North African and Asian Arab states as a single political and economic entity. Doesn't that project conflict with that of a federal continental African state?

DIOP: The way I see it is that there already exists a continental African consciousness. For lack of a precise Pan-African project, however, certain North African Arab countries might be tempted to group separately with Asian Arabs. In face of the disunity and uncertainty characteristic of intra-African politics, North African Arab states might indeed be instinctively tempted to seek fusion with their Middle Eastern brethren. Nevertheless, I believe that a continent-wide African consciousness does exist already. When you go to North Africa, to Algeria, Morocco, Egypt, for example, you can detect an African *behaviour*. We can build on this as long as an effort is made to forget many painful things of the past. Africans to the north and south of the continent must think in terms of uniting because it is in their global interests to do so. If we can overcome prejudices and fears through information and open discussion, then the advantages of a continental federal state are apparent. We might nuance our opinion on the steps to be taken towards establishing such a state. To begin with, there could be a federation of the Maghreb (Morocco, Algeria, Tunisia, Libya, Egypt) on the one hand, while on the other, a federation of all the sub-Saharan African countries. A confederation of these two federations could then be envisioned. With time, both entities could fuse so as to arrive at a true continental federal state. This is possible. Hence, the North and the South could be federated independently, then subsequently fused. A lot of effort would have to be expended in destroying prejudices, fears and susceptibilities and creating the basis for a common under-

standing between North African Arabs and sub-Saharan Africans.

AFRISCOPE: Nevertheless, Arab countries are increasingly forming exclusive organizations of all kinds from which sub-Saharan African states are excluded but which include Asian and North African Arabs. In fact, there are no less than 25 such organizations. The most recently formed are ALECSO (an exclusively Arab Unesco) and CASTARAB (or standing Arab Scientific Conference). Besides, isn't there a discrepancy in North African Arab states being members simultaneously of the Arab League and the O.A.U.?

DIOP: I won't deny that there are great difficulties in bringing Arab North Africa and sub-Saharan Africa together in a federal continental political union. Difficulties do exist. I still continue to believe, however, that an African continental state is vital to the survival of all Africans, to the North and South of the Sahara. Ways and means must be found to overcome the obstacles in its path. . . .

AFRISCOPE: Supposing the assumption of a common historical destiny between North African and Asian Arabs proves stronger than the pan-African common interests you speak of?

DIOP: If despite goodwill on our part, North African Arabs were to refuse a continental federation, then nothing should stand in the way of the formation of an exclusively sub-Saharan continental federation. However, I feel that if the perspective of a continental federation were clearly defined, backed by a strong sub-Saharan wish in this direction, then North African states would have to reconsider their position on that score, when if prior to that they were thinking along other lines. Should this not be the case, then black Africa couldn't be blamed in the future for grouping along purely sub-Saharan lines. The fault would not be

ours. Nevertheless, I think we must push the experience to its logical conclusions. . . .

AFRISCOPE: Gamal Abdul Nasser's project was that of an "Arab Nation" from the Nile to the Euphrates. Egypt tried to federate with Syria and northern Yemen. Libya has now taken up the project.

DIOP: The very failure of the Egypt/Syria federation shows how difficult it is for African states to look outside of Africa for a federation. In fact, that failure should be a warning; a political federation involving states situated in Africa cannot be extra-African. Nothing prevents North African Arab states, within the context of a continental African state, to maintain cultural contacts with Arabs of Asia, with whom they share a common language. Again, it would be as if black Africans were prevented from establishing close cultural links with blacks of the Americas and the rest of the black world. One thing is to establish cultural ties and another to form a *political* federation. This is absolutely clear. Our objectives must be the creation of an economic and politically federated continent. All Africans who express the desire to build such a federation, irrespective of whether they be from the North or sub-Saharan Africa, must be welcomed on an equal footing. I am convinced that if vigorous propaganda were made in this sense, we would end up with very positive results. . . .

AFRISCOPE: However, Col. Muammar Qaddafi of Libya and others still agitate along these lines.

DIOP: People must have entire freedom to talk and expound their views even when these ideas are not realizable. My opinion is that too many divergencies exist for such a project to materialize. The concept of an Arab state from the Atlantic to the Persian Gulf is devoid of any economic base, whereas I can very well conceive of North African Arab states joining the rest of Africa to form a viable political economic entity. As I said, membership in such a

continental political arrangement should not prevent North African Arabs from continuing to entertain close cultural links with the Arabs of Asia. By the same token, a continental political federation including North African Arabs should in no way prevent black Africans from entertaining the closest cultural links with blacks of the Americas, Oceania and Asia. It is absolutely indispensable to make the difference between relationships based on a cultural continuum and those based on a geo-political entity. . . .

AFRISCOPE: Suppose Asian and North African Arabs short-circuited black Africa and agreed to set up what Qaddafi has been agitating for.

DIOP: If that was ever to be the case, then, it would be explicitly clear that a federation with black Africa was being rejected. If we black Africans take steps to include North African Arabs into a continental federation and the latter prefer instead to elaborate organic political ties with Arabs of Asia, this would be tantamount to a rebuff. If north African states, rather than looking to black Africa in a natural partnership, preferred a federation with Asian Arabs extending to the Persian Gulf, *then we would be entirely justified to organize ourselves in an exclusively sub-Saharan federation.* In such an eventuality, no one could accuse sub-Saharan Africans of being guilty of exclusivism, since their appeals to the North would have been refused. However, I do not really envision this being the case. Rather, my feeling is that the necessary ideological and propaganda work in favour of an all inclusive continental federation has to be undertaken as of now.

AFRISCOPE: Many Africans argue that the very cohesion of the Arabs as an ethno-cultural entity would pose the problem of their dominating any confederal arrangement.

DIOP: Sub-Saharan Africans must realize that they have nothing to lose culturally, politically or otherwise in a federation which includes Arab North Africa. Black Africa

would not be an appendage of the Arab world in such a federation. There is a distinct African identity which can and ought to be continually developed. In the past 20 years a lot of work has been done in terms of reinforcing the cultural, linguistic and historical identity of African peoples. The black world has reinforced its cultural personality. As a consequence of this development, our cultural, linguistic and historical personality can no longer be strangled in any way by cultural contacts with other peoples. The time has come for us to abandon our complexes and work in favour of a union that is favourable to all Africans. That's the crux of the matter.

In the final analysis, what is really at the core of the controversy of whether North and sub-Saharan Africans can join in a common federation is the question: Are we culturally ready to meet with the Arab world? Are we culturally ready to join in a common federation without surrendering an inch of our cultural, linguistic and historical identity as black Africans? This is the real question. My answer is affirmative. Black Africa has recovered its cultural personality to an extent and vigour which makes it impossible for anyone to strangle it. What remains to be done is the day-to-day work of solidifying and redefining in all areas the contours of this distinct personality. Considering all of the efforts which have been accomplished in sub-Saharan Africa in terms of the restoration of our historical and cultural identity, Africans no longer have to fear being dominated by the Arabs. . . .

AFRISCOPE: Don't you think that another serious stumbling block in the way of the constitution of a continental state would appear to be the entrenchment of staunchly egoistic neocolonial regimes both in North and sub-Saharan Africa?

DIOP: Definitely. It's obvious that once we eliminate diffi-

culties of a subjective nature—that is, whether North and sub-Saharan Africans do or do not want to federate—there remain the objective obstacles of a political nature. The egoistic nature of certain political regimes, north and south of the Sahara, is such that they are terrified at the idea of a continental African state. The stranglehold of alien economic interests is not foreign to that fear. The neocolonial character of such regimes is therefore an objective factor in the way of constituting a continental federation.

African unity, I feel, will come from the base and develop as an undercurrent to the present political sterility and economic stagnancy rampant on our continent. A feeling of general insecurity, generated by the ineptitude of African regimes in dealing with the most crucial issues—including that of South Africa—will result in the masses entering the picture sooner or later. . . . As generalized insecurity spreads, no African regime will be able to prevent the masses from seeing that the ineptitude of their own governments is linked to this general insecurity. At that point, I feel the masses will find within their own ranks the type of political vanguards, made up of young, altruistic and politically motivated Africans, to unleash a powerful continent-wide movement. This political undercurrent would eventually be forced to sweep away the objective obstacles standing in the way of a continental African federation.

AFRISCOPE: Ideological bloc bi-polarity seems to be installing itself in African politics. What ideological preference, in your view, would the united foreign policy of a continental African state reflect?

DIOP: A continental African state must, of necessity, be non-aligned. Africa then will be a continent *with its own specific political personality*. In time, Africa would have to play a world role. *A continental African state must be an end in itself!* It would even be humiliating to conceive of a

continental African state being towed as a vessel by any other state, government or bloc. A continental African state would entertain relations with all other countries on a perfectly equal footing. How else could Africa lift itself to the level of the other powerful states and deal with the rest of the world from a position of true independence?

Today, only three states can be considered as independent: the United States, the Soviet Union, China. These three states are organized on a continental basis. That's no accident. Significantly, Europe is now trying desperately to federate itself into one continental state. Highly industrial and technological European states are trying to elect a pan-European parliament, establish an economic common market, attempting to unify their defence and foreign policies and preaching in favour of the continental federal approach! That's an edifying example for us Africans. I'm even hoping that the European states succeed and thus show the way to Africa, considering that African leaderships tend to ape European initiatives. Since Africa is so prone to imitating Europe for the better or the worse, that's one initiative we can start imitating as of now. For once it would be a positive imitation! Even Europe is showing the way and attesting to the fact that the 19th century mini-states have become an anachronism in our epoch. A great political future is in store for Europe because all European problems are being seen by European leaderships as *continental* European problems. Why is it any different for Africa? Why should the underdeveloped mini-states be valid for Africa when the super-developed mini-states are invalid for Europe? Only the blindest form of selfishness could restrict the vision of African leaderships to the confines of their mini-states. Even a lucid selfishness would dictate that *the continental solution is the only one. Only this can prevent the voice of Africa from merely being an echo of some other state or block.*

3: Culture, Negritude, and the African Personality

AFRISCOPE: What is the actual mission of culture?

DIOP: Survival and creativity. Man must create to survive. To create he must ensure his survival.

Collective historical consciousness is one of man's chief means of survival and a source of creation. Destroy or stifle it and the chances for the survival of a people become questionable. The cultural personality of Africa is inseparable from the restoration of our collective historical consciousness. Because most people are vaguely conscious of their local historical past they end up flirting with their own past. Most of us are not even equipped to systematically refer to the Nile Valley for an understanding of either the present-day or ancient structures of our societies. Yet, we can make very little headway in understanding our cultures, languages and social structures without a thorough knowledge of the many facets of ancient Egyptian civilization. Ancient black Egypt was in every sense the actual cradle of our cultures.

Without a systematic reference to Egypt, there can be no true cultural renaissance in Africa. After all, what is our objective if it is not that of recovering and promoting the *creativity* of our peoples? Man's mission is *creation*. African renaissance, black renaissance, is inseparable from the restoration of the black world's creativity.

To assume his destiny, man must be a creator irrespective of his race. The loss of our national sovereignty strangled our independent creativity. Today, as black people are slowly recovering their national sovereignty, we are obliged to free ourselves from all forms of cultural alienation. Without that internal recovery and psychic self-appraisal, very little can be accomplished. The recovery of political sov-

ereignty is merely one aspect of the question. Economic sovereignty is another. Psychic autonomy is yet another. All three must combine in a dynamic renovative effort. These are the terms by which I define the African and world black renaissance.

The restoration of the historical consciousness of black and African peoples, with all its implications, necessarily leads to a veritable reversal of perspectives and to a fundamental transformation of our cultural relationship with the rest of the world. Black peoples have been weighed on the scales of history by others and been found wanting.

Yet, once we awaken to the historical realities through a scientific approach to history, we find that the very people who were considered to be historical debtors were actually the historical creditors. From ancient Egypt, from the oldest world civilization, came the scientific and technological knowledge, the religious ideas and cultural, artistic contributions which shaped the earliest cultures of the European world. The day when Africans and blacks in general will impose that point of view, a view supported by scientifically verifiable historical data, the self-image of blacks and the warped image that others entertain about blacks will have to undergo a most profound revision. It will mean that an entire vision of the universe will have to be changed. The hour is therefore approaching when other peoples will have to divest themselves, even against their conscious will, of the falsifications and lies that have buried the original and unique contributions of the black man to world history. To that end we must work, fully equipped with the tools of science in every conceivable discipline. We should never lose sight of the fact that the restoration of the cultural personality of African and black peoples in general can only be achieved through *struggle*.

AFRISCOPE: Many people attack Negritude as a deceptive concept. Others defend it as a philosophy of African

and black rehabilitation. You are among its critics. Yet, all of your works deal with the historical, cultural and social rehabilitation of the black man. What, then, is your concept of Negritude?

DIOP: I really wouldn't like to get into that! There are just too many emotional and conflicting issues involved. It would be too long to get into such a complex question. . . .

AFRISCOPE: Precisely, this is why your comments on it are vitally important. It's an important issue.

DIOP: If we want to talk about Negritude, the case of a man like Aime Césaire must be treated all by itself. Césaire is an exceptional literary genius. He is undoubtedly one of the greatest creative minds of the black world. He's a man who lives his philosophy. He's a man truly committed to the cause of the black world and to the progress of oppressed mankind. He's an unflinching anticolonialist. Because of this, Césaire was practically the only one to have played a decisive and personal role in the mobilization of the black students who were in France during the colonial period. He summoned all of us to our feet in the struggle against the colonial oppressors. At political meetings we were all captivated by Césaire, his clear thinking and lucid appraisal of the colonial question. Césaire was always physically present at our meetings, alongside all those who were fighting colonialism. In fact, all of us used to talk about Césaire, his genius, his sincerity and devotion to the black and anticolonialist struggle. We weren't talking about Negritude. Césaire was magnetic, vigorous and poetic. Césaire created the term *Negritude*, and at the time we devoured his works.

Negritude, as it became known, was originally a West Indian creation; Africans confiscated and monopolized it in post-colonial times! During the post-colonial epoch an entirely different interpretation was given the term Negritude. Under this blanket term a flood of literature emerged, the content of which was clearly deceptive. In

fact, as far as I can remember, the term Negritude was only applied to a literary or political current after Jean Paul Sartre's *Black Orpheus* written in 1948. Césaire coined the term but prior to the publication of Sartre's book I knew of no political or literary current which went under the name of Negritude. This is an important element. Actually, what was done in the post-colonial epoch was to gather the political anti-colonial black movements and writings of the 1930's and 40's and place them under the blanket term Negritude. This was done only after, and as a consequence of Jean Paul Sartre's theorizations in *Black Orpheus*.

In the 1940's, along with Césaire, there were men of the caliber of Leon Damas, who was also anti-colonialist. However, Damas' role was smaller than that of Césaire, who in fact dwarfed everyone else with his intense commitment and action against colonialism. At that time there were other black intellectuals in Paris who were defending the colonial status quo with philosophical arguments. Their writings were indigestible to the mass of black students in Paris at that time. The difficulty today when evoking Negritude resides in the fact that certain people use Césaire as a cover to fend off attacks from those who consider the post-colonial utilization of Negritude as an obvious imposture. This is why all discussions on Negritude must begin with a separate appraisal of Césaire, the man, the literary genius, the clairvoyant political agitator and determined anti-colonialist. All of us who knew Césaire during those years and who have continued to relate to him since then have an immense respect for his work, his integrity and lasting contribution to the emancipation of black people. Césaire cannot be associated with anything other than the struggle against colonialism and the emancipation of black people. When I talk about Césaire, I don't talk about Negritude; I talk about Césaire, the man I knew and respected, the genius, the fighter. Through his actions and

works, Césaire exercised a personal influence on all those who came into contact with him. He continues to do so today over the younger generation.

Césaire showed where there was a definite cultural alienation among blacks, more pronounced in the West Indies than in Africa, which required special attention in the struggle against colonialism. His aim therefore was to recover the lost cultural personality of colonized black societies. He attempted this through poetry. Hence, he extolled the psychic factor as a necessary component of a new African cultural personality and national consciousness. Let's say he rediscovered, or introduced, the psychic and cultural factor into the struggle of black peoples to regain their national sovereignty usurped by colonialism. Césaire thus wrote about how the black world lives, feels and suffers. He attached importance to the differential psychology of Africans, blacks, as opposed to Europeans. The poetry of Césaire, his literary creation, centered on the convulsions of the 'black soul' when subjected to the oppressive conditions of colonialism. Militant action was attached to the new form of poetry among black intellectuals. Césaire's poetry was definitely not an abstract literary effort but was rooted in the suffering of Africans, blacks. . . . In a famous line of his extremely sensitive, beautiful, violent *Cashier d'un retour au pays natal*, Césaire wrote:

My negritude is not a rock, its deafness hurled
against the clamor of the day.

My negritude is not a film of dead water on the
dead eye of the earth.

My negritude is neither a tower nor a cathedral.

It plunges into the red flesh of the earth.

It plunges into the burning flesh of the sky.

It pierces the opaque prostration by its upright
patience.

Published in 1947, these lines were the words of a profoundly committed militant. The man who wrote these lines was loved, respected and revered by all those who dreamt of freedom and independence and were working toward that goal. Jacques Rabemananjara of Madagascar, Leon Damas of Guyana, and many others were among them. They all spoke and wrote in moving terms about the 'black soul' and the suffering of black people. There were many West Indians among them. These militant intellectuals, Africans or West Indians, were therefore talking, writing and acting within the context of the anti-colonial struggle. We weren't talking then about Negritude.

AFRISCOPE: In other words, your scientific researches were spurred by the existence of a colonial order and by the cultural and psychic disorders analyzed by Frantz Fanon?

DIOP: That's correct. But that motivation wasn't called Negritude then. When I started writing *Black Nations and Culture*, I approached the problem of black subjugation from a different perspective than the literary anti-colonialist of the 1940's. Not being a poet, nor a literary man, I did not approach it from the psychic angle which had made Césaire's poetry such an irresistible and cutting weapon in the awakening of an African anti-colonial consciousness. I realized that the cultural personality of a people, of any people, was made up of three interrelated factors. The *psychic* factor. The *linguistic* factor. The *historical* factor. I didn't invent that notion. Others had outlined it before. I merely saw it to be a fact. Hence, my efforts were geared towards the restoration of the *linguistic* and *historical* personality of black Africans. The poets of what was later called Negritude had emphasized the psychic element which is undoubtedly one of the components of the cultural personality of a people. . . .

I understood my scientific researches at a time when the prevalent and accepted data concerning the historical past

of black societies was a misleading one. My cultural approach was scientific, rather than poetic. Once on scientific terrain I had only objective phenomena to analyze. I realized that out of the three components of the cultural identity of a people, *only two could be apprehended scientifically, i.e. the linguistic and historical factors*. I therefore laboured towards restoring the historical and linguistic personality of black peoples. I also worked towards the restoration of our common historical past by attaching primordial significance to the oldest and most accomplished civilization elaborated by black African peoples: ancient Egypt! Once I had realized that the collective personality, the cultural identity of a people, centered on three components—linguistic, historical and psychic—I concentrated my scientific efforts along the two lines which could be grasped objectively by scientific research. That has been my approach to the cultural rehabilitation of the black man and of black societies.

AFRISCOPE: The difference, then, in your approach to the rehabilitation of the black man and that of the Negritude poets of the 1940's is in your emphasis on sociology, linguistics, and history?

DIOP: Exactly! By describing the political and social structures inherited from our common historical past, and which reflect the conditions in which our ancestors lived, I was able to make a contribution to our rehabilitation. I was not, however, describing any sort of permanent state in man, since human beings are conditioned by their social and physical environment. Once you change the social environment, even a black man who has been conditioned by a communitarian life-style can become the most individualistic and self-centered being. Consequently, my work in history, sociology and linguistics kept to the path of objective verifiable reality. By throwing light on the falsifications to which the historical past of the black man has been

subjected, these historical, sociological, and linguistic studies serve to reinforce the cultural personality of Africans. The cultural renaissance of our people is inconceivable outside of the restoration of both our historical past and our languages to a privileged position as the vehicles of modern education, technology, science, and the creative sensibility of our people.

As long as the historical path linking us to our ancestors is not understood, critically appraised, legitimized, we will be unable to build a new culture. To this end the retrieval of our national languages is foremost.

A systematic policy in favour of their growth, the inclusion of a modern technological and scientific lexicon, can no longer be eluded. The path which leads us to our ancestors and which led our ancestors to us cannot be understood without a systematic reference to ancient Egyptian civilization. In fact, it is impossible to elaborate a new body of social studies without a systematic reference to ancient Egypt. Ancient Egypt plays for Africa and blacks in general the same role which Greco-Latin culture plays for the western world. From the outset, my researches were centred on ancient Egypt, its culture, language, religion, and science. I demonstrated the profound links binding the ancient Egyptians to modern black Africans, not only racially and culturally, but also linguistically.

AFRISCOPE: As a literary current, would you say that Negritude has neglected the objective basis of society in favour of the purely subjective world?

DIOP: That's certainly so in the case of post-colonial 'Negritude'! In fact, I see a total incompatibility between the formal defence of African culture on the one hand, and the systematic refusal on the other to adopt concrete measures to develop our national languages. Those who are incapable of solving this problem can do nothing for African culture. They merely embrace African culture to better

smother it. Their attitude shows them to be impostors. Take a country like Senegal, for example, where 95% of the population speaks Wolof. How can one understand the fact that some people are panic-stricken when the adoption of Wolof is proposed as the official national language? If the Senegalese people can't be helped to retrieve and develop their linguistic unity *now*, what use is there to talk about defending African culture? In contrast to this, the attitude of someone like Julius Nyerere is consequential. Without rhetorics or fanfare, he elevated Swahili to the status of a national and governmental language.

Flight from one's own language is the quickest shortcut to cultural alienation. For Africa this has been a monumental problem, but it has to be tackled head on. I have attempted to do this in my works and my most thorough contribution on this subject will soon be available (*The Genetic Kinship of Pharonic Egyptian and African Languages*). Too often we talk about culture without grabbing the cow by the horns, as the saying goes. Why? Simply because we are contented with compromises that avoid the adoption of a radical stance in face of cultural problems. Few of us dare go to the roots of the problem via a scientific approach. As a result, many of those who *talk* about promoting our national languages limit their intent to the domain of folklore. When they want to deal with serious questions, they turn to the languages of . . . Europe!

AFRISCOPE: Kwame Nkrumah had opposed his concept of 'African Personality' to the concept of 'Negritude.' Are both concepts antithetical or do they converge anywhere?

DIOP: They converge in the sense that both deal in generalities! We must get down to the facts, to the objective apprehendable realities. When we talk about personality, meaning the personality of collective groups, we can only mean a *cultural personality*. And what is the basis of the cultural personality of a people, African or otherwise, if not

a historical, psychic, and linguistic self-consciousness? These three elements are the constituent elements of a people's cultural personality or identity. They are not static factors, but factors conditioned by humanity's social and physical environment. You have already seen my own approach to the problem of restoring the historical foundations of African cultures through scientific research in the fields of history and linguistics. Moreover, you can also see where that approach has also clarified what is called the particular sensibility of the black person, or 'black soul.' I have tried determining the nature of the black particularity in history and to ascertain the way in which the 'black soul' or 'black sensibility' has influenced the material existence and creativity of black peoples by using the *structures* evolved by ancient black societies as a basis. Consequently, I analyzed family structures, clannic and tribal organization and finally the territorial state. These structures are the objective reflection of precise historical conditions and also of what is called the 'black soul.' So, my approach to the 'black soul' has been through history, linguistics and the material structures of ancient black societies. Rather than deal in generalities, we must know what the 'black soul' is because it's *our* soul. The way I saw it at the beginning was that Africa's soul had been 'stolen' and could only be retrieved through a scientific approach.

In synthesis, we cannot oppose 'African Personality' to 'Negritude' since both deal with only one of the three components determining the cultural identity of a people. People *live* their culture. The roots of their culture are inseparable from their linguistic structure and historical past. That's the way I approach the question of culture.

About Carlos Moore

Born in Cuba in 1942, Dr. Carlos Moore completed his doctoral and post-doctoral studies in ethnology at the University of Paris, France.

From 1975 to 1980, Moore lived in Dakar, Senegal, assisting Cheikh Anta Diop and acting as his personal interpreter.

A resident of Guadeloupe, he is currently Visiting Professor at Florida International University. In February, 1987, he convened the "First Conference on Negritude, Ethnicity, and Afro Cultures in the Americas" in homage to Aime Cesaire.

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Cheikh Anta Diop is the author of *The African Origin of Civilization*, *Precolonial Black Africa*, and the forthcoming *Civilization or Barbarism*.

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