
A large-scale Rhine-Rhône canal for France, and Europe

A canal connecting the Rhine and Rhône rivers would vastly upgrade both Europe's inland and international transport and augment the capabilities of the European Productive Triangle. Eric Sauzé reports.

An ambitious program, originally outlined in the early 1960s period of economic growth and cultural enthusiasm, to build canal works connecting the Rhine River along the French border with the Rhône-Saône waterway, would play a major role in France's contribution to the European "Productive Triangle" project of Lyndon LaRouche. Such a canal project, bringing the Rhône-Saône Valley up to the navigable scale of the newly opened Rhine-Main-Danube liaison, would complete a large-scale waterway system for Europe linking the North Sea, the Black Sea, and the Mediterranean with the heartland of Europe.

The opening on Sept. 25, 1992 of the German Main-Danube Canal, which links the North Sea to the Black Sea, shows that this type of undertaking is both desirable and possible. Bringing the Saône-Rhine link into conformity with the European scale (which permits the passage of 300-ton barges, or *péniches*, and barge convoys of 4,000 tons and up) is a crucial project, despite its relatively modest dimensions. This canal is no mere technocratic instrument to add to a technological arsenal, all the better to engage in "cutthroat international competition," nor is it a huge financial boondoggle, as its detractors would argue. Moreover, we can calculate that the construction of the Saône-Rhine connection, seriously carried out in a sustained way, could generate, in five to seven years, 30,000 jobs, which counts only those directly employed in the operation.

From this point of view, the lack of real political will to implement such a project has a threefold irony. First, because what seems for the moment to be impossible: to have a large-scale waterway cross the summit at 336 meters above sea level, does not represent the kind of challenge that was posed by putting a man on the Moon in 1961. Fluvial technologies are nothing revolutionary. Second, the German example shows us that "where there's a will, there's a way." Third,

and this is the crowning point, the first official text launching a project to modernize the Rhine-Rhône Canal dates from 1961, the same year the Apollo program was launched.

The history of France's canals begins with Leonardo da Vinci's work for King François I in the early 16th century, designing a canal system that linked the governmental and commercial center of the country to the interior through trade and transport routes.

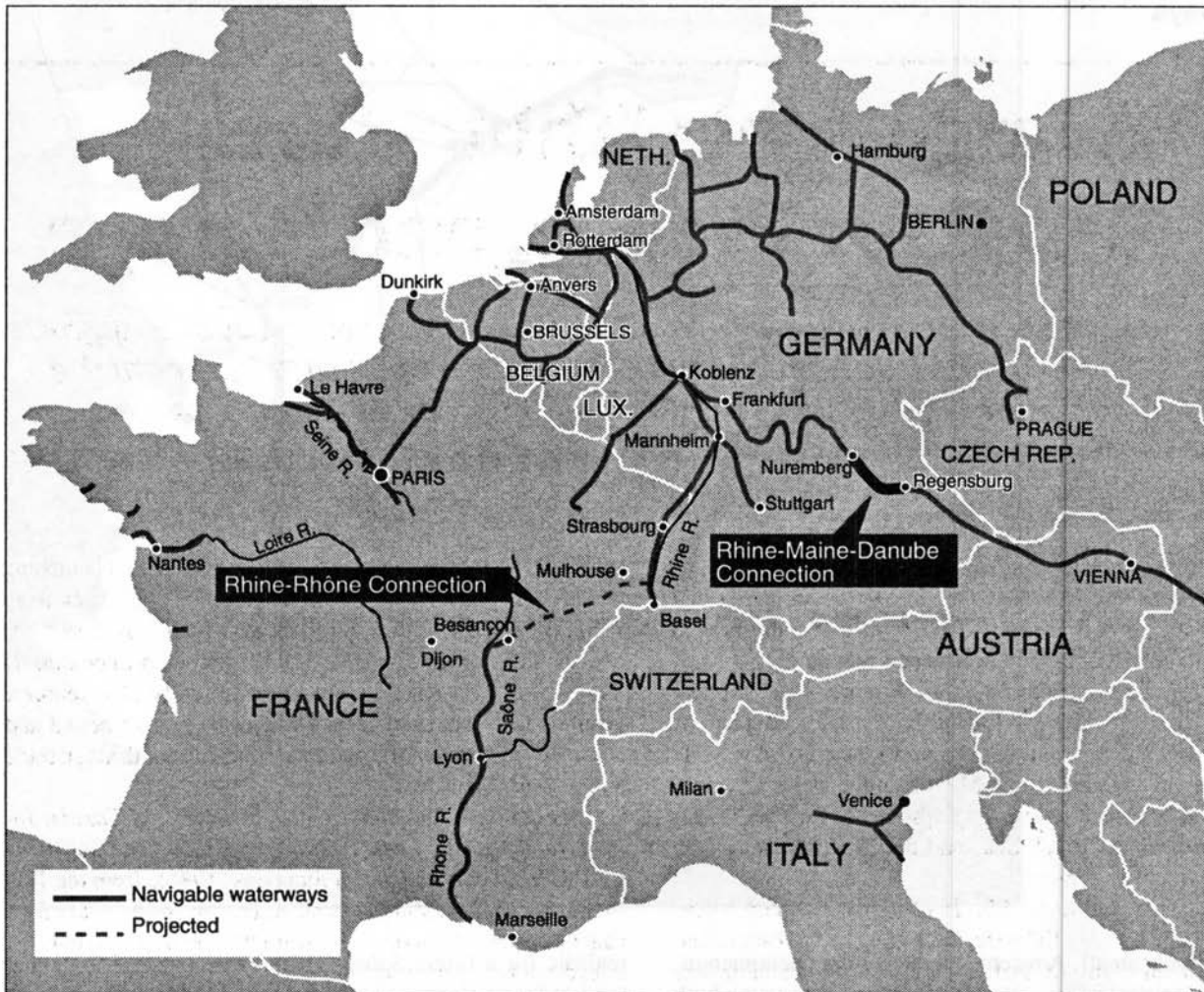
According to the authoritative book *World Canals: Inland Navigation Past and Present*, by Charles Hadfield (Oxford, U.K.: Facts on File Publications, 1986), from the 17th to the mid-19th century, inland water transport centered on canal-building. He writes: "Toward the end of the period . . . a predominantly river age began. . . . Canals now needed to be built or rebuilt to dimensions that would allow craft able to navigate the big rivers to use them—craft which were themselves becoming bigger as channels improved. . . . More than one historian and politician has failed to realize that the modern river age is not a continuation of the older canal age: It is different in kind, and with far wider possibilities. Therefore, it also came about in our period that railways, more efficient as freight-carriers than the old, small canals, were by no means necessarily so as against rivers and river-sized canals." As **Figures 1 and 2** show, the Rhine-Rhône project would, via an assortment of canals, canalization of rivers for depth and/or current control, and locks and dams, bring the Saône-Rhône river system up to the same scale for heavy barge transport as the Rhine and the newly opened Rhine-Main-Danube.

Waterways for an industrial revival

Jacques Bonnot, chief operating officer of the National Rhône Co. (CNR), during an interview with *Le Progrès de Lyon* of May 8, 1993, argued in favor of going ahead with

FIGURE 1

Major European inland waterways



the connection, figuring the cost of the startup at FF 17 billion, and demonstrating the benefit such a connection has for all the regions involved. The chambers of commerce and industry for these regions, after the March 1993 elections, also reopened the debate for the work to go ahead. In addition, the congestion on the highway along the Rhône has moved some administrations to rethink the possibility of restarting river transport projects. The Rhine-Rhône connection will not be viable unless France and Europe go back to a policy of industrial production, because waterways do not have an essential place in a service-dominated economy. *Péniches* may not be needed to transport pocket calculators, but when it comes to the bulk transportation which all basic industry needs (heavy industry, materials for infrastructure, etc.), waterways are most useful.

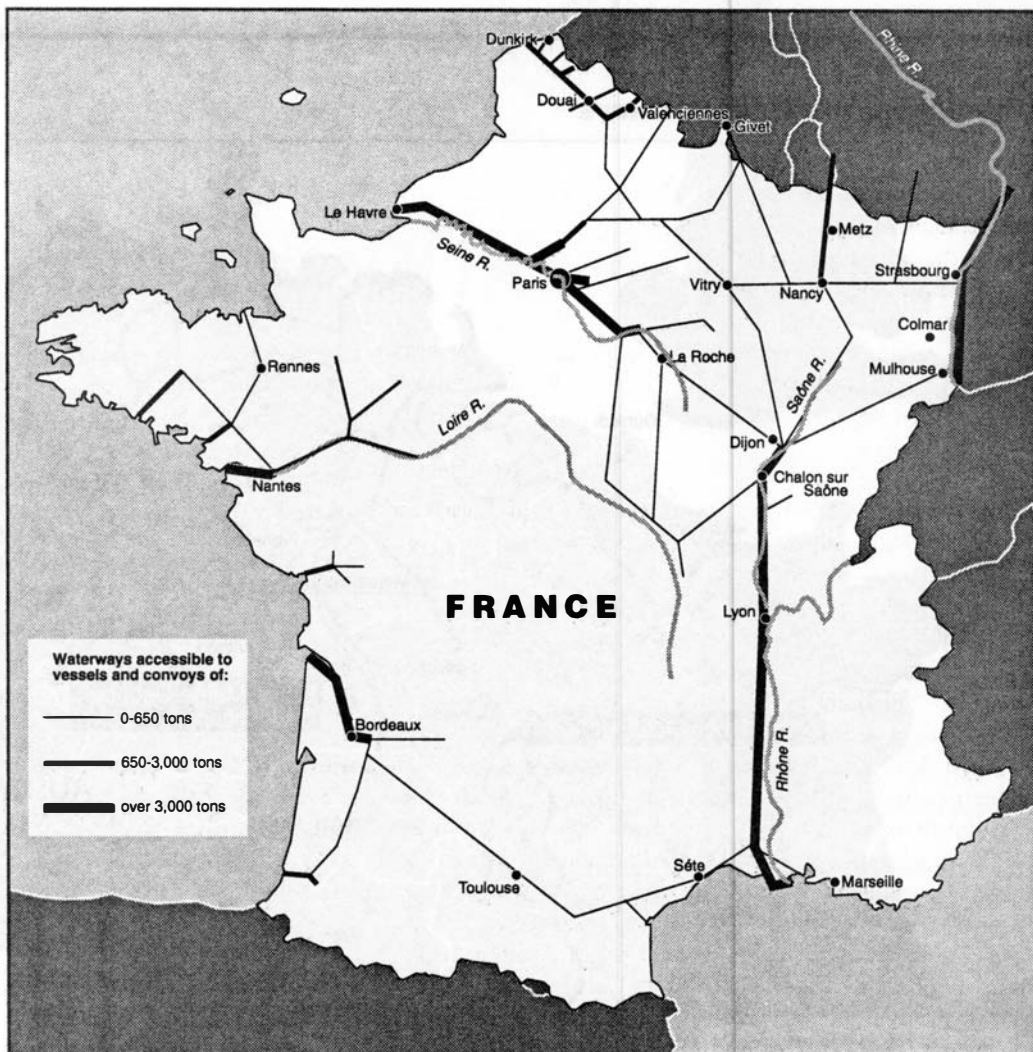
In the domain of large-scale waterways (convoys hauling 4,000 tons), France has, at present, dead-end infrastructure,

because there are no connections between the various hydrological basins. The large-scale river routes such as the Seine, or the Saône-Rhône, outside of the Paris or Lyon regions, end up nowhere.

To properly outfit France with a modern network of river routes, it would be necessary to bring at least three links up to European scale: the old canal connecting the Mediterranean to Bordeaux; the Seine-Saône connection; and the canal from Paris to the north of France. As for the Saône-Rhine project, it takes on even more importance because the Saône-Rhône axis would be the only navigable corridor going directly from North Europe to the Mediterranean.

Even though river transport is presently marginal in France, the Rhine-Rhône project, according to the CNR, aims at cornering 22% of the freight traffic, as is the case in Germany and the Low Countries. Currently, given the cul-de-sac, traffic on the Rhône has risen to 4,000 million tons,

FIGURE 2
**France's
 navigable
 waterways**



which is rather small. A recent and interesting phenomenon, oceangoing river traffic—vessels capable of navigating both on the ocean and on major rivers—is tending to develop along the routes that go from the Lyon region toward Italy, Turkey, Tunisia, and Israel. The Rhine-Rhône would open up new perspectives for this type of transport.

One can imagine the horrendous state of highways in the Rhône Valley if a portion of the goods didn't go by river. When it comes to hazardous materials, environmental preservation, and working conditions, river transport offers far better safety conditions, and at less expense, than heavy trucks whose function is not so much to go long distances as to assure close-haul transport, above all for bulk.

The ever-increasing flow of trucks in Europe will probably cause France to follow the lead of Switzerland, Germany, and Austria which are organizing "railway highways" or redirecting traffic toward other means, such as waterways, since highway transport costs are going to climb. The main advantage of transporting goods by navigable waterway is the low cost due to low energy consumption: 5.5 grams of coal equivalent (gce) per ton-km for a 5,000-ton convoy, which is

realistic for a future Saône-Rhine canal, against 5.95 gce/ton-km for an electric train and 23.8 gce/ton-km for a truck. As for the time involved, it can be considerably accelerated by the large-scale waterway and a sustained pace of transport. Thus the current average time to cross the Paris-Lyon route is 13-15 days, depending on the season, while the trip from Le Havre to Paris takes only three days for a motor-barge and only 1.5 days for a barge convoy under way night and day. For equal amounts of bulk transported, the modernized waterway has all the advantages.

Further, from the standpoint of geography and physical economy, if the flow of goods and people in relations between North and South, East and West, are organized in the way that the economic program of the Schiller Institute proposes, ("Europe, Vector of a Global Economic Recovery" published by the Schiller Institute), then the Rhine-Rhône canal would be more necessary than ever. In September 1992, the Germans inaugurated a large-scale connection linking the Rhine-Main-Danube, which will open the ports of the Black Sea to the North Sea and the Baltic. This will create a considerable opportunity for development of the new countries of East

Europe: the Czech Republic, Slovakia, Hungary, Romania, and also the nations of ex-Yugoslavia (at least, as soon as true peace is reestablished).

In France, at the same time, the 1992 austerity budget (which did not change in 1993) projected no more than FF 100 million for the waterway compared to nearly FF 1 billion in better years. The funds of the Navigable Waterways of France (the public entity responsible for managing riverways and their tributaries) will only serve as stopgaps for a shrinking budget. As for European financing, it is compromised by the lack of a clear-cut policy in France itself. In the absence of a firm political will, discussions on the projects are bogged down in "pillow fights," and the Rhine-Rhône project is stagnating or being built at a snail's pace:

- The bypass for the bridge at Mâcon is already operational; what's needed is to dredge the Saône.
- Construction work has begun between Mulhouse and Niffer in Alsace, and should take three years.
- The large-scale waterway is under way from the Mediterranean to St. Jean de Losne (Nord de Chalon).

What remains is to complete the bulk of the work.

At this rate, if no political decision overcomes the torpor into which the project has fallen, it will take 20-30 years to finish. And yet, the project, although of large dimensions, is not exactly herculean.

Transformation of the economy

The large-scale waterway on the Saône-Rhône would link the Rhine, transport axis for the world's most important riparian waterway, and now open to the Black Sea, to the Rhône Valley transportation axis. Completion of this project would contribute to connecting the different basins and to standardizing the canal network, currently comprised of a series of dead-ends for the large-scale waterway (Figure 2). The large-scale waterway would allow access to modern transportation linked up to the main axes of European transport, such as those in Germany and the Low Countries: The Rhine-Rhône would open up 760 km of navigable waterways between Marseille and the Rhine, and would provide access to the roughly 3,500 km of the waterway going from Rotterdam to Izmail in Ukraine.

Considerable increases in productivity have been made in water transportation: Indeed, a single 4,400-ton barge convoy transports the equivalent of 110 forty-ton railcars or 220 twenty-ton trucks, and that under appreciably higher safety conditions. And, as we've already mentioned, the speed of the convoys has greatly increased, thanks to the advent of barge convoys pushed by powerful engines and large motor-barges (large-scale *péniches*), which means:

- lower costs per ton;
- an increase in the unit capacity of transports—a convoy can carry 4,000, or even up to 6,000 tons, whereas the smaller-scale canals of the Freycinet type from the last century, can only handle convoys of up to 350 tons;
- better operating conditions and improved material;

- greater maneuverability (wider waterway, etc.);
- greater use of containers, which would also permit the development of multimodal transport (water-rail route), would increase the role of the Edouard-Herriot Port just below Lyon, would increase the speed of transport, and would help undermine the stupid competition that currently dominates transportation.

Benefits throughout the Mediterranean Basin

The Saône-Rhône canal is a major transit corridor between the Paris-Berlin-Vienna Productive Triangle and the Mediterranean Basin and from there to the West and to the Middle East. From Port Said on the Suez Canal to Strasbourg, one must travel 6,855 km via the Rhine and Rotterdam, 5,070 km via the Danube, and only 3,840 km via the Rhône. It is easy to see the extraordinary potential for activity such a route would offer if the Oasis Program for Middle East development of Lyndon LaRouche and the Schiller Institute were put into action. This infrastructure will in fact bring about a crucial increase in the ties between western Europe and the east of the continent, as well as with the south of the Mediterranean, and will surely allow them, in the context of a mutual development project, to be brought closer together. Communications and transport routes are necessary for economic activity, for raising living standards, and for the progress of civilization through the exchange of goods, peoples, and ideas.

Trade routes are naturally dependent on geographical conditions, but there is always the possibility of leapfrogging the natural obstacles, as the Panama and Suez canals show us. Europe, and especially France, have advantages in overseas trade: long coastlines in the north, the west, and the south. Inland, the European rivers form the axes for advantageous penetration. The Rhine is very heavily used up to Basel: At the German-Dutch border, traffic density is greater than the entirety of French river traffic. For the Rhône-Saône axis, over the 1,580 km covering the Rotterdam-Fos connection, there remains a hiatus of roughly 229 km between Mulhouse and Dole, which comprises no more than 14% of the total, and which means overcoming the physical elevation between the Rhine and Rhône basins.

As for the Danube, opening up a large-scale waterway connection should speed up the process for France. This connection, started well before the Saône-Rhône, also means overcoming an elevation between the northern slope and the Mediterranean (southern) slope of Europe, whose altitude is only 70 meters higher than the elevation that separates the Saône from the Rhine. The technical difficulties and the cost per kilometer of the two linkages are quite comparable for the two routes. If all the necessary earth-moving work were done, the three great European rivers would be linked to each other and that at a time when construction of continental Europe is recognized as an urgent need. Via a Rhine-Rhône connection, the southern tier of France, which would be galvanized by a large-scale canal toward Sète and Marseille, would become profitable.

What it will mean for France

Since 1961, the Rhine-Rhône project has been part of the economic geography of France. Getting the Rhine-Rhône project under way would mean: bringing the network of the major French waterways up to the standard of the major European waterways (Germany and Benelux); and harmoniously developing the territory of our country as a whole. As an extension of the Rhine, the canal would turn the east of France, which has been, up until now, off the path of the major axes of heavy European transport, into one of the intersections for international traffic; this would contribute to completing development of the Atlantic region, the Parisian region, the North, and the Mediterranean.

This project covers six regions, that is, roughly 30% of the national population: Alsace, Franche-Comté, Burgundy, Rhône-Alpes, Provence-Alpes-Côte-d'Azur, and Languedoc-Roussillon. In accordance with local wishes, which the chambers of commerce and industry of the respective regions have recently supported, the new waterway would allow employment to be stabilized through consolidating already-established industries, and even to increase by creating the conditions that favor establishment of new industries.

The new navigable waterway would be 229 km long, connecting the grand canal of Alsace to the Saône via the Ill Valley, the Burgundy gorge, and the Doubs Valley. It would be made up of 24 locks, of which seven would raise traffic 106.20 meters from the Rhine as far as the diversion canal, and 17 would lower traffic down the Franche-Comté slope as far as the Saône, over a descent of 157.75 meters. The largest convoys projected on the connection would be 183 meters long, comprised of a tug 30 meters long and two barges placed end to end and capable of transporting 4,400 tons deadweight to a depth of 3 meters. The waterway would be comprised of a new canalization of the Doubs along 140 km, the rest of the route, some 89 km, being cleared by an artificial canal. The canal will have a depth of 4.5 meters and a waterline of 55 meters, except in the curves (wider) and in certain urban crossings (narrower).

The work, far from being excessive, contrary to what some of its detractors have been saying, is completely comparable to the works built for the Rhine-Main-Danube (Bamberg-Kelkheim sector) linkup, as **Table 1** shows. In 1978, the CNR estimated that with modern methods, the work could be completed in less than 10 years. "The work, according to the National Rhône Co. (in *The Rhine-Rhône Connection*, 1980) is just the right size for our country if the economic stakes are judged high enough to merit our commitment to it." The undertaking, which actually should have been launched in 1978, remains just as much a reality 16 years later.

Positive impact on the pace of life

The harmonious integration of the work within the natural setting is completely possible and has already been the subject of several studies. The navigable waterway would have

TABLE 1

Comparison between the Rhine-Rhône and Main-Danube projects

	Rhine-Rhône	Main-Danube
Route (km)	229	171
Descent (meters)	264	243
Diversion canals (number)	23	16
Earthworks (million m ³)	74	93
Cement works (million m ³)	2.6	2.6

an impact on the water, human activities, and the quality of life. Insofar as the flow of water is concerned, the navigable waterway will do more than preserve it; it will improve it, which, in view of the recent devastating floods, deserves to be underlined. Any well-built canalization will improve the control of output of water flows.

For the surface waters in the artificial canal, the dammed waters will be pumped at night to avoid imbalances between one basin and another; on the Doubs, the spare basins must avoid too great a drop in the water level in the curves and maintain a minimum output of 6 m³/second. The works are conceived such as to never worsen the outflow of flood waters; quite the opposite, the dike works and the dredging carried out to complete the navigable waterway would indirectly make major agricultural, urban, or industrial development of many sectors safe from flooding.

For agriculture, the canal would be an opportunity for restructuring farmland, or for building and repairing rural roadways, reclaiming land, providing sanitation, etc. Whenever it crosses through agricultural regions, the navigable waterway would help to modernize agriculture, especially through irrigation. Furthermore, water transport, heavily utilized for cereals and grains, can contribute to agricultural development. Since the waterway also traverses industrial regions, existing industries could easily use it, especially at Tavaux, Montbéliard, Burgundy, and Mulhouse. It would also be possible to create new industrial zones or to extend existing ones along the route. As for existing communications lines, the large-scale canal, which is very close to the current canal, will give the towns it crosses the opportunity to modernize their communications systems. Finally, several regulations have been projected in order to preserve the natural and human patrimony, such as the quality of architectural treatment of cement works. As far as traversing cities is concerned, keep in mind that water traffic causes a minimum of noise. Eight convoys per day allow 20 million tons of goods to be transported per year.

Several kinds of traffic are possible on the Rhine-Rhône:

- domestic transportation transferred to the waterway coming from existing economic activity;
- new national traffic resulting from the development of

industrial and port zones;

- international traffic generated along this Rhine-Rhône axis; the Mediterranean economic sphere of influence will be extended for certain flows of goods (heavy nuclear equipment, industrial goods, etc.) as far as the Rhine basin above Koblenz, and toward Austria and beyond via the Rhine-Main-Danube; and vice versa from north to south.

In 1978, the project's planners calculated that the route would reach capacity by the year 2000. Obviously, the economic crisis has taken its toll since then. From the intensity of the projected traffic, according to CNR, "the profitability of the project can be seen on the balance sheet by comparing investment and operating costs with the expected advantages. These correspond to unitary gains of cost of transport measured in tons/km by the difference between the future situation (large-scale navigable waterway) and utilization of existing modes of transport (especially roads and rail)": The balance is heavily on the side of waterways.

So, why the opposition?

What is striking about all the opponents of the Rhine-Rhône project is the convergence between the ecologists and the "economists," especially those who reason in strictly financial terms. Let's take the case of Alain Bonnefous, director of the laboratory for transport economics in Lyon. He states: "If we apply to this canal the same instruments for evaluating the economic efficacy as for all other modes of transport, we end up with catastrophic results." It is shocking enough that he makes an evaluation without differentiating the modes of transport which do not have the same role or the same characteristics. It's like comparing, according to profitability criteria, a supermarket and the neighborhood greengrocer, or, to use the same norms, a long-distance runner and a sprinter.

This same "specialist" issued a statement violently against the Rhine-Rhône project because, according to him, the transport would benefit foreign operators. The major argument is the "scarcity of financing." In 1980, France devoted 1.5% of its GDP to investment in transportation infrastructure, against 0.7% today. Bonnefous's reasoning is dangerous, because he condemns *a priori* any new initiative, under the pretext that it is not profitable. We would find ourselves robbing Peter to pay Paul, such that it's inconceivable that Peter and Paul together could create greater wealth. Hence, says Bonnefous: "In the final analysis, the funds devoted to such infrastructure are taken away from somewhere else. . . . We live in a completely competitive world. Could one gain anything by directing investments toward declining sectors?"

The rejection of anything that up-ends accepted wisdom is also characteristic among ecologists. They claim that well-planned great projects are not compatible with preservation of the environment; in fact, such projects improve man's mastery over nature and his relationship to it, and the most advanced technologies are always the least polluting. Phil-

ippe Lebreton, regional councillor for the Rhône-Alpes, who, among others, acted as a spokesman for the Rhône-Alpes Federation for the Protection of Nature (Frapna), during his presentation to the Rhine-Rhône conference in Strasbourg on Oct. 22, 1991, did not hesitate to demand the dismantling of the National Rhône Co.

There is a philosophical coherence between the arguments of the monetarists and the ecologists, in their obsession with maintaining the status quo: The first talk about the sacrosanct "economic equilibrium"; the second, about the minutiae of nature, which they see as an inviolable receptacle.

For its part, the collective "Living Saône, Living Doubs," run by Béatrice André, has declared that building large-scale waterways would be a "massacre." They are not stingy with their words. Frapna Chairman Monique Coulet said at the end of 1991: "Waterways are the only mode of transport that almost completely destroy the surroundings in which they operate."

Who are these people who are hostile to industrial projects that consume long-term investments, who prefer short-term financial profits and promote a green economy in which agriculture and industry would be marginalized? The World Wide Fund for Nature (WWF), for example, which is run by Britain's Prince Philip, supports the "Living Saône, Living Doubs" collective. It is true that, for the leadership of this organization, the fate of species of mosquitoes counts more than those unemployed and abandoned in Europe or the starving in Africa and elsewhere. Aside from the local agitators, there are other interests at play. Lebreton is demanding a European ecological impact study for the Rhine-Rhône Canal.

There are other opponents; e. g., the report of the group chaired by the commissioner for the June 1992 Plan, stated that the "mode of transport" by navigable waterway "is ill-served by the low profitability of investments."

Simply put, the very existence of the CNR as a public undertaking is threatened by free-market dogma and ill-advised privatization. In the course of earlier debates on privatization of electricity production in the European Community, then within France, the chief operating officer of Péchiney stated his desire to merge his company with CNR, apparently in order to control the electricity from hydroelectric power which is managed by a public enterprise. The uncertainty that surrounds the future of CNR shows clearly that the law of the economic jungle threatens to eventually dismantle the very foundation of the management of France's hydrologic system.

It is astonishing to realize that all the great projects in our country (Train à Grande Vitesse—TGV, the Concorde, Aérospatiale, Airbus, nuclear energy, etc.), in which the Rhine-Rhône project is far from the most revolutionary item on the list, were conceived in the 1960s and early 1970s. It is high time that our country return to a healthy ambition for such undertakings, in the way General de Gaulle so ably expressed: Whenever the President was reproached for allowing France to live beyond its means, he replied: "Would you have de Gaulle make France live beneath its means?"