

## Report from Rome by Giorgio Prinzi

### A bridge from Scylla to Charybdis?

*Everything is in place for the link across the Strait of Messina, key to the future of Sicily and Africa.*

The construction of a bridge over the Messina Strait connecting Sicily to the Italian mainland could come about very quickly, and the infrastructure could be in service before the year 2000. The \$4.457 billion needed to build it is only a drop in the bucket compared to the tens of billions Italy is shelling out to pay for abandoning nuclear power—less than half, for example, what the state electricity company, ENEL, spent to build and then “reconvert” the Montalto di Castro nuclear plant, in an orgy of Keynesian folly.

Everything is now set to go into the last phase, and only the appropriations are lacking. It is a sum less than the Italian Treasury paid for the nine referendums of the last decade, and a pittance compared to the overall cost of the anti-nuclear referendum process which was imposed through flagrant violations of the Italian constitution and laws. A stable link between the Scylla and Charybdis of Homeric fame is thus feasible not only technically, but also from the investment standpoint, since this infrastructure is economically remunerative and thus the initial investments could be paid back relatively quickly.

When one takes into account the “spinoff” effects, the costs would be repaid many times over both in monetary terms and in the equally important terms of developing the Italian South.

The different projects examined involved three types of crossing: traditional tunnels under the bed of the strait, submerged tunnels below sea level and anchored on the bottom, or a bridge with one or more spans. The

solution chosen by the authorities in charge, including the national railway system, and the Higher Council of Public Works, has been to opt for a suspension bridge with one span, 3.3 kilometers long, in which the highway lanes and rail tracks lie on the same level. This design was picked, because it will optimize the aerodynamic behavior of the structure.

Having only one level of traffic offers a smaller lateral section. As a result, the structure will be subject to stresses from the currents of the lowest winds, which are not capable of setting off horizontal swaying. Among the various lanes are planned stretches of grates which function to prevent aerodynamic patterns from setting up like those which occur around the wing of an airplane and which could cause vertical swaying.

Further stability is given to the structure by fins or ailerons located at the edges, which work in a way similar to fins on racecars.

The 60 meters' width of the structure—over which six highway lanes would run in both directions, plus two emergency lanes, and two rail tracks plus one service track—confers great intrinsic rigidity to the bridge. This factor greatly influenced the judgment of the state railway administration on the merits of this design. They found it preferable to solutions with bridges of several spans, which are lighter and less rigid, but for that very reason less suited to be traveled over by trains, especially at sustained velocities.

The search for a high degree of rigidity of the structure also led authorities to reject designs with under-

water tunnels, which are very elastic and hence unsuited to rail traffic.

The Strait of Messina is today a classic “bottleneck” for tourist traffic, passengers, and commodities coming to and from Sicily en route to North Africa—which is only 130 kilometers from the island's southern shores.

Sicilian agriculture in particular suffers from this strangulation. Perishable cargos, such as the prized Sicilian citrus fruits or the sweet sugar-grape of the island, cannot reach the European markets intact, or even, often, those of northern Italy, because of the long time it takes the freight trains to take the ferry boats and the lengthy stops under a scalding sun.

The alternative becomes trucking, the negative aspects of which are all too well known.

The relaunching of productive agricultural and industrial activities is very important for Sicily's social evolution if we want to extirpate the evil of the mafia which thrives on underdevelopment and unemployment. Improved communications, which come with an increased tourist traffic, are also fundamental for the hoped-for osmosis between cultures, so as to bring about a new mentality among the local people.

Likewise, the development and trading possibilities with the Maghreb countries of the North African coast could be much upgraded by the building of the Messina Strait Bridge. Even such simple commerce as local exotic fruits, such as dates, and traditional craft objects could reach the Sicilian coasts cheaply via fishing boats, and from there get shipped by a modern and rapid, but still economical, European railway grid to the rich markets of the North where it could be profitably marketed.

This, too, is an aspect of the hoped-for commitment of the North to southern development.