



5 JANUARY 1990 - £1.30



A hand on the future



LEFT: EMOTURN
Bryan Gould
interview

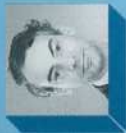
EURO: REPTUSE
The Meazza, Milan
Citroën plant, Paris

► construction-led economies like those of Japan and France. If we are to be a dominant part of Europe our infrastructure must be the best: currently it is little better than average. Only government can make the necessary level of investment.

Lastly, if I were to give only one message for the year it would be that the whole industry should take the long term view in terms of its people, organisation and markets wherever and however it can.

SPECIALIST CONTRACTING

Martin Davis
Vice-chairman, Drake & Scull



SUCH IS the growth in the importance and complexity of building engineering services that, except in the case of private sector housing, we are unlikely to feel any adverse impact from any overall downturn in workload over 1990. I will therefore leave economic forecasting to others who are better qualified.

By tradition, much that is unpleasant falls on the specialist subcontractor—the party furthest down the line. As in the 1988 invasion of Czechoslovakia, the error and injustice is only admitted when a consensus for change is around the corner. I predict that 1990 will be the beginning of the decade when the specialist (sub)contractor will be allowed, indeed encouraged, to come of age.

FORECAST 10 YEAR



Bill Jack
Chairman, BDP

THE LAST decade of the 20th century will undoubtedly see Europe under-going dramatic changes in many ways – and the building industry we serve must be ready to reflect these.

We see the 1990s being quite a tough decade for UK professionals: the traditional UK market is already being entered by American and Japanese firms; and design-and-build and other contractor-based procurement

professionals and contractors alike if the project failed. Rather, projects will be set up on a realistic and practical basis so that participants can be expected to succeed.

If these predictions are sound, a more ordered environment will replace the existing jungle, and a transformation of the image and performance of the specialist engineering industry will be possible. Only thus will we meet the tremendous challenges that everyone agrees are ahead.

HOUSEBUILDING

Duncan Davidson
Chairman, Persimmon



HOUSEBUILDING in the UK has become progressively tougher throughout 1989, and at present the outlook for 1990 is very uncertain.

Until now Persimmon has concentrated its efforts entirely on housebuilding. We are therefore more exposed to the levels of demand for new homes than builders with other sources of income. We continue to examine other markets within the construction industry but so far we have not been able to identify another area of operations that we feel confident could give us the same returns as we achieve from housebuilding.

When the market for new homes is as difficult as it is at present, we have to use all our skills to achieve good results. We seek to do this through a combination of entrepreneurial and professional skills. The

major infrastructure projects and professional firms will need to be very sensitive in their design approach.

Clients have also become more perceptive, encouraged by an incredible public awareness, and I see the 1990s as a decade where we could see many very well designed, sensitive projects produced and, while we may be in for a leaner period economically in the early part of the decade, I think it could turn out to be a period where the general quality of the built environment is high and public confidence in the designers is restored.

strong management teams at our 14 regional offices throughout the UK are working harder than ever to try to ensure that we do not lose our unbroken 10-year record of rising profits.

The key to success for all housebuilders in 1990 will be in achieving the correct balance between selling prices and unit volumes, and in endeavouring to maintain margins where high land costs have been paid. All builders will find this difficult, some more so than others.

The principal areas to which Persimmon pays particular attention are:

- Land purchase: Buying the right site at the right price. Some builders have undoubtedly bought land at excessive prices over the past two years, and plenty of this land will be back on the market at a lower price in 1990.
- Design: The days of rows of boxes have gone. More attention must be given to presenting appealing site layouts and individual house designs to satisfy the demands of more discerning purchasers.
- Finance: In the current marketplace, a strong balance sheet is even more essential than ever to weather any storms that may be ahead.
- Regional and sector cover: To maintain volume we must penetrate as many different markets as possible. We do this by the widest geographical spread, and the broadest mix of house types, from first buyer to the top of the market.

Despite the challenges that lie ahead, Persimmon is very confident of the future demand for new homes in the UK. We expect 1990 to be a very difficult year. However, when interest rates do return to lower levels and purchaser confidence is restored, the pent-up demand will ensure that the right homes on the right sites will sell in sufficient numbers to support the successful UK housebuilders.



New additions to the Meazza Stadium include the upper concrete tiers of seating, steel-encased roof and glass-enclosed roof for the

World Cup winner

The spectacular upgrading of Milan's Meazza Stadium is nearing completion for this year's World Cup. In the aftermath of the Heysel and Hillsborough disasters, safety improvements are the keynote of the project. Report by Martin Spring, photographs by Graham Gaunt.

SPORT ENTAILS competition. International sport entails international competition, though in this category the players find themselves with little more than walk-on parts. The real contestants here are the national and local governments that vie to provide civic amenities lavish enough to attract world attention. In the league of international sports competitions, Italy is at the top of the first division. From the 1930s, when Rome and Florence built stadiums to the

chance for Italy to show its worth to the world, the solidity of its technology and the organisational capacity of the modern country.

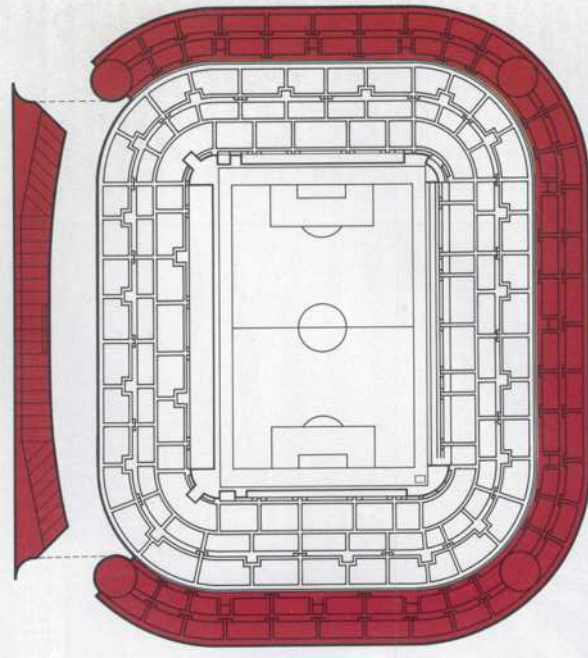
On all three counts, Britain has been relegated from the first division. To Gerard John, chief architect of the Sports Council and British representative on an international committee on sports facilities, the contrast is humiliating. "The standard of design of most stadiums in this country is appalling," he says. "They are

nearly all cheap and nasty." In its pursuit of excellence, the Italian national organising committee has adopted the format of the last World Cup event, Mexico's "Mundial" of 1986, in which matches were held in various cities around the country. The Mexicans purpose-built two new stadiums for the event, the other matches being held at existing grounds. But the Italians are providing no fewer than 12 international-standard stadiums, from Turin in the north down to



A new roof of polycarbonate-barrel-vaulted units is supported on a colossal steel structural frame.

Mezza Stadium, Milan
Plan and section



under cover. At the same time, stadium lighting and media facilities are being upgraded, while improvements outside include landscaping, fencing and 15 ha of carparking.

The design concept, by architect Giancarlo Piretti of the Milan practice of Edinoro Progetti, has a boldness to match the grand scale of the building. The enlargement takes the form of an outer concrete ring of seating added to three sides of the existing stadium. The new

standards. Their new safety standards go well beyond the Home Office's voluntary green guide in this country.

One of the more spectacular upgrading projects is nearing completion in Milan. It involves the municipal San Siro Stadium, which was built in 1926 and upgraded in 1956. The current 665m project, which will earn it the new name of Mezza Stadium, increases the capacity from 81,000 to 87,000 places. All spectators will be seated and

to those of the 1930s and 1950s. In fact only two of the 12 stadiums are being built from scratch; the rest date from the two previous generations, but are being enlarged and radically upgraded.

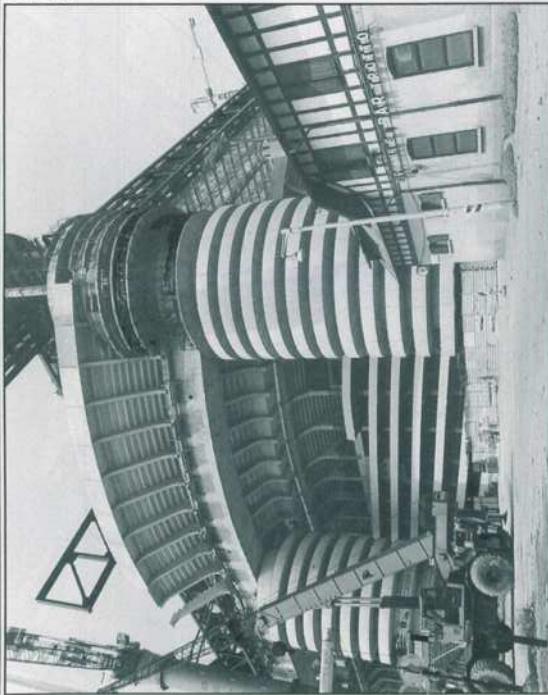
Safety is an overriding consideration in upgrading the existing football stadiums. "The Italians are very frightened by the Hillsborough disaster," explains John. "They have done excellent research into improving the safety of existing

Each stadium will be large enough to accommodate major crowds and will bristle with all the latest services, amenities and safety provisions. And after the World Cup event has finished, the new facilities will serve the local communities as venues for sports, meetings, publicity events and congresses.

The organising committee sees the 12 World Cup venues as constituting a new generation of football stadiums, in succession

roof, made up of strips of glazed vaulting, is supported by colossal steel trusses that cantilever dramatically beyond the concrete structure below. The new outer tiers of seating are supported on an encircling ring of 11 giant cylindrical towers, four of which rise upwards to support the four primary roof trusses. The larger the crowd numbers, the greater the risks of major brows and accidents. Crowds are tightly controlled in all 12 stadiums by

New extensions



Towering 70 m, the enlarged structure is one of the highest and most steeply banked stadiums in the world.

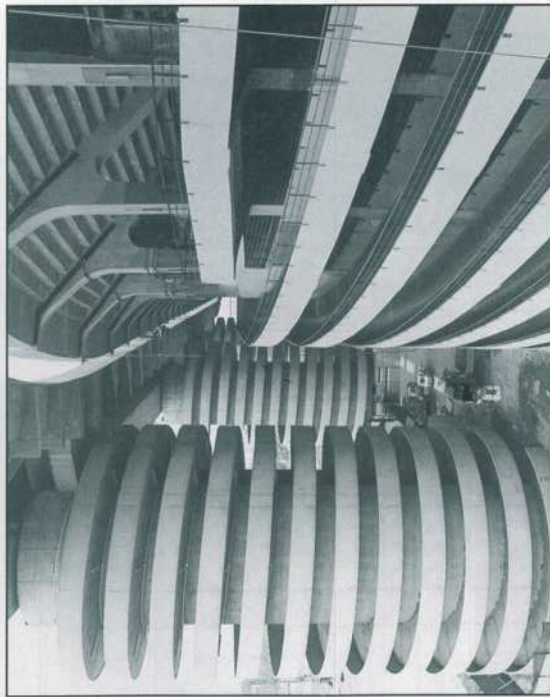
Existing ramps (right) spiralling round the 1956 stadium safety guide spectators to high levels of terraces. New ramps (left) corkscrewing around 11 free-standing towers reach even further to the new topmost tiers.

▲ assigning all spectators to specific seats. In Milan, moulded plastic seats are firmly bolted to both new and existing concrete terraces. And each seat is imprinted with its own number, which is reproduced on the spectator's ticket.

No less important to crowd control are the access routes guiding spectators to and from their seats. At all 12 grounds, access routes take the form of wide unobstructed passageways. In 1956, the giant Milan Stadium broke new ground by providing access to the higher levels in the form of tiers of ramps that spiral upwards round the perimeter wall. Absent are any stairs to trip over.

Ragazzi has adopted the ramp solution to provide access to his new topmost tiers, adding an extra twist on the way, both metaphorically and literally. His new ramps corkscrew round the giant new cylindrical towers that support the topmost tiers and roof. Dense crowds should be able to climb 70 m up to, or descend from, the highest levels of the stadium with no greater risk than slight dizziness. The enlarged Milan Stadium raises the art of ramp access to a new scale of immensity.

In combination, the numbered seats, the easy accessibility and the expanses of parking are all planned to fill and empty the stadium rapidly. The overall intention is to render obsolete that colourful but highly provocative and dangerous Italian tradition in which



high-spirited football fans start occupying the stands as much as seven hours before scheduled kick-off.

Construction of the stadium is by a consortium of firms headed by the Milan-based international construction giant, Lodigiani. Other than the great steel roof trusses, concrete is the main construction material, in both in-situ and precast forms. The 11 giant cylindrical towers were cast using the slip-form technique, and precast ramp

units were then slotted into holes left in the cores.

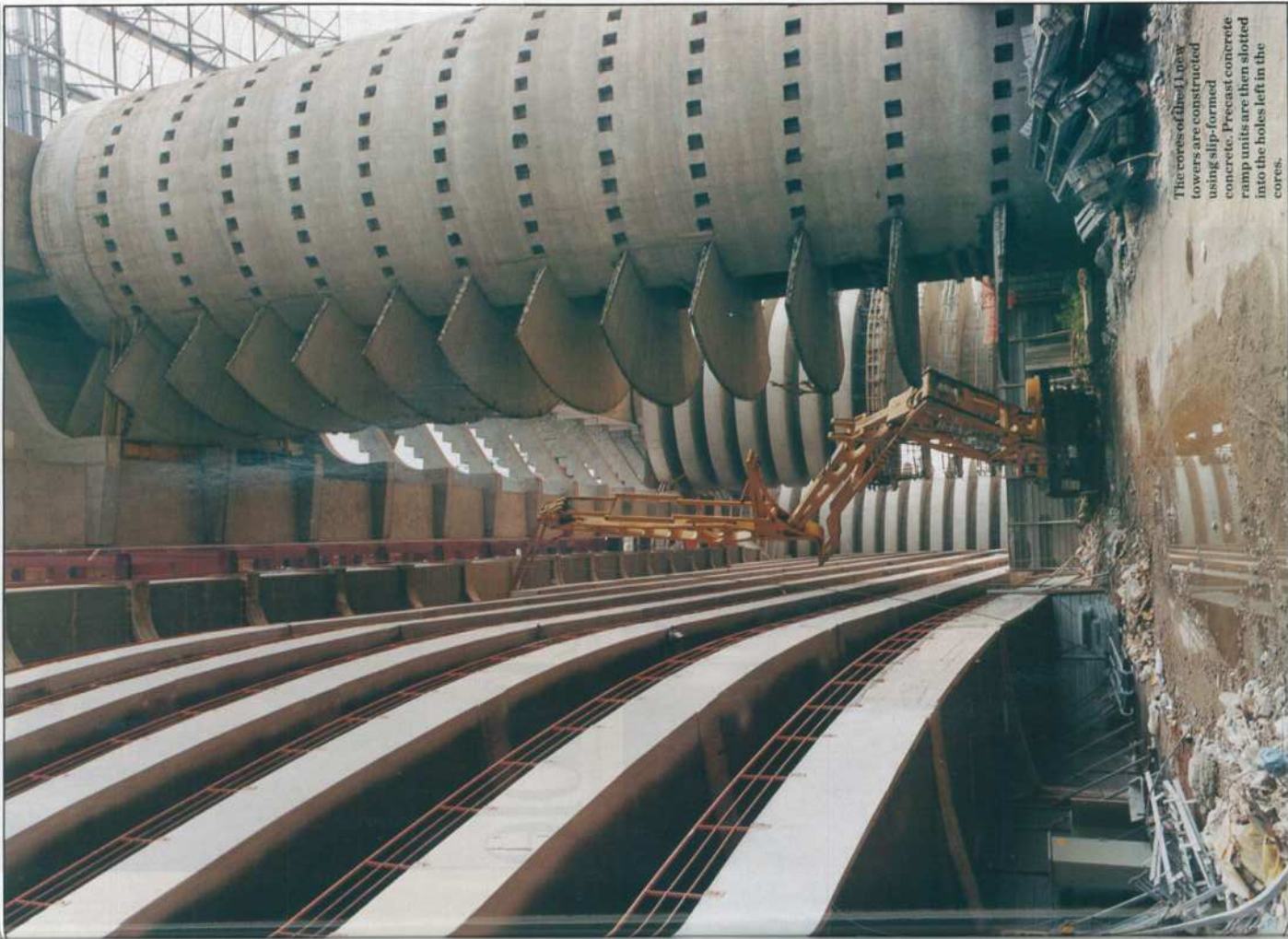
The two new upper tiers of seating are supported on immense prestressed concrete box girders spanning between the cylindrical towers. Above and below the girders, precast concrete ribs are fixed. Precast seating terraces are then laid between them.

British football clubs and their architects seeking re-admission into the international first division will find a range of new

and upgraded models to emulate in the 12 Italian stadiums.

Meazza Stadium, Milan
architects and engineers
Edilbord Progetti
contractors
Lodigiani, Torno, Frabboni,
Edilfinesolunum

A conference on stadium design will be held at the RIBA on 15 February. Joint organisers are the RIBA and the Sports Council.



The cores of the 11 new towers are constructed using slip-formed concrete. Precast concrete ramp units are then slotted into the holes left in the cores.