1. Part of the new Ibn-e-Sina Avenue showing the dramatic and tragic effect of the bulldozer cutting across the urban 'grain' of courtyard houses. 2.
Can Isfahan Survive?

If by Isfahan is meant the character of the city as portrayed in the preceding pages of this issue, the chances of survival are slim indeed. For Isfahan is designated in the Fifth Development Plan 1973-78 (together with other historic cities like Tabriz, Mashad and Shiraz) a 'pole' city for further industrial expansion in the hope that, with increased opportunities for employment, it will become a strong magnet attracting migrants from rural areas who would otherwise go to Tehran. In the last 10 years the population of Isfahan has increased by nearly 50 per cent and, if that rate is maintained, it will double to 1.4 million over the next 20 years. It would not be unreasonable to infer that official policy is prepared to sacrifice one of the finest cities in the world for the sake of a modern capital which has become, in the words of an Iranian architect, 'an ever-expanding hub of ugliness'. In this article Sherban Cantacuzino examines Isfahan in its regional context, emphasises the shortcomings of recent policy and poses some of the enormous problems facing the city.

Isfahan is situated in the largest and richest oasis of Iran, watered by the abundant Zayandeh river. Its powers of attraction would be great under any circumstances, but become overwhelming in a country where the proportion of cultivated land to desert is small and large towns are few and far between. The agricultural predominance of the area is now threatened, for Isfahan to this day has no regional plan, even though it is officially regarded as a city ripe for development and despite the fact that the Fourth Development Plan (1968-73) required the preparation of regional studies. Without the framework that a regional plan would provide, the siting of new residential development or major industry has to be decided on a piecemeal basis. Yet all the lessons of history are there—Shiite Bahai, poet, philosopher and engineer to Shah Abbas the Great, did not conceive the new Isfahan without a sound agricultural base to support it, laying out comprehensive schemes of irrigation and communication which still survive, and founding Najafshah 25 km west of Isfahan as the thriving market town which it still is.

Intolerable Pressures

The threat to Isfahan's agricultural basis is two-fold: residential development and new industry. When Shah Abbas extended Isfahan south-west as far as the mountains, much of the new development was gardens. In the spacious Armenian quarter of Julfa south of the river, vineculture played an important part. Beyond were the royal gardens of Hezaz Jerib, now part of the university campus, where a solitary pigeon tower (see p257) recalls the once agricultural basis of Iranian architecture—not only the gardens of Hezar Jerib, now part of the university campus, four-storey walk-ups, designed by the Ministry of Housing in Tehran, stand grimly facing one another in a regimented layout that pays scant regard to a glorious view. To the east development is mainly private and haphazard. By stretching deep into the countryside where land is cheap, it has left behind large empty tracts which are relatively central and for which the municipality should commission comprehensive plans to provide guidelines for future developers. Touching the old quarters in a number of places, these sites might well incorporate substantial areas of courtyard housing.

The break with tradition cannot be overstressed. The university, for example, has taken the line of least resistance by appropriating a large acreage and dotting it with isolated and unrelated buildings in the 'American campus' style. The flexibility and freedom of this approach (which is what makes it so attractive to chancellors) can easily prove illusory because isolated buildings are often more tailor-made and difficult to adapt than a closely related group of buildings, where a degree of indeterminacy is an almost inevitable part of the brief. Thus the continuous built form of Chamberlin, Powell & Bon's University of Leeds (AR, January 1974), or Alison and Peter Smithson's 'mat' structure for Kuwait (AR September 1974) would seem to be a solution more appropriate to the Iranian climate and more in keeping with an architectural tradition of contiguity and linearity. One must hope that the new Technical University of Aryamehr, which has acquired 3 000 000 m² north-west of the city, but which has not yet started building, will tackle its architectural problems in a more imaginative and appropriate manner.

Also to the north and north-west are Khaneh-Isfahan and Malekshahr, two comprehensively planned suburbs being built by private enterprise. They represent the most substantial expansion of the city in a direction which is officially sanctioned by the Master Plan of 1968. The two suburbs consist of middle-income housing and little else, for no developer will build low-income housing unless he is made to do so. Only a condition requiring him to include a certain proportion of such housing, backed by government subsidy, would encourage commerce and light industry, and ensure the right mix in what must otherwise remain middle-class dormitories.

On a much larger scale, but with some of the same problems, is the new town of Shahin Shahr, to be built on rich agricultural land 45 km north of Isfahan. Although the official view is that Shahin Shahr will have no major industry, it is difficult to believe that a city of 300,000 will not attract any. A British firm, the Williamson Partnership, has been commissioned to prepare a master plan for what has been described in the press, as 'the world's largest-ever private real-estate development'. If completion is achieved in 10-15 years as intended, it will also be the fastest ever (it took Harlow New Town 20 years to reach a population of 70,000). Owing to the shortage of basic building materials and an inadequate construction industry, it can only be achieved by importing industrialised housing—a move which would make the architects' avowed search for essentially Iranian solutions more difficult.

Shahin Shahr has already attracted a number of major housing developments for foreign companies whose factories and offices are in Isfahan, and whose employees will be able to travel to and fro on a motorway which is under construction. There are long-term plans to provide housing for teachers and the armed forces, but one can only hope that Shahin Shahr will not expand on this basis alone, and that the architects' intention of creating a social, cultural and employment centre will be realised.

Quite the reverse case is the new town of Aryashahr, 40 km south-west of Isfahan.
Built on unfertile land, Aryashahr is situated, in the traditional manner of Iranian towns, against a backdrop of mountains. Linked from the start to a major industry, the neighbouring Aryamehr steel mill, the town is intended ultimately to house the 60,000 workers who will be employed by the mill when it reaches its full capacity. That will be in the year AD 2000 when Aryashahr is expected to attain its maximum population of 300,000. At present 8000 strong, it houses only 1500 of the 25,000 who now work at the mill. Of the remainder, the 11,500 who come from villages and small towns will no doubt be lured by better services and migrate to Aryashahr as more housing gets built. But of the 12,000 coming from Isfahan, how many will want to exchange the attractions of a great and ancient city for the cultural poverty of a new one, especially when a 12-lane motorway with an eight-lane high-speed section will soon link one city with the other? The siting of the steel mill, and consequently of Aryashahr, may have been determined by the need of water (the Zayandeh river was dammed to provide this), but new industry should generally be sited along the edge of the central desert where there is already a population that could work it. Within the orbit of Isfahan workers will always want to live in Isfahan. Industry already encircles Isfahan. One need only climb on the rooftops to see smoking chimneys in every direction. If migration were controlled and if industrialisation and economic growth ceased to be regarded as the only criteria for success, there would be no need for further industry and especially not for giant concerns like the National Iranian Oil Company's refinery or the atomic energy centre which are now threatening Isfahan. Much employment will in any case be generated by the service industries which a growing tourist trade will demand, while

Isfahan's agricultural base could be revived by improving the efficiency of farming methods in accordance with the objectives of the Fifth Development Plan. There is no longer any choice: to pursue a vigorous policy which forbids new industry and so relieves the intolerable pressures on land may just save Isfahan's rural surroundings and a setting which in beauty is equal to none; to leave matters as they are is must inevitably lead to the total industrialisation of a region stretching from Aryashahr in the south to Shahin Shahr in the north, and from Najafabad in the west to the new airport in the east — horridous vision of an Isfahan engulfed by a construction of three, four or perhaps five million people.

Administrative failures

Even if planning controls were strengthened to command the respect which would make their application obligatory, they could not be applied effectively without an adequate administrative structure. Thus the Master Plan is a contract between consultants in Tehran and the Ministry of Housing in Tehran. Its implementation, however, rests with the municipality in Isfahan which, like all municipalities in Iran, has no architects' or planning department and lacks the means of interpreting what is essentially a conceptual document — of making the jump from a diagram of roads and land uses to the reality of the built form. The municipality's powers are limited, but dictatorial within those limits. It can order the bulldozer to cut a new road through a built-up area or, as alongside the water channels, it can forcibly take back land which has been encroached on by private owners. It is obliged to spend a proportion of its revenue on new development such as the bazaar in front of the Friday Mosque (see p308) and the shopping precinct opposite the Shah Abbas Hotel (see p308). But it is powerless when it comes to one of the most fundamental aspects of planning policy — the construction of new housing and schools — which is financed and carried out by the respective ministries in Tehran. Water and sewage, moreover, used to come under the municipality, but are now separate authorities, increasing the difficulties of administrative decision-making.

Most unsatisfactory of all is the municipality's means of finance. Though subsidised by the Ministry of the Interior, it relies heavily on collecting rates from land owners. But due to inadequate information on land ownership, combined with the difficulty of making recalcitrant owners pay, only one-tenth of all the rates ever get collected.

The fact that the municipality is largely financed by rates raises the question of the city's boundaries and whether these should be enlarged to give Isfahan a stronger tax base. There is clearly a case for the municipality's comprising not only the whole metropolitan region, but the agricultural belt around it as well as the area beyond in which satellite development, like Aryashahr and Shahin Shahr, is taking place. In fact a move in this direction is now being considered for planning purposes, rate collection being left for the time being in the hands of the local authorities.

Such a move would make administrative reform all the more urgent, especially the delegating of powers by the central authorities in Tehran to local government in Isfahan, which would have to appoint staff competent to exercise the new powers. A reformed local government would have to be a two-level structure, the top level dealing with strategic land use and transportation, housing and school building, and major open spaces; the second level handling development control, local road building, local parks, street lighting and sanitation; and providing a means of participation in planning by the local communities.

On a national level the inadequacies of the building materials industry need to be tackled in earnest, especially the shortage of bricks. Much is heard about the plans to make Iran self-sufficient in steel, about the 15 million
tons per annum which the steel mills will one
day be producing, but no-one boasts of a
brick industry that seems unable to provide
not only the quantity but also the quality
and variety for which it used to be renowned.
For bricks, whether kiln-dried or sun-dried,
are the traditional building material of Iran.
They are quick to use and right for the
climate. They also look well in the landscape.
It is nonsensical, for example, to use steel in
compression, as is often done in Iran today,
not as free-standing columns, but as part of a
wall to make the brick or concrete block infill
between the stanchions as thin as possible
and therefore quite inadequate against the
intense heat of the summer months.

5, view from Atashgah, a small mountain,
which was originally a Sassanian fort, west
of Isfahan. It shows the intensively cultivated
character of the area.
6, a pigeon tower at the foot of Atashgah.
Pigeons were bred in large quantities to
provide manure for agricultural purposes.
7, Najafabad, 25 km west of Isfahan, was
founded by Shah Abbas the Great in the
middle of a rich agricultural area. It remains
a flourishing market town.
8, Safavid house in Najafabad with pigeon
towers in the background.
Coste's plan of 1840, though surprisingly inaccurate (he shows the Maidan parallel to the Chahar Bagh), gives a good idea of what Isfahan must have been like before straight modern roads broke up its homogeneity. It shows the city still surrounded by walls and gates, and the tenth-century Buyid citadel separately fortified within it. On the plan of 1919, prepared on the orders of Reza Khan (later Reza Shah), the walls have gone, but the citadel still dominates the eastern part of the city and the Chahar Bagh is still flanked by gardens. In 1932 Beaudouin found the citadel in an advanced state of decay but with the three concentric enclosures still well defined. The first modern road, among them Hatef and Sepah Avenue, had been cut but the Maidan had not yet been transformed into a European square with lawns, flower beds and fountains (see pp282 and 283). Sepah Avenue had brought traffic into the Maidan and was attracting commercial development both to itself and to the Chahar Bagh beyond, to the detriment of the Maidan's own trading activities.

Today the citadel has been obliterated by housing and would be unrecognisable but for the deep most (see p291); the Chahar Bagh is solidly lined with stores, offices and cinemas; and the bazaar around the Maidan caters mainly for a sterile tourist trade. Isfahan as a whole has been cut up by straight roads built for the motocar and unrelated to the pattern of growth or the integrity of the old quarters. This "Hausmannisation", which every major Iranian city has suffered, has undoubtedly been the West's most harmful export, causing both personal suffering on a wide scale and a relentless destruction of the vernacular. Begun between the wars under the influence of French and German town-planners, "Hausmannisation" accelerated in the '60s with the growing pressures from traffic and was made respectable with the official approval of master plans at the end of that decade.

Under the Third Development Plan (1962-68) master plans were to be commissioned for all the major cities in Iran. Iranian consultants were to associate with a European or American partner and, in the absence of any local equivalent, to adopt the standards and regulations of a foreign city. Many of the worst errors committed can be traced back to this unfortunate decision which ignored the simple fact that, in their environmental conditions, social attitudes and physical form, Iranian cities are fundamentally different to their European or American counterparts. Isfahan's master plan, prepared by Organic and Beaudouin, shows the city overlaid with a network of roads which cuts the arteries of the old quarters. Only a part of this has been realised, but its worst effect can be seen in Abdorrazzaq Avenue which, incredibly, breaks through the main route of the world-famous bazaar. Quite apart from the physical damage it has caused, Abdorrazzaq Avenue, like Sepah Avenue before it, is drawing commerce away from the bazaar and speeding up the decline of that poorly serviced quarter. Further north, Aveniar or Ibn-e-Sina Avenue, a cruel wound in some of the city's most delicate fabric (named ironically after the Prince of Physicians) is a more recent example which is discussed in greater detail on pp301-302. South of the river, Hakim Nozami Avenue, a major road which links up with a new bridge and forms part of a western thoroughfare between the Tehran and the Arya Shah roads, cuts through the old Armenian quarter of Jafza, dividing the spiritual centre of the Cathedral area in the east from the relatively well-preserved residential quarter of Yerevan in the south-west.

Rays of hope

To an art historian or an archaeologist the most striking fact about Isfahan today is the remarkable condition of the monuments when compared to 50 years ago (see p253). Under the Qajar dynasty, which made Tehran its capital, Isfahan was neglected. Commerce declined and the population dropped from 600 000 to 100 000. The upkeep of so much royal property, most of it no longer used, became increasingly difficult, so that buildings like the Palace of Mirrors south of the river (see p289) or the garden pavilions along the Chahar Bagh fell into disrepair and were demolished. With the energetic rule of the first Pahlavi monarch, Reza Shah, the fortunes of Isfahan began to revive. The appointment of the French architect, André Godard, to the Directorate of Antiquities, marked a new and positive approach to the care of historic buildings. For the last 10 years a powerful presence in Isfahan of the Ministry of Culture and Art, together with a skilled team of Italian consultants from ISMEO (Istituto per il Medio ed Estremo Oriente), has been responsible for a number of major restorations which include the Friday Mosque, the Chehel Setoon and Ali Qapu.
More important in the context of this special issue has been the concern of this office with rehabilitation. Under its director, Bagher Shirazi, it has studied the whole area of the historic city and has prepared proposals for the bazaar, whose life and commercial activities have been seriously declining. Shirazi's conception of the city is that of a trunk with branches and leaves. These elements become progressively less permanent, the leaves being the houses which are constantly renewed. He believes that the structure of new roads, imposed over an older pedestrian structure, must be accepted as irreversible, and that the old structure cannot resist the influx of the new. Therefore, just as electric current has to be modified by a transformer, so the influx of modern traffic has to be modified by introducing 'points'. After preparing a survey of the bazaar in which all the uses were differentiated, Shirazi found six 'points' which could provide improved services with the minimum of damage to existing structures. The first 'point' proposed is in the south-east corner, east of the Mohkles serai (see p266) with access from Hafez Street; it will serve some eight units with different functions (caravanserai, madrasa, workshop, etc) and the access road will be flanked by blank walls without any openings whatsoever—a principle to be applied to all the 'points'. Another 'point' proposed is off Abdorrazzaq Avenue, to stop that new road from sucking the life blood out of the bazaar. Characteristically, Shirazi wants to implement his proposals for the first 'point' only, to prove that the idea works. He believes that the problems of the city must be solved pragmatically in a continuous series of short steps, so that it remains possible to change direction at any given moment.

Also very important has been the relentless criticism which Shirazi's office has succeeded in levelling against the master plan. It successfully stopped the continuation of Soor Esrafil Avenue and Hasht Behesht Boulevard. Potentially more far-reaching, it has brought about a change of heart in Organic, who have proposed some fundamental changes to the master plan. The first of these, which has been accepted, is to stop the city from expanding by setting the limits on the line of present building activities. There will be no restrictions on infill inside this line, but the Ministry of Housing will be asked to give the money which it would otherwise have spent on new housing outside it, to rehabilitation. Organic have calculated that some 400 000 extra people, or another 60 per cent of the population, could live in the city if the old houses were repaired and converted, and they have prepared a pilot study for Dardasht which is described on pp315-319. This emphasis on rehabilitation and on the detailed plans which Organic have been preparing shows a willingness to move from the theoretical level of master plans to the practical problems of the site.

The second and more controversial change, which has not yet been accepted, is to stop all further road building. Organic have gone so far as to label certain projected roads as undesirable or even positively dangerous. Their proposal is to provide public transport along the main north-south axes, and to use the existing east-west access as feeder roads leading to car parks.
To implement these proposals as well as those of the Regional Plan for which Organic are about to be commissioned, the new mayor, Reza Azmayesh, who is an architect, hopes to persuade Organic to keep their office in Isfahan so that he can use them as consultants, pending the establishment by the municipality of the architectural and planning department which is envisaged under the Fifth Development Plan.

Last but far from least there is the Coordinating Committee, the first of its kind in Iran, set up by the Empress and chaired by the Governor General of the province who is the direct representative of the Shah. All the authorities concerned, including the master planners, have a seat on this committee, and all are now agreed that both migrants and industry must be stopped from coming to Isfahan. But the committee has until now had no legal powers with which to enforce its decisions, and on a number of occasions its will has been thwarted, as in the case of the

15. the 1919 map of Isfahan, with the Chahar Bagh still flanked by gardens (scale 1:36 000).
16. the Master Plan of 1968 by E. E. Beaudouin & Organic. A grid of straight roads designed for the motor car, has been superimposed without regard to the pattern of growth or the integrity of the old quarters (scale 1:75 000).
Kourosh Hotel (see p.290) and the NIOC oil refinery. It would be intolerable if, after being granted legal powers, this potentially all-powerful committee continued to be overruled by development agencies or public corporations arguing that what is good for them is good for Isfahan. Nothing could be further from the truth.

17. a bazaar route cut in half by Abdorrazzaq Avenue.
18. the main ‘isvan’ of a fine Qajar house exposed to the street. Abdorrazzaq Avenue swept through its courtyard.
19. brash new commercial development on Abdorrazzaq Avenue.

17
18
19
20. key plan.
21. the new Ibn-e-Sina Avenue: the remains of houses after the bulldozer.

Key
a. Chahar Bagh
b. Lower Chahar Bagh
c. Bakhtiar Street Avenue
d. Imam Reza Avenue
e. Abdorrazzaq Avenue

f. Soro Barfui Avenue
g. Hassl. Behesht
h. Boulevard
i. Milad-ol-Shahr
j. Shah Abbas Avenue