

HEINZ WOLFF  
THE CONTRIBUTION OF PAVEMENT  
TO THE HISTORICAL SCENE AND THE EXIGENC  
OF ITS PROTECTION

The permanent grey of exactly shaped concrete slabs and the jointless monotony of bitumenous covers may be good for the tired eye in exciting city-centres. In pedestrian precincts, in the islands of tradition, however, they mean the documentation of an unworthy poverty of mind. The individual "monument" requires a proper individuality in the handmade pavement around it. Each natural pavingstone, each clinker differs from its neighbour by size, shape, relief and sometimes by colour and contributes to create an amenity of high grade, at high noon in another way as at sun down, and the rain unfolds its colours during the gloomy months, when the flowers are gone.

To accomplish the historic atmosphere in this respect we must reduce a bit the demands of the engineers for a smooth surface and we have to find out an acceptable compromise between an over accentuated claim for security and comfort on the one hand and the desirable picturesqueness on the other.

Only well organized and rich communities or states with high public spirit or under dictatorship were able to achieve durable road constructions. The triumphant presence of those works, performed under trouble and pain, surely raised in the contemporaries a pathos of privilege and authority still stronger than we feel speeding along a new autostrada. A pavement, functional or decorative, signified a conscious monumentation of human selfreliance versus a rough nature.

Early accounts about the matter come from prearian India, dated between 3250 and 2750 before Christ, from Mesopotamia after 2600 B. C. as proved by Andraes excavations and from Egyptian towns and temples.

Kreta, Mycene, Tiryns, Troja, Malta had splendid roads and courts. Even asphalt covers occur in Assur about 600 B. C.!

Greek temples and later on the towns — Athens since 400 B. C. — and the theatres often showed costly slabs on the floors. We remember the famous Roman Transeuropean Road system of a total length of 150,000 km, begun under the censorship of Appius Claudius in 312 B. C. with Via Appia, gravelled at first, continued in perfect construction more than 1 m. high and maintained until 200 A. D. and gradually destroyed by men, who took the stones for their own purposes.

We remember the completion of the essential streets in the City of Rome about 100 B. C.; the laws of Julius Caesar from 47 B. C. to carry through the paving in other towns with a breadth of 13 m. for the decumanus, 7 m. for the cardo and 3 or 4 m. for the rest. We remember the fora of Rome and those of the colonial towns with their polygonal or quadrangle slabs of considerable thickness.

The urban life in the East Roman Empire continued whereas the towns in

the European North and West in general fell into decay. The regular street system was covered there by rubble, over which new tracks were laid during the successive resettlement. The first medieval pavements on the new level — and those at first only before churches, townhalls and on the commercial roads — are reported from Spain and France in the 10th. and 11th. centuries, from Germany quite a lot but very provisional and provisional during the East-colonisation in the 12th. and 13th. centuries. Since 1400 some town councils obliged their citizens to pay for 2/3 of the paving in front of their houses, the remainder being paid by the town. Cornerstones marked the line between sidewalk and road.

The solid built city street had been a never accomplished aim — except in settlements erected on rocks — until the revival of streetmaking as a science in the 18th. century in France and England and in the 19th. in other countries.

On romanesque miniatures, gothic retables, and paintings of the following times a luxuriantly trimmed floor, like that preferred in hellenism and the late Antique, is always shown, when dealing with a civilized milieu. The reality stayed far behind the ideal.

But Bellini's Venetian Piazza San Marco 1496 in the "Accademia" for instance may be taken as a true copy of the contemporary situation: bricks and stripes, changed in the 18th. century into dark green trachyte slabs with white stripes of the so called Istrian marble. There are other magnificent examples in Venice in front of Palladio's churches, real carpets, where as the other one around Longhena's Sta. Maria della Salute seems just as meager as Bernini's design of Piazza San Pietro in Rome.

Italy and Spain are rich in fine squares, the quadrangle as a decorative element is of a good effect there, particularly when being put on the edge. Michelangelo's rich idea for the Campidoglio has been exercised in this century only and in a simplified design.

The 19th. century at last became the classic epoch of paving. Not earlier than in this time did the perpetual laments about dirt and stench in the streets come to an end.

Already the soldiers of Thebes, in the Peloponnesian War, had to go against the enemy in darkness and incredible masses of garbage in the streets. In Italy only the Caesars cared for regular cleaning. The town-councils of the medieval North ordered their people to clear away the smut four times a year, and they did so but superficially only. As well in the mediterranean area as in the occident, streets were crowded with cattle. In Berlin, the prohibition to keep pigs outdoors was pronounced only in 1681. A Londoner deputy still declares in 1742, that even a savage would be shocked by the bad smell of the town. Single stone slabs or trunks made it possible to pass sloughy spots. Road holes were filled up with gravel or fascines. Again and again another layer of paving-stones was put on the surface, growing 1 m. per millenary on an average.

Lying on soft ground, smaller stones were pressed down by the wheels of carts and heavy carriages during rainy weather. In the baroque Amsterdam, London and Hamburg vehicles were not allowed to enter the town, just as it had been in antique Rome. Packhorses, donkeys and sledges moved the goods. Sidewalks normally stayed in a better condition throughout all ages.

Since about 1800 again a good substructure and hard stones for the cover were considered necessary. For our purpose it is essential to know the peculiarities and sizes of the materials at hand.



Fig. 1 - Pathetic geometry before a grand architecture. Venice. San Giorgio Maggiore.

Cobbles picked up in riverbeds and fields were used all over the world and in every time. We find them within and in front of prehistoric graves in Northern Europe, everywhere in the Mediterranean Antique; on the platforms in the ground-plan of the wavelike walls of the fortifications at Cusco, Peru; in early greek temples as well as on the courtyards there to-day, in baroque Barcellona, in classic France. Exciting colours are shown by the different Skandinavian granites, transported by the glaciers into the coastal regions of Middle-Europe.

Though not even at all, the use of cobbles nowadays is possible. They are appreciated by the connoisseur in gutters, in stripes along the facades, in parking-lots.

In Rhenen in the Netherlands we see rectangular crossing stripes of cobbles around fields of red clinker, carried out after the last war.

Stones of different dimensions and forms, got from quarries often also covered the floors of the past. To preserve objects like these is one of the main tasks of the care for monuments. Basalt in hexagonal columns once was split across and laid around Sankt Maria im Capitol in Cologne, giving a very strange pattern.

Regularly worked cubic hard stones came into use in 1800. On main roads this material is often replaced by concrete to-day. Because it is smoothed down by traffic already, this stone are eminently useful to be relaid in historic sceneries. An opportunity!

To the end of the century smaller sizes were added to floorscape often in a decorative manner, the smallest ones being used on sidewalks and squares reserved for the pedestrian.

*Slabs* have been most expensive in all times; the huger their size, the more pathetic their effect. In Egypt and Mesopotamia they could be made from hard stones, in Greece from marble or limestone, in Sicily from tuff or lava. The Romans took if possible hard stones, rectangular or polygonal in shape and used them at any rate in gates and carved tracks for the wheels of the carts into them, to protect the doors from damage by the axles. In Alexandria we find granite slabs as well as in the former residence of Peking, where they have gigantic dimension.

Large slabs must be thick enough. Thinner ones, even when of very hard quartzite and even when laid in concrete or trass-mortar will break!

A more disgraceful mistake still would be the imitation of a handhewn geometrical design of the past with concrete slabs; sweetish colours, as often used, fortunately will fade away soon by weathering, but the gray and dull exactitude will remain.

Normally slabs can't be laid.

But sometimes there is a chance to relay modern tombstones from uncared graves backside up before old porches as was so often done in former times.

*Clinkers.* No natural paving stone owns as vivacious colours as bricks and clinkers can develop. No wonder the "terra cotta" appears in each epoch and adorns the human scene. During excavations in Assur they found bricks of 60 cm. by 60 cm. from the 3rd. millenary B. C., and smaller ones from later times. Romans often had tiles in their yards. The floor under the arcades and in the courtyard of the Ca' D'oro have a sort of pattern as it could have been in 1421, when a change of paving is being reported in the documents. A situation like that on the marketplace of Bergamo is of a so simple and grand attitude, that it surely could be found in many other towns once.

The Netherlands are famous for their bricks and clinkers. The visitor enjoys the view on the surface of the "Binnenhoftje" and the "Mauritshuis" in Den Haag or on that of the "Frans Hals Museum" in Haarlem. Though clinkers are considered by some people to be strange in regions where natural stones are at hand and prevail: it is to state, that the all-overflowing black-cover is strange at any rate and without charm anyway, whereas clinkers create intimacy. They are good to walk upon and they are cheap. Only certificated streetclinkers — not bricks! — are good enough for modern use.

For about 20 years appeals by Gordon Cullen, Dewey Mills in Great Britain and a few others have been made to preserve or to apply pavements. In Hannover first and then in many other towns in Northern Germany and Rhineland a number of the authors' ideas have been performed.

From the technical point of view it is normally impossible to spread the historic true contemporaneous pavement before the monument. However a paving must be achieved with individually shaped and eventually slightly variegated materials. It is well done, when a decorative effect is attained by differing structures, depending on function for instance: red quarries in the parking lots, red clinkers on roads, cobbles around the monuments. It is well done, when parking is avoided as far as possible near the façade. Every opportunity should be taken to replace curbstones, disturbing the grand effect of the horizontal plain by a line of bollards.



Fig. 2 - Form follows function. An unintentional decoration achieved by rational paving Hildesheim. Heilig Kreuzkirche



Fig. 3 - High amenity by setting quarries as at band. Würzburg. Residenz (18th century).

The design of a good pavement demands knowledge of the technique and the art and local materials. Designing is skilled labour and may be developed by experience and talent into fine art. Modern quarters especially may profit by the visual attractivity of the latter. In historic sites however pavement is only a contribution, though an important one, and has to figure out the right way between monotony and too selfcentred fine art. Apart from that it is difficult to find enough pavements to day and it is not easy to convince the parliaments of the necessity of the wanted and a bit more expensive surfaces.

The juridical safeguard for historic sites therefore should comprehend in future the sentence:

"The ancient pavement is to be preserved or to be replaced by a similar one".

Fig. 4 - Clinkers instead of asphalt and bollards instead of curbstones. Hannover Markt. Design by the author.

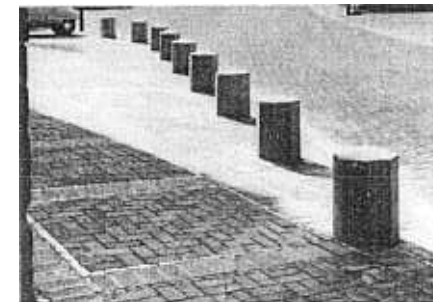
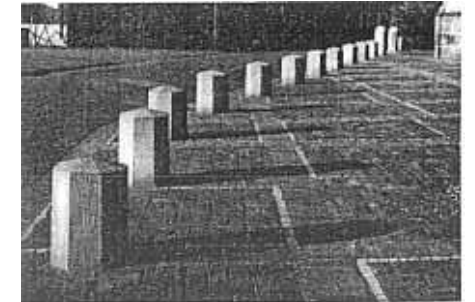


Fig. 5 - Substitution of curbstones by bollards. Hannover. Markt. Detailed proposal of «Landeskonservator». 1962.



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RÉSUMÉ.

*Non seulement le monument lui-même a besoin de protection, mais aussi ce qui l'entoure et les superficies horizontales qui se trouvent devant lui. C'est-à-dire qu'un site historique peut se ressentir négativement du fait que les routes sont couvertes de macadam et que les trottoirs sont revêtus de plaques de ciment, monotones parce que toutes pareilles. Bien que dans l'histoire du pavement il y ait eu avant tout des raisons de fonctionnalité, son effet, d'un autre côté, a toujours été celui de l'attraction esthétique. Les pavements exécutés sur une large échelle n'apparaissent que dans les communautés ou dans les Etats d'un niveau de civilisation élevé.*

*Au Nord des Alpes ils sont donc plus ou moins provisoires et les tendances décoratives — que l'on trouve déjà dans la Méditerranée antique, dans l'ancien Extrême-Orient et plus tard en Italie et en Espagne, comme celles que Michel-Ange dessine sur le Campidoglio et comme celle du Palladio devant Saint-Georges et les Jésusates — y sont plus rares jusqu'au XIX siècle.*

*Le maintien d'un pavement ancien est une chose absolument nécessaire. Si cela n'est pas possible, on doit effectuer un pavement au moyen de plaques façonnées individuellement et éventuellement légèrement bariolées, de pierres ou bien de briques hollandaises. Même les pierres taillées, qui contribuent à maintenir une atmosphère historique, restent utilisables pour les caniveaux, les zones de parking etc... Il est bon que le type de pavement s'adapte aux fonctions pour lesquelles il est indiqué. La décoration au moyen de plaques de ciment de couleur donne généralement des résultats décevants.*

*On devrait profiter de toutes les occasions pour remplacer les bordures qui gâchent l'effet général d'une superficie horizontale par une file de bittes.*