THE CONTRIBUTION OF PAVEMENT
TO THE HISTORICAL SCENE AND THE EXIGENCE
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 monumentalization of human self-reliance 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 Transeauropelian 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

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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, town halls 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 street making 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 caturomary situation: bricks and
stripes, changed in the 18th. century into darkgreen 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 snot 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.

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 Scandinavian
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 cov-
ered 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 eminentely useful to be relaid in historic scenecies.
An opportunity! 

Fig. 1 - Pathetic geometry before a grand architecture. Venice. San Giorgio Maggiore.
To the end of the century smaller sizes were added to floorcape 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 huge; 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 of 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 truss-mortar will break!
A more disgraceful mistake still would be the imitation of a handbwnn
gmetrical design of the past with concrete slabs; sweetish colours, as often used,
frequently 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 uncured
graves backside up before old porches as was so often done in former times.

Clinkers. No natural paving stone owns so 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 laid 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 "Binnenhof" 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, Dewar 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 contemporanea pavement before the monument. However a paving
must be achieved with individually shaped and eventually slightly variegated materi-
als. Is 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.

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 pavions 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. 2 - Form follows function. An unlistening decoration achieved by rational paving
Hildesheim. Heilig Kreuzkirche

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

Fig. 4 - Clinkers instead of asphalt and bol-
lards instead of curbstones. Hannover Mark-
tplatz. Design by the author.

Fig. 5 - Substitution of curbstones by bol-
lards. Hannover. Mark. Detailed proposal of
"Landeskonvensor". 1962.
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LA CONTRIBUTION DU PAVEMENT À LA SCÈNE HISTORIQUE
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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'appa-
raissent que dans les communautés ou dans les Etats d'un niveau de civilisation élevé.
Au Nord des Alpes dès sont donc plus ou moins proustoires et les tendances décoratives
— que l'on trouve déjà dans la Méditerranée antique, dans l'ancien Extrim-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 Jésuites — y sont plus rares jusqu'au XIXe siècle.
Le maintien d'un pavement ancien est une chose absolument nécessaire. Si cela n'est pas
possible, on doit exécuter un pavement au moyen de plaques façonnées individuellement et éven-
tuellement 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 désastreux.
On devrait profiter de toutes les occasions pour remplacer les bordures qui gâchent l'effet
général d'une superficie horizontale par une file de bitbes.