

08

THE STONE NOTEBOOKS
STONE AND ARCHITECTURE

WALLS²



2 STONE WALL

The gabions play with the light for an astonishing indoor/outdoor contrast.



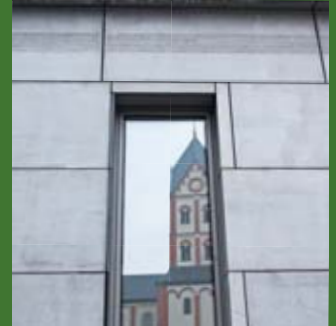
4 FOCUSING ON NATURE

Stone is used in the traditional way and changes the way the landscape is seen.



6 STONE DEFINES THE TOTAL LOOK

Slate from the floor to the roof or how to integrate the landscape and accrete with an architectural vocabulary.



8 PURSUING THE TIME LINE

Harmonising present-day and past architectures without interpreting but providing a knowing view.

10 STONE GIVES STYLE

Between past and future, stone is the architect's subtle interpreter.



08

STONE AND ARCHITECTURE | WALLS 2

12 STONE PLAYS A PASSIVE GAME

Natural stone integrates seamlessly into a semi-passive house.

14 MINERAL SETTING

A shop puts on its finest stone and creates an elegant foreground for the glittering displays.

In today's architecture

, the search for energy performances has structurally changed the house, its walls and its openings; if natural stone is no longer alone in the "lamellar" structure of the walls, it is still a length ahead outdoors through its qualities in resisting the elements of the weather and passing time: strength, impermeability, maintainability, technical performances, durability, etc.

Nowadays, stone is seen from the aesthetic side where experience is a determinant. Those houses built of sandstone, slate, schistose sandstone, arkose, quartzite or limestone, which are prominent features of our regions, are proof enough and bestow that peaceful diversity and that far-flung elementary harmony on our landscapes.

Sensitive to both economic and environmental issues, our architects have adapted their know-how but they have kept stone, very often simply by listening to what the clients are asking for. They have given stone a contemporary use, by achieving a synthesis between modern aesthetics and reminiscences of local practices.

This new notebook devoted to walls sheds special light on openings – bays, windows, doors... – and the way they are treated architecturally in towns and cities and in the natural beauty of rural surroundings. The variety of colours, textures and finishes of stone mean that the stones of Wallonia have always taken pride of place in its architectural heritage and will continue to do so.

Mysterious transparencies



STONE WALL

Today, gabions form part of our urban landscape. The concept appeared around the Renaissance period when gabions were used to protect river banks. Nowadays, the gabion has become a fully-fledged architectural element.



Opening onto the canopy of the Bois de Famenne in Aye, this training centre blends into the surrounding nature through astonishing transparencies. The extreme lightness of its architecture rests, at the prow of the building, on a stone façade securing the large canopy roof into the flush beds of slate.

Facing south, this falsely blind façade is actually a limestone membrane made of gabions, allowing light to penetrate discreetly into the modular training rooms located at the rear.

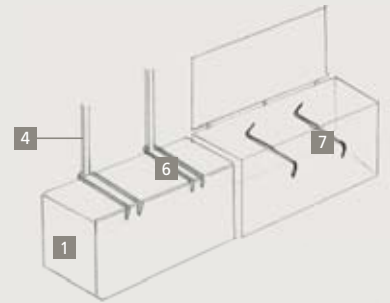
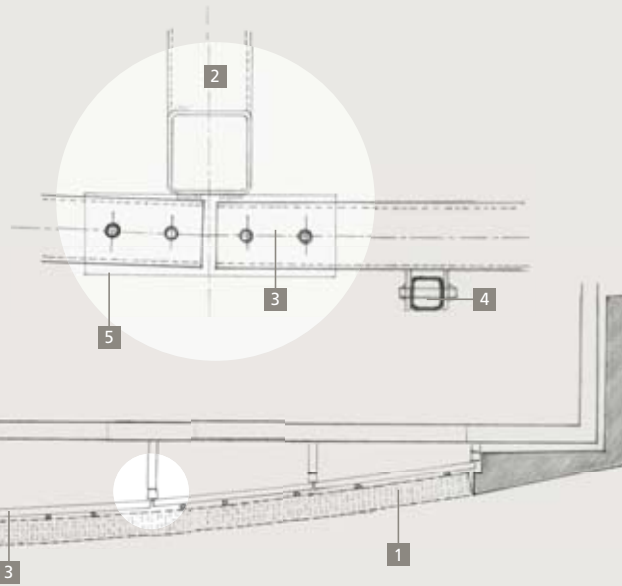
Inside the building, the sun's rays wend their way among the rubble stones which seem to float in space. The filtered atmosphere is well suited to these rooms often plunged into half-light during seminars. The atmosphere becomes dynamic, toning to the changing day and varying in subtle intensity as the seasons pass. In this way, the industrial architecture and engineering office BEAI uses stone and steel to translate the energy of nature.

► ORES BUILDING, MARCHE-EN-FAMENNE, DESIGNED BY BEAI

TECHNIQUE

The gabions are placed against curved tubular netting, fixed to the ground and into the façade of the building. The stainless-steel baskets are installed empty and gradually filled by horizontal layers. The front and rear faces of

the baskets are held by 2 staples and the gabions are secured to the structure by 2 double hooks which pass around 40x40 tubes and come back and fasten onto the front face. There is no connection between the baskets.



- 1** stainless-steel gabions
150 x 150 x 25 cm mesh 50 x 50 cm
Vinalmont limestone
- 2** tube 100 x 100 x 5 cm

- 3** tube 80 x 80 x 5 cm
- 4** tube 40 x 40 x 4 cm
- 5** 10 mm thick closing plate

- 6** staples
- 7** double hook

Give diversity a thought

The gabions can be filled with all the stones of Wallonia. The range of colours is therefore wide and may be enhanced by filling the baskets loosely or with layers of stones of bigger or smaller sizes depending on the budgets.



1 ARKOSE GABIONS, HOTEL, FRANCORCHAMPS

2 SANDSTONE GABIONS, LIÈGE AIRPORT

3 SCHISTOSE SANDSTONE GABIONS, PRIVATE HOUSE, VIELSALM



Many openings

FOCUSING ON NATURE

This house enjoys two faces to fit in quietly with an Ardennes village where the sides of the buildings are more traditional; its outer face is rough and russet and its inner face is light, bare and adjusted to the landscape.



The concept of this family and holiday house has been developed by the ARTAU office with true simplicity. It has been built to live in harmony with surrounding nature. It has kept the sober shape, the porch and the limited range of materials of the traditional architecture, reflected in the volumetric logic of sheds and outbuildings. The local rock, schistose sandstone, asserted itself almost without thinking. Schistose sandstone covers the house, the wall leading to the garden, in the manner of the small inner courtyards of the Ardennes. Copper, chosen for the roof and the sliding main door, is just perfect for the shades of stone colours.

The architect was anxious to meet the expectation of freedom mingled with privacy and consequently the house became an elongated volume, deceptively closed on the outside and studded with small openings on the four façades, in the manner of the neighbouring houses.

On the inside, those windows, more or less big, more or less deep, widen or narrow according to the rooms and the purpose for which they are intended. They direct the gaze towards landscape elements, irresistibly drawn to the garden, the sky and miles beyond.

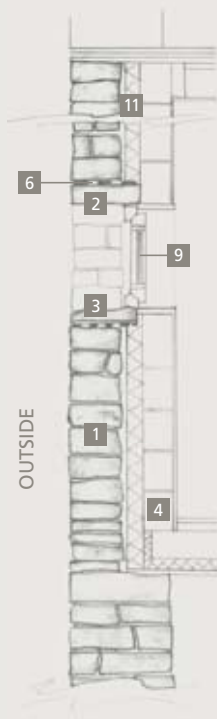
► PRIVATE RESIDENCE, MONT-MALMEDY, DESIGNED BY ARTAU/NORBERT NELLES



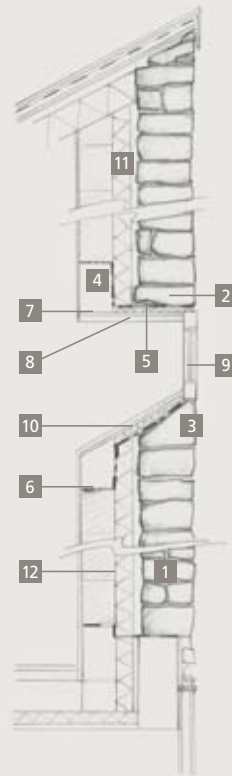
STONE

Schistose sandstone is worked in various quarries in the Ardennes. These stones afford a wide range of colours: black, medium grey, brown, greenish brown, red and rust. Generally rough or cleaved, the stone can be sawn (for doorsteps) or flamed depending on where and for which purpose it is used.

- 1 rubble stone facing 26 cm
- 2 rubble stone forming lintel
- 3 doorstep made of sawn stone
- 4 14 cm concrete block
- 5 open joint
- 6 polyethylene sheet
- 7 fibre cement panel
- 8 plasterboard
- 9 side suspended frame
- 10 polyurethane insulation
- 11 insulation
- 12 distancing sheet avoiding capillarity



OUTSIDE



TECHNIQUE

The thickness of the schistose sandstone rubble stone (26 cm) and the inner structure (25.5 cm) made it possible to make these deep bays, in variable sizes, the embrasures of which are made by using rubble stones re-cut on the spot.



Variations

- 1 Small regular openings in a schistose sandstone wall; door lintel of the thickness of the rubble stones to make it invisible.

PRIVATE HOUSE DESIGNED BY LUC NELLES



- 2 Small irregular openings made when the blue limestone rubble stones were laid, providing lighting to the terrace located at the rear.

PRIVATE HOUSE, HOBOKEN, DESIGNED BY LLOX/RASAVN OPRESCU

Reinventing local tradition



STONE DEFINES THE TOTAL LOOK

In the Ardennes, the traditional house is made of stone walls and a stone roof, as if springing from its slate subsoil. This contemporary house reinterprets this composition in its own way, forcefully and confidently.



In a sloping part of the Sûre valley, the house has been built high up, almost on the crest. It responds visually to a square tower located opposite the small valley. It was a solid mass, built of slate and used to house the winch of the old slate quarries. In the region, vernacular architecture largely calls on this rock for barns, bridges, surrounding walls, etc. That is the vocabulary which was going to lead the architect Pierre Hebbelinck, at his client's very specific request, to propose a simple, compact, "straightforward" dwelling, fitting as naturally as possible into the landscape.

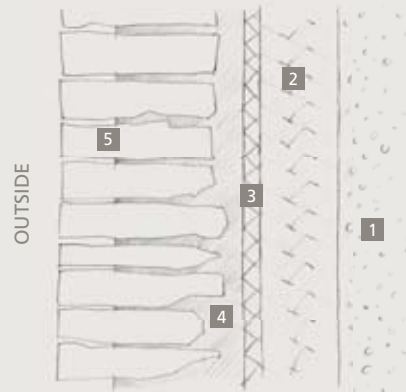
He rediscovers the traditional dry-stone wall for its intrinsic beauty. Chosen in a uniformly grey colour, slate is used as a facing for three of the façades on the side facing the road, just as for the roof, where it offers the possibility of a paved terrace. The lintels, doorsteps and a few other elements – stones beneath waterspouts projecting like "gargoyles" from the façades –, are also made of slate. Corten steel is the "other" material, only used for the porch roof, which protects from snow, and access to the roof.

► PRIVATE DWELLING, MARTELANGE, DESIGNED BY PIERRE HEBBELINCK ATELIER D'ARCHITECTURE



STONE

The slate rubble stones used for this project come from the Herbeumont area. They have not been sorted by size but rather by colour, seeking to achieve a homogeneous bluish grey. That sorting process, carried out on site, refused 20% of the stones as being too brown; they will be used for building the walls in the garden.



- 1 terra cotta
- 2 insulation 10 cm thick
- 3 dimpled sealing membrane 2 cm thick
- 4 mortar 5 cm thick
- 5 slate rubble stone 20 cm thick

TECHNIQUE

Masonry facing seeks to give an overall appearance of a solid mass, close to that of a dry wall. Photos guided masons in their work. The masonry is not pointed but the slate is laid on a very thin layer of mortar, the minimum needed. At the end of the day's work, the mortar is scraped back 5 cm in relation to the slate. The composition and the colouring of the mortar required adjustment

on site; Rhine sand and coal dust were added to the cement to achieve an invisible blue mortar.

The roof is made of 50x50x4 cm slate slabs laid on studs.



The subtle shades of slate

In the Ardennes, slate can be found in various shades of colour. Blue or brown around Bouillon, it can become brownish grey with ochre reflections in the Vielsalm area.

- 1 GREY-BROWN-OCBRE ROUGH STONE, DESIGNED BY CRAHAY-JAMAIGNE
- 2 GREYER RE-CUT STONE, DESIGNED BY AGENCE MOLHAN

Contemporary intervention

PURSUING THE TIME LINE

The creation of the Grand Curtius museum complex deeply changed the face of the Rue Féronstrée. A row of three buildings house exhibition rooms; two are recently refurbished and one is newly built. The overall harmony owes a great deal to the effect of the bay windows.



The teams entrusted with connecting, restoring and converting a single and same museum in a outstanding cluster of heritage buildings, as are most of the buildings involved, are required to perform a task demanding elegant skill and subtlety where contemporary creation is underpinned by a stringent interpretation of the past.

En Féronstrée is a street where the architect Daniel Dethier works on two town houses from different periods and where a new building continues the alignment as far as the museum entrance. He maintains a constant outline and reworks the contemporary façade in a slight curve, as it originally used to be.

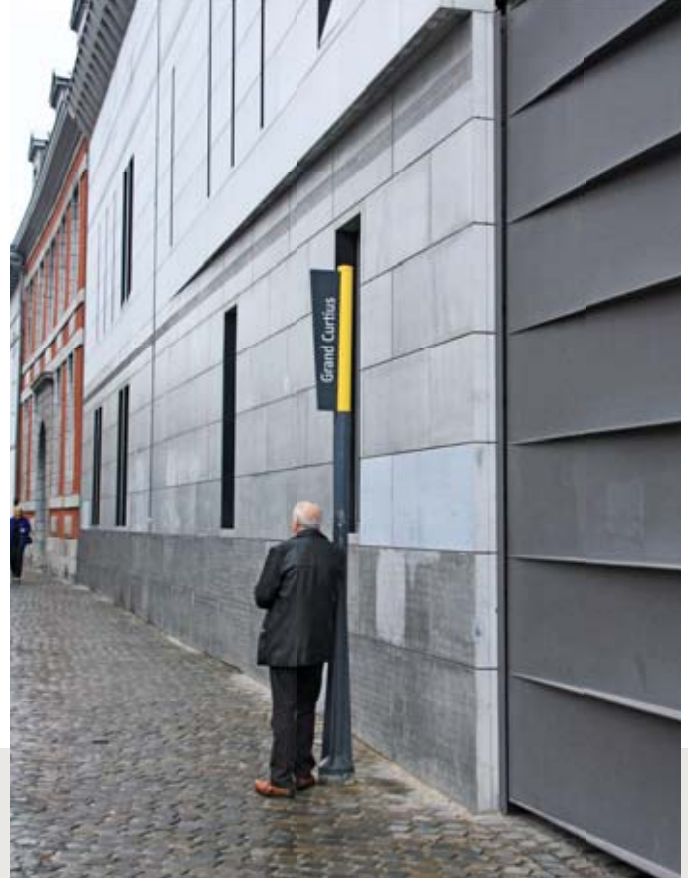
Uncertainty regarding the original position of some bays and the interest of maintaining blind walls for controlling indoor light lead the architect to limit the number of façade openings. They are coordinated by “scarifications” made in the limestone facing. In the perspective of the street, those elements have something in common with a sequence of jambs creating a rhythm close to the arrangement obtained by alternating bays and piers.

This work reveals the entire potentiality of stone and involves all the neighbouring structures in which heritage, town planning and culture intelligently interact.

► GRAND CURTIUS MUSEUM COMPLEX, RENOVATION OF THE CURTIUS AND BRAHY RESIDENCES AND CONSTRUCTION OF A CONTEMPORARY WING, LIÈGE, DESIGNED BY DETHIER ARCHITECTURES

On the left, the Curtius Residence (early 17th century) represents the major referent for contemporary operations. The symmetry of the Maison Brahy (18th century), in the centre, is strengthened by a correspondence between the two buildings flanking it; the extension of the rhythm basement/floors/

cornice creates a strong bond which gives back its unity to this part of the street. Stone has an essential role to play; the choice of Meuse limestone and blue stone to mark the structure of the building and the finishes to reinterpret the decorative features at the top of the façades.



CLEARLY MARKED "SCARIFICATIONS"

The perspective view of the openings and of mullioned windows in particular is often limited to fine features that indent the wall. That effect is rendered here, in the contemporary wing, by vertical "scarifications" shaded by a black marble which emphasises their impact.

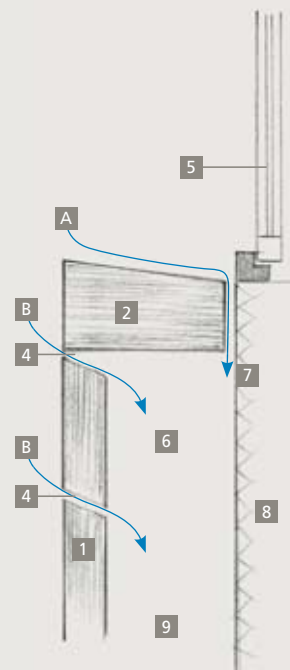


- 1 stones stapled façade blue limestone/Vinalmont limestone
- 2 bay sill
- 3 cornerstone
- 4 open bevelled joints
- 5 frame
- 6 free space
- 7 insulation
- 8 wall
- 9 drainage
- 10 black marble strip

INGENIOUS BAYS AND CLEVER JOINTS

A Trickling water can cause dirt to accumulate on the window sill. The inevitable consequence is that the water spills over and runs down the wall. The sill stone therefore slants inward and the water is invisibly collected towards the bottom of the wall.

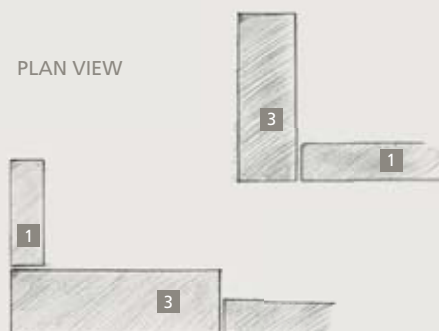
B The pointing of the stones with silicon inevitably causes migrations in the stone, and consequently the joints are not so neat and wall aesthetics are greatly reduced. Here, the joints are open and bevelled inwards, which avoids that inconvenience. Another advantage is that rainwater is immediately guided inside the wall and a drain at the bottom of the façade, which avoids indelible marks being left on the walls over time.



DEFT RIGHT ANGLES

Corners are a difficult matter when stone is being used. In this case, in order to avoid fragile bevel cuts, the corner is made by stones of unequal thickness making it possible for one stone to form the corner.

PLAN VIEW



Rehabilitating heritage



STONE GIVES STYLE

Any intervention to be undertaken on protected heritage to ensure its future development must be done with respect for the arrangement of styles and requires restraint, balance, humility, subtlety... and a good amount of energy.



The conversion of the Cense Montfort, listed as regional heritage, into a complex of council housing, municipal library and offices is an exciting and demanding exercise for the architect Bernadette Royer.

The structures, in bad condition, call for the implementation of many technical solutions. As far as stone is concerned, the bays, generally surrounded by blue limestone, are the main work focus. There is a limited number of new openings and they are treated soberly by merely making a narrow opening in the brick so minimising their impact and differentiating them from the old ones out of concern for heritage consistency.

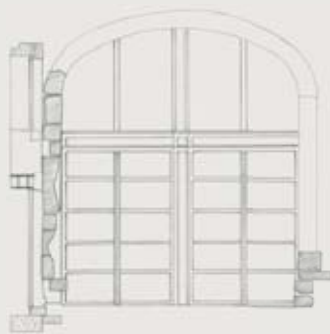
The bays of the farm – and there are 77 of them ! – are restored or even reconstructed when their previous architectural interpretation is possible : simple windows and mullioned windows, dormers, doors and transoms, double doors and barn doors are the subject of meticulous examination. That entire vocabulary from past centuries is reworked and replaced by new stones, wherever necessary, and differentiated by special bush hammering. It then remains to fit the frames and that is sometimes done by subtly offsetting the frames in relation to the opening and by independently adding steel U profiles as a contemporary reminder of the mullions of olden days.

➤ HOUSING AND MUNICIPAL DEPARTMENTS, ANS, DESIGNED BY ATELIER LOUIS & ROYER ARCHITECTURES



SELECT THE STONE FINISHES TO ENSURE THE READABILITY OF THE INTERVENTIONS

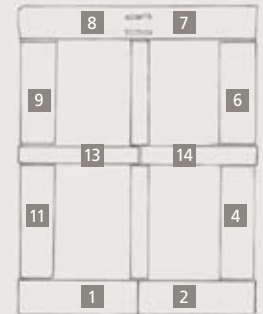
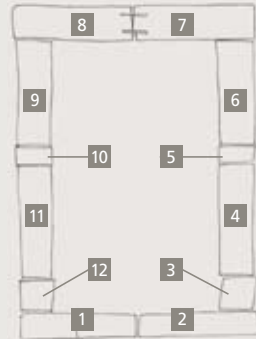
Impossible to describe all the studies required by this restoration. Two examples show interventions on the old bays. The stone selected for the additions is bush hammered blue limestone. The edges are finely marked in that way. For the two outbuildings, the selected finish of the blue limestone is rough sawn.



This carriage door has been successfully altered over the centuries. Conversion involves checking the original stones and replacing some of them with same sized stones. By resting on the left and right piers and on a stone initiating the original rounded form, the bay has been entirely restored with larger sized stones to avoid any confusion. Steel U profiles, simply placed in the frame, conceal the transfer of



the rectangular windows and doors to a slightly recessed vertical plane.



Two existing stones (5 and 10) make it possible to restore a cross shape: to do that, stones 3 and 12 been withdrawn, stones 1 and 2 put back beneath 4 and 11, and a horizontal transom made of two stones has been added. The vertical transom is made of stone. Some elements have been repaired using mineral mortar.

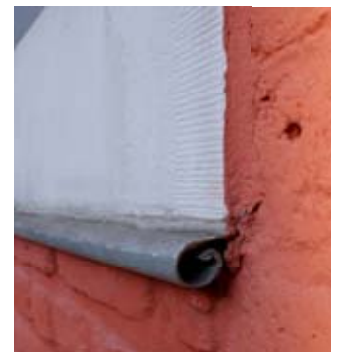
GRAFT OF STONE AND MINERAL MORTAR

Before beginning the grouting of a heavily damaged stone, the examination of the compatibility criteria between the stone to be restored and the mortar to be selected is of the utmost importance, even before the criteria of appearance and colour. In particular, the combined stone and mortar must breathe homogeneously. If there is too great a difference in porosity, hydric stress can cause the precipitation of salts in time. Used

on masonry which has already undergone the aggression of water and dissolved salts, mortar must not therefore produce additional salts. It has been shown that a variation in natural porosity of less than 20 % is acceptable and makes it possible to eliminate a major factor of deterioration (Sasse and Snethlage). Furthermore, lasting coexistence between stone and mortar requires appreciably similar physical and

mechanical properties: capillarity, compression, flexural strength and good adhesion, while the process should be easily reversible. Special knowledge of the skills needed to make a graft using mineral mortar and the appropriate tools are all that is required.

Source: Entreprise pour la conservation du patrimoine, Strasbourg (F)



A nearly invisible drip.



Energy requirements

STONE PLAYS A PASSIVE GAME

The integration of new structures within a given area, regardless of the area in question, focuses logically on the layout, volumes and materials. Municipalities that are concerned about their landscapes sometimes have requirements akin to those of sustainable development.



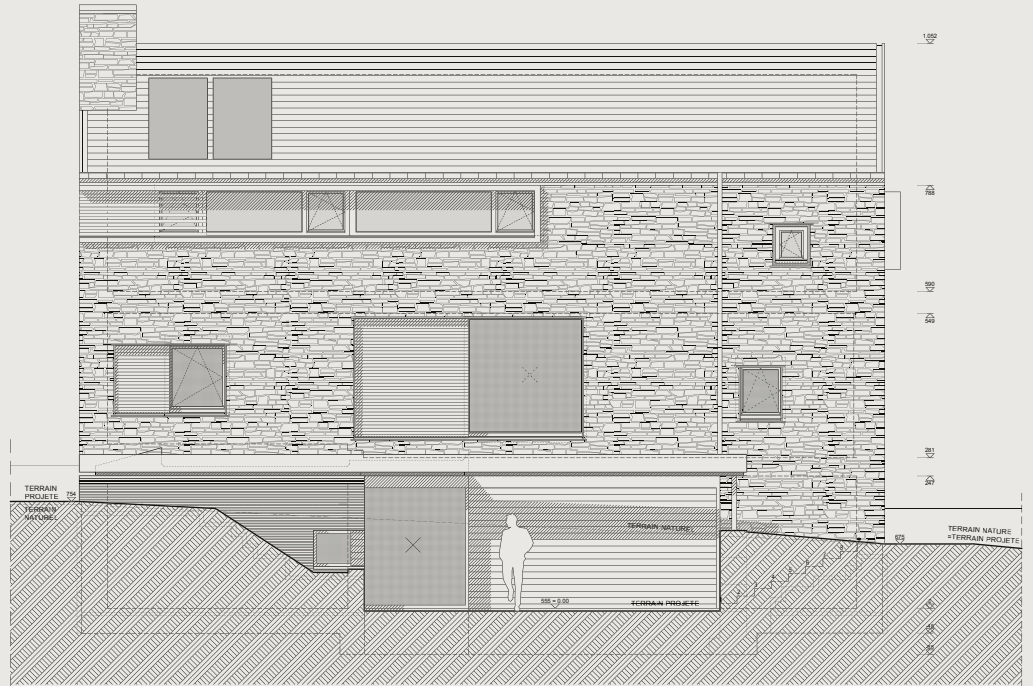
When the architect Olivier Fourneau embarked on the studies for a private dwelling in Jalhay, he quickly opted for a simple main volume, a conventional outline in the region. The client wished to have natural stone for the façades and his choice turned to local sandstone, quarried nearby, following the municipality's precise recommendations. A small volume, made of wood, partly buried, was added to install the entrance and an office.

Energy matters led the architect to limit the opening areas of bays fitted with rabbets, deep rabbets – especially for the only big bay of the living room – or made flush. The overall effective insulation value means that it is a semi-passive house, even with stone !

➤ PRIVATE RESIDENCE, JALHAY, DESIGNED BY OLIVIER FOURNEAU ARCHITECTES

STONE

The walls are built to look like dry laid masonry. The selected stone is the stone of the region, siliceous sandstone referred to as Steinbach sandstone, available in a variety of colours: more or less warm browns to grey, red or orange-coloured. Each individual rubble stone can have diversified shades and tints. Used in a minimum thickness of 10 cm, the stones were re-cut on site and the offcuts were used to make gabions for the walls against earth.



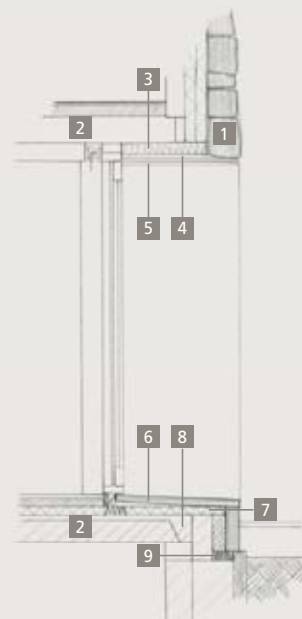
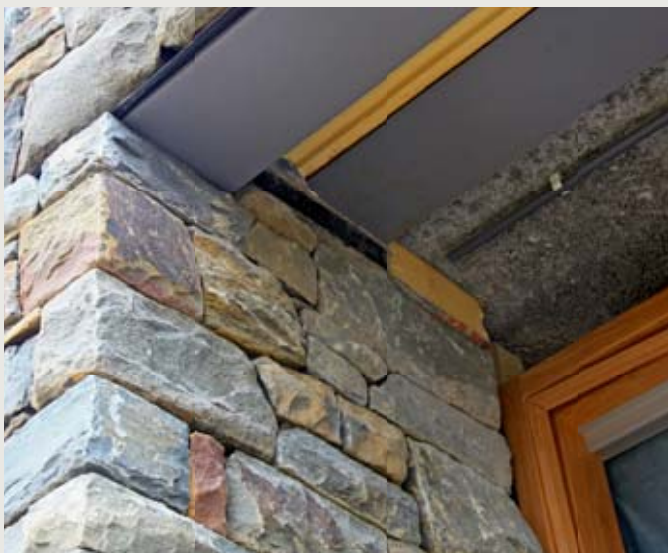
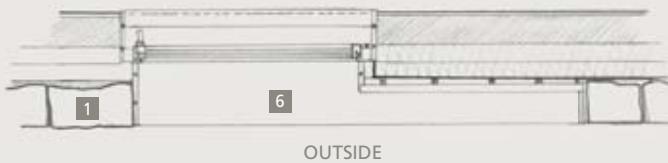
SO FAÇADE

TECHNIQUE

The rubble stones are laid dry with a recessed stabilising bottom layer. The masonry work has 14 cm of insulation made of polyurethane foam, which leads to a very good K insulation factor of 28, ranking it in the category

of thermo-efficient buildings. Some frames are fitted with outside sunscreens integrated into the masonry works. This sliding claustra system is made with openwork cladding in front of solid cladding.

HORIZONTAL SECTION



- 1 sandstone rubble
- 2 hollow core slabs
- 3 80 mm thermal insulation
- 4 lathing
- 5 wood clad ceiling
- 6 natural stone doorstep
- 7 6 cm cellular glass, glued joints
- 8 compression screed
- 9 insulating blocks coated with high-density polyethylene and glass

SECTION INTO THE FRENCH WINDOW



Stone and technique synchronise

MINERAL SETTING

Converting a shop in the city centre often means playing with a confined, poorly lit space, where everything is to be redone. It needs to be shown with originality and elegance, while security must be excellent and all the more so since it is a jeweller's shop...



In this location, right in the heart of Liège, the architect Pierre-Yves Gillet decided to dissect the street-level corner premises and refocus his project on the first steel frameworks installed. The very small space had to be able to accommodate a workshop, a counter and display cabinets. The generous development of the façade lengths was an invitation to multiply those openings, in an endeavour to recompose the overall façade.

If a sober attempt is to be made to add height and interest to the building and increase the perception of slenderness, the use of a "traditional" material was essential, allowing a surface treatment that is both refined and contemporary. Stone was the obvious choice in a composition where glass and stone perform a duet. A sleek line of stainless steel joins the transparency of glass with the natural wildness of stone, with the night lighting casting a shade of blue. The façade's straightforward simplicity enhances the objects displayed, clad all in gold.

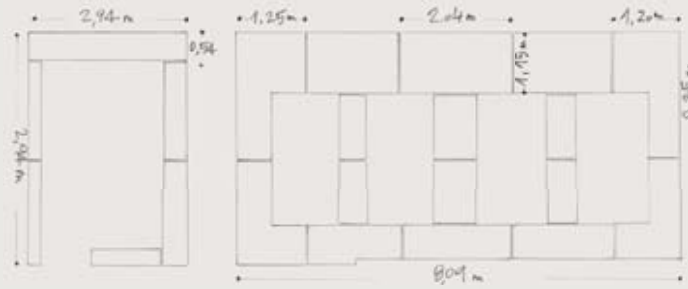
► SHOP, LIÈGE, DESIGNED BY PIERRE-YVES GILLET

The elevation of the façade shows the largest elements composing the façades: cut from blue limestone slabs, they attain dimensions of 294x54 cm or 235x120 cm, quite interesting sizes for this type of concept.



STONE

Several factors guided the choice of natural stone. First and foremost, the complex of façades (new structural work and facing) had to be as slender as possible to lose the smallest amount of inside space. The narrowness of the premises and the fact that the façades are permanently exposed either to passing traffic or passing pedestrians meant that a slender material was needed, which could act as cladding, but which had a relatively high mechanical resistance. Blue limestone was chosen for its qualities but also for its dark colour enhancing the brightness of the window displays. Chosen in a blue flamed finish, the stone received a colourless anti-graffiti treatment when construction work was completed.



TECHNIQUE

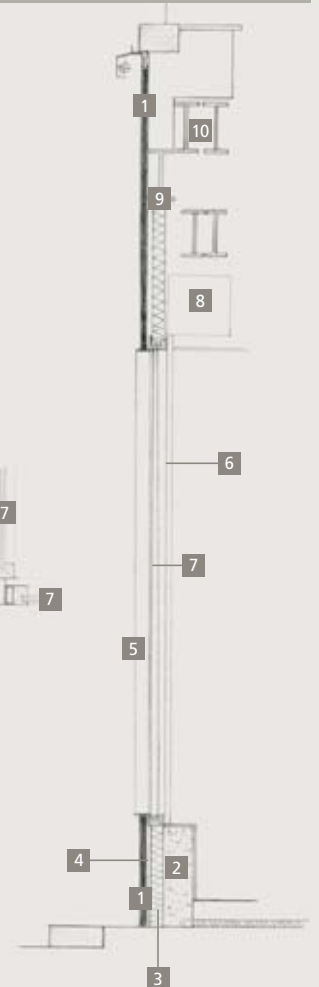
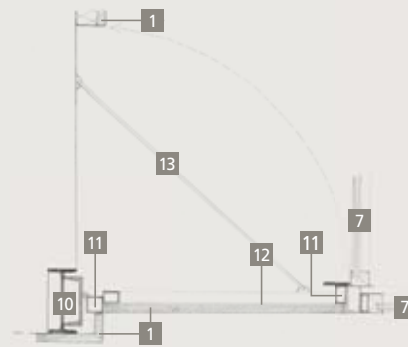
Facing stone is used as a casing for the stainless-steel frames. The bay frames made of brushed stainless-steel angle irons have two purposes; they make it possible to offer a smooth finish to the slab of façade stones and put the emphasis on

the window displays, simply by framing them. The frame is perceived as a slim strand, so alluding to the nature of the business. Its smooth finish means that it comes into contrast with the rough texture of the façade.



- 1 30 mm stapled blue limestone
- 2 140 mm concrete basement
- 3 60 mm insulation
- 4 30 mm slide
- 5 polished stainless steel sheet frame, mirror fixed to the casing
- 6 slide rail of the inner shutter 30x50 cm
- 7 aluminium frame, glazing SP 44.4

- 8 micro perforated steel strip shutter box
- 9 steel angle iron and stapled stone
- 10 existing structural works
- 11 various steel tubes
- 12 metal sheet forming a framework for facing
- 13 mechanical blocking by steel bar



STONE DOOR

The small façade of the building is also, by choice, the one through which the customers enter. A solid and resistant wall was necessary at street level to make the premises secure and not to increase the number of materials. Stone was chosen for that opening. When it is closed, it is perfectly aligned with the adjoining window, it unequivocally and artlessly indicates the closing of the jeweller's and prevents access to the shop at night. When it is opened, during the daytime, it becomes a "wall" by backing onto the dividing wall of the jeweller's, which is also cladded with stapled stone. Considering the substantial weight of the work, only a steel structure could take up that challenge. Heavy hinges are welded to a metal component in the thickness of the dividing wall.



1

Details and openings

To end this notebook devoted to façade walls but also to the openings made in them, here are a few details in which natural stone puts in its ten cents' worth...



2



1

1 This peripheral frieze, composed of a sequence of patterns cut out of the blue limestone and stainless-steel sheets blasted with micro beads, breaks through between the ground floor and the 1st floor of this restored building. Previously, both these levels were composed of stone string courses and/or cast-iron guard rails. Samples were taken to verify the perception of the patterns, created from the enlargement of a detail present on the original second-floor stones.

OFFICES, LIÈGE, DESIGNED BY OLIVIER FOURNEAU

2 Ventilation vents are necessary objects but they are seldom aesthetic. Their integration into walls where the architectural concept is intentionally simple and stark was solved in this case with a blue limestone grating made to measure.

PRIVATE HOUSE, BRUSSELS, DESIGNED BY ATELIER JOËL CLAISSE ARCHITECTURE

3 Natural stone can also intervene in details: in this case, a blue limestone balustrade, sculptured by a stone artist.

OFFICES, SOIGNIES, DESIGNED AND REALISED BY BENOÎT LUYCKX



3



4



4

4 Loophole in an organic façade of arkose rubble stone, before pointing, and triangular window fitted into zinc.

PRIVATE HOUSES, REGION OF EUPEN, DESIGNED BY YVES DELHEZ

Glossary

Base / Basement / Foundation

Base or substructure or foundation of a building or wall.

Bay

Aperture, whether closed or not, for a door or window projecting from a wall or partition.

Bonding

Way in which rough or hewn stones are arranged.

Chamfer

A narrow flat surface of a flattened, jutting edge.

Cleaving / cleaved

Action of splitting or causing a stone or ore to split, making a crack; split stone or ore.

Crust

Weathered surface of a layer or rock. The thickness of these surface alterations may vary according to the natural stone under consideration and the deposit.

Doorstep

A step in the door recess.

Drip (stone)

A hollow grooved projection at the front lower edge of a sill or cornice designed to throw water clear of the wall below.

Dry-joint masonry

Masonry of bonded hewn stones without mortar wedging and without binder.

Dry masonry / Dry stones

Blocks of stone or slabs are laid and wedged dry without using any mortar.

Flamed

Finish obtained through surface scaling by passing a blowtorch over the stone.

Foot

Thickest base of a wall.

Lintel

Solid stone, wooden, or steel or concrete beam, used as a horizontal support over the bay.

Mortar

Mixture of binders (plaster, lime, anhydrite, cement, resin, etc.), of a fine aggregate and water, used for sealing purposes.

Mullion

A vertical structural supporting element made of dressed stone, wood or iron dividing the bay (see transom).

Parpend / Perpend (stone)

Masonry element forming facing on each opposite faces of a wall. The parpend forms a chain bond (overall cohesion) bracing the stonework.

Pier

The part of a wall or partition between two adjacent openings or windows.

Rough sawn

Stone smooth in appearance displaying traces and ripples left by the sawing process, less than 1 mm offset.

Transom

A horizontal supporting element of the bay (see mullion).

Window / Transom window

Bay in a wall providing an opening with fixed or opening panes for lighting, view, ventilation and sometimes for evacuating people.

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For 20 years, **PIERRES et MARBRES de WALLONIE** has been disseminating accurate and detailed information about all the facets of natural stone in Wallonia: history, products, traditional and contemporary uses, technical expertise, documentation, restoration.

The **STONE AND ARCHITECTURE** notebooks are intended to be practical discovery tools for architects but also for the general public. Many and varied ways of incorporating natural stone into our surroundings are proposed, drawing on projects implemented in Belgium or abroad and thus presented in a detailed manner to designers.

This notebook is devoted to the use of natural stone in architecture highlighting **FAÇADES** and **OUTSIDE WALLS**. It presents achievements chosen for their originality or their classicism, their simplicity or a specific construction detail.

THE STONE NOTEBOOKS

This collection includes notebooks devoted to the garden, to public space and to architecture drawing on specific transversal themes.

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