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DECAY SURVEY 1:50

DECAY PATHOLOGIES

Normal 1/88 UNI 11182:2006
ICOMOS - ISC Glossary

CHROMATIC ALTERATION | percolation
"Alteration manifested through the variation of one or more parameters that define color, hue, clarity, saturation. It can manifest itself with different morphologies depending on the conditions and can refer to large or localized areas."

VISIBLE EFFECTS: Chromatic alteration of the masonry in the portion below a hole that is darkened, due to the continuous percolation of rainwater.

INDIRECT EFFECTS: Accumulation of moisture in the masonry and consequent detachment of material.

POSSIBLE CAUSES: Presence of a discontinuity in the masonry (ex. window hole) in the absence of an adequate flashing that favors the accumulation and percolation of rainwater.

PATINA
"Natural modification of the surface that cannot be linked to degradation phenomena and can be perceived as a change in the original color of the material. In the case of artificially induced alterations, the term artificial patina is preferred."

VISIBLE EFFECTS: Chromatic alteration of some portion of the masonry.

INDIRECT EFFECTS: Chemical alteration of materials and possible weakening of the masonry.

POSSIBLE CAUSES: Deposit of more or less foreign material in this layer.

SURFACE DEPOSIT | guano
"Accumulation of foreign materials of various kinds such as dust, soil, guano, etc. It has variable thickness, generally poor consistency and poor adhesion to the underlying material."

VISIBLE EFFECTS: Whitish deposit with distribution given by falling and sliding guano.

INDIRECT EFFECTS: Chemical alteration of materials and possible weakening of masonry.

POSSIBLE CAUSES: Presence of projecting elements of support for the birds.

FLAKING | brick
"Total or partial detachment of parts (flakes) often in correspondence of solutions or continuity of the original material. The flakes, generally made up of apparently unworked material, have an irregular shape and a consistent and uneven thickness. Underneath, efflorescence or biological patina may be present."

VISIBLE EFFECTS: Lack of portions of material in the form of homogeneous flakes.

INDIRECT EFFECTS: Further detachment and loss of portions due to weakening of the material.

POSSIBLE CAUSES: Exposure to atmospheric agents; Presence of humidity in the masonry.

WEED VEGETATION
"Presence of herbaceous, shrubby, or tree-like individuals rooted in the masonry."

VISIBLE EFFECTS: Presence of weed vegetation more or less rooted in the masonry.

INDIRECT EFFECTS: Root development of weed vegetation resulting in possible detachment between inner layers of masonry and loss of material.

POSSIBLE CAUSES: Accumulation of moisture; Attack of autotrophic organisms (unicellular bacteria, algae, lichens, higher plants).

LOCALIZED BIOLOGICAL PATINA | lichens
"Thin layer adhering to the surface and of obvious biological nature, varying in color mostly green. It consists primarily of microorganisms to which dust, soil, etc. may adhere."

VISIBLE EFFECTS: Macroscopically detectable presence of micro and/or macro organisms, visible in the form of more or less regular yellowish spots.

INDIRECT EFFECTS: Development of colonization and eventual detachment of parts of the supporting substance.

POSSIBLE CAUSES: Action of autotrophic microorganisms; Presence of humidity and water; Morphological characteristics of the substrate (roughness, opacity, indentations, etc.); Orientation.

DIFFUSED BIOLOGICAL PATINA | lichens
"Thin layer adhering to the surface and of obvious biological nature, varying in color mostly green. It consists primarily of microorganisms to which dust, soil, etc. may adhere."

VISIBLE EFFECTS: Macroscopically detectable presence of micro and/or macro organisms, visible in the form of more or less regular yellowish spots.

INDIRECT EFFECTS: Development of colonization and eventual detachment of parts of the supporting substance.

POSSIBLE CAUSES: Action of autotrophic microorganisms; Presence of humidity and water; Morphological characteristics of the substrate (roughness, opacity, indentations, etc.); Orientation.

FISSURATION
"Degradation that is manifested by the formation of solutions of continuity in the material and that may involve the mutual displacement of parts."

VISIBLE EFFECTS: Cracking of the brick material, which is discontinuous more or less superficially.

INDIRECT EFFECTS: Worsening of the cracking with possible detachment and loss of part of the material and weakening of the structure.

POSSIBLE CAUSES: Freezes and thaw cycles; Degradation of interface between bricks and mortar; Seismic events / ground movements.

LACUNA | stone
"Fall and loss of parts"

VISIBLE EFFECTS: Detachment and loss of more or less substantial portions of the material, visible as a loss of continuity in the appearance of the masonry.

INDIRECT EFFECTS: Worsening in the detachment of material with consequent loss of continuity and cohesion of the masonry.

POSSIBLE CAUSES: Humidity and freeze-thaw cycles; Infiltration vegetation; Injuries due to mechanical traumas; Loss of adhesion between brick and mortar.

EROSION | mortar
"Removal of material from the surface which in most cases is compact, due to processes of different nature"

VISIBLE EFFECTS: Detachment and loss of more or less substantial portions of the constituent material of the stratum.

INDIRECT EFFECTS: Worsening in the detachment of material with consequent loss of continuity and cohesion of the masonry.

POSSIBLE CAUSES: Humidity and freeze-thaw cycles; Infiltration vegetation; Injuries due to mechanical traumas; Loss of adhesion between brick and mortar.

BLACK CRUST
"Modification of the surface layer of stone material. Of variable thickness, generally hard, the crust is distinguishable from the underlying parts by its morphological characteristics and often by its color. It can also detach spontaneously from the substrate which, in general, is disintegrated and/or powdery."

VISIBLE EFFECTS: Surface cementing of particulate pollutants.

INDIRECT EFFECTS: Chemical alteration and detachment of material.

POSSIBLE CAUSES: Action of microorganisms and pollutants; Oxidation; Poor air circulation; Residues from the combustion of petroleum-based oils.

RISTILIATURA
"Ristilatura of the mortar joints"

"NB: All the external surfaces have been subjected to ristilatura in different periods and with different materials, that have obscured the original color of the masonry. In the survey, only the most evident interventions have been enhanced."

VISIBLE EFFECTS: Alteration of the visual continuity of the original color of the masonry, involving both the bedding mortar and, indirectly, the brick.

INDIRECT EFFECTS: Chemical alteration due to the interaction of the materials used for re-stripping with those constituting the original masonry.

POSSIBLE CAUSES: Human action carried out without the necessary knowledge and attention for the historical masonry.

ARTIFICIAL PATINA | Cementitious mortar
"Modification of the surface unrelated to degradation phenomena and perceivable as a change in the original color of the material. In the case of artificially induced alterations, the term artificial patina is preferred."

VISIBLE EFFECTS: Black deposit with distribution given by falling and slipping of waterproofing material used in roofing.

INDIRECT EFFECTS: Chemical alteration of materials and possible weakening of the masonry.

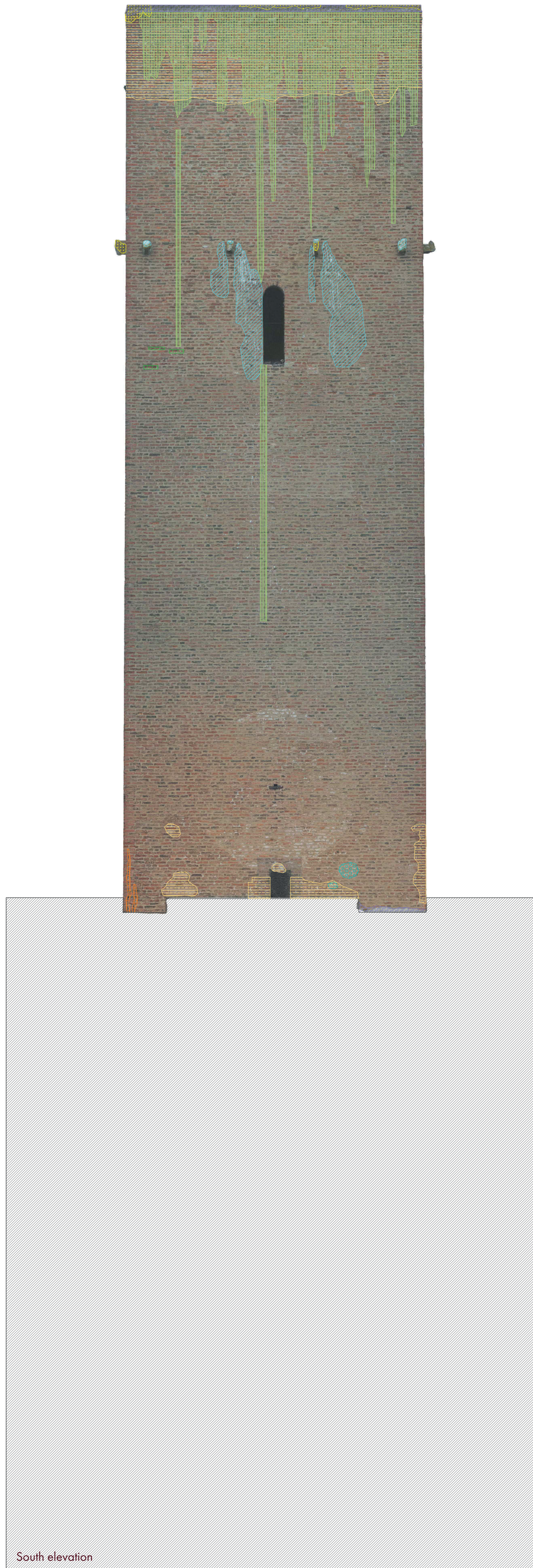
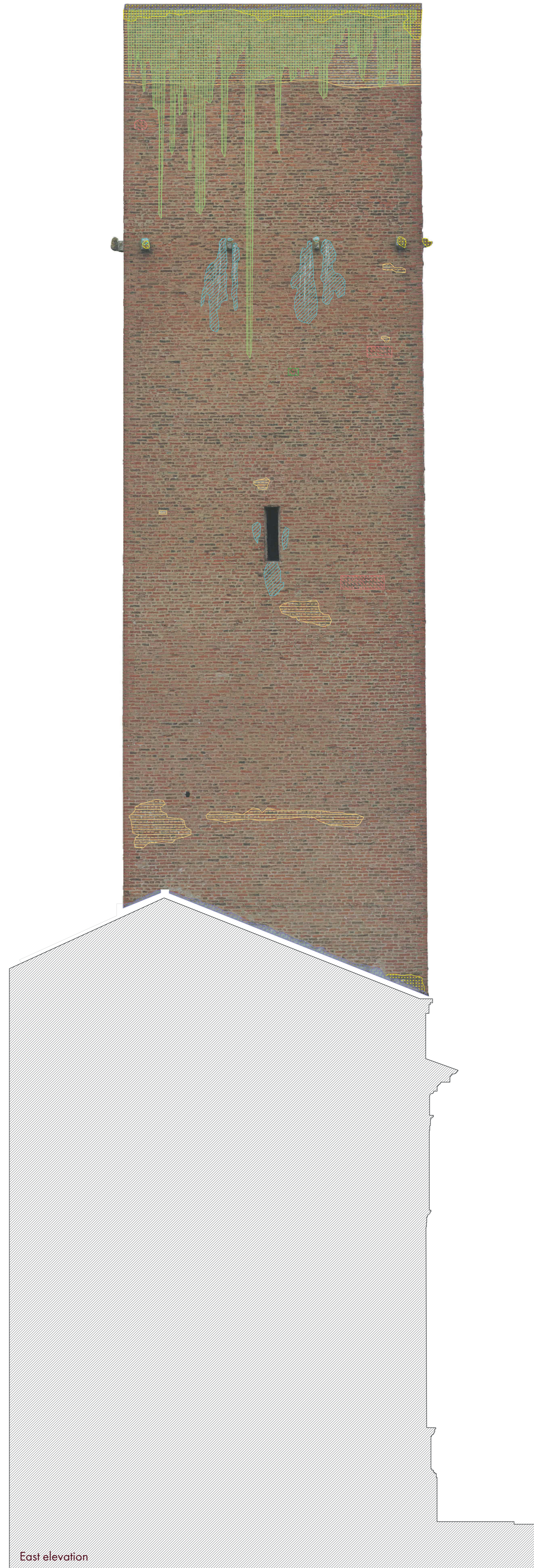
POSSIBLE CAUSES: Improper human action.

ARTIFICIAL PATINA | Bitumen
"Modification of the surface not connectable to degradation phenomena and perceivable as a variation of the original color of the material. In the case of artificially induced alterations, the term artificial patina is preferred."

VISIBLE EFFECTS: Black deposit with distribution given by falling and slipping of waterproofing material used during roofing work.

INDIRECT EFFECTS: Chemical alteration of materials and possible weakening of masonry.

POSSIBLE CAUSES: Dripping of material resulting from improper human action on the artifact.



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PRESERVATION DESIGN 1:50

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CHROMATIC ALTERATION | percolation
"Alteration manifested through the variation of one or more parameters that define color, hue, clarity, saturation. It can manifest itself with different morphologies depending on the conditions and can refer to large or localized areas."

CLEANING: Mechanical cleaning

PRESERVATION: Restoration, if necessary, of damaged or corroded elements

PROTECTION: Execution of protective slides with coccipetto mortar to remove water

PATINA
"Natural modification of the surface that cannot be linked to degradation phenomena and can be perceived as a change in the original color of the material. In the case of artificially induced alterations, the term artificial patina is preferred"

CLEANING: General cleaning by washing with deionized water, brushes, sponges, low pressure compressed air and neutral detergent.

PRESERVATION: Restoration, if necessary, of any damaged items.

PROTECTION: Periodical scheduled cleaning

SURFACE DEPOSIT | guano
"Accumulation of foreign materials of various kinds such as dust, soil, guano, etc. It has variable thickness, generally poor consistency and poor adhesion to the underlying material."

CLEANING: General cleaning by washing with deionized water, brushes, sponges, low pressure compressed air and neutral detergent.

PRESERVATION: Restoration, if necessary, of damaged or corroded elements

PROTECTION: Installation of deterrent mechanism for birds

FLAKING | brick
"Total or partial detachment of parts (flakes) often in correspondence of solutions or continuity of the original material. The flakes, generally made up of apparently unworked material, have an irregular shape and a consistent and uneven thickness. Underneath, efflorescence or biological patina may be present."

CLEANING: Removal of inconsistent elements which cannot be guaranteed adherence to the substrate and consequent general air cleaning

PRESERVATION: Restoration of wall continuity through partial or total reconstruction of damaged elements

PROTECTION: Realization of "igomattivo", with lime milk and brick powder

WEED VEGETATION
"Presence of herbaceous, shrubby, or tree-like individuals rooted in the masonry."

CLEANING: Mechanical removal of weeds and light mechanical cleaning of the wall surface by brushing

PRESERVATION: Restoration of cavities formed by the removal of vegetation

PROTECTION: Application of bioacidal product

LOCALIZED BIOLOGICAL PATINA | lichens
"Thin layer adhering to the surface and of obvious biological nature, varying in color mostly green. It consists primarily of microorganisms to which dust, soil, etc. may adhere."

CLEANING: Energized cleaning by washing with deionized water, brushes, sponges, low pressure compressed air and neutral detergent. Use of compressors, brushing, low pressure microabrasive techniques for the removal of any residues.

PRESERVATION: Timely restoration of the damaged elements, if present with materials as similar as possible to the original

PROTECTION: Spray application of water repellent products with added algocides

DIFFUSED BIOLOGICAL PATINA | lichens
"Thin layer adhering to the surface and of obvious biological nature, varying in color mostly green. It consists primarily of microorganisms to which dust, soil, etc. may adhere."

CLEANING: General cleaning by washing with deionized water, brushes, sponges, low pressure compressed air and neutral detergent.

PRESERVATION: Timely restoration of the damaged elements, if present with materials as similar as possible to the original

PROTECTION: Spray application of oligomeric water repellent products in alcohol solution with added algocides

FISSURATION
"Degradation that is manifested by the formation of solutions of continuity in the material and that may involve the mutual displacement of parts."

CLEANING: General cleaning with compressed air to remove any dust residues.

PRESERVATION: Execution of "sacchi" where necessary or filling of the cracks with binder (hydraulic lime) chemically and mechanically compatible to the original.

PROTECTION: Execution of containment hoops at the riser height

LACUNA | stone
"Fall and loss of parts"

CLEANING: General cleaning of the missing portion.

PRESERVATION: Restoring the missing element using materials chemically and mechanically compatible to the original.

PROTECTION: Insertion of coupling pins in the yielding elements

EROSION | mortar
"Removal of material from the surface which in most cases is compact, due to processes of different nature"

CLEANING: General cleaning with compressed air to remove any dust residues.

PRESERVATION: Localized re-stripping with binder (hydraulic lime) chemically and mechanically compatible with the original materials

PROTECTION: Realization of "igomattivo", with lime milk and brick powder

BLACK CRUST
"Modification of the surface layer of stone material. Of variable thickness, generally hard, the crust is distinguishable from the underlying parts by its morphological characteristics and often by its color. It can also detach spontaneously from the substrate which, in general, is disintegrated and/or powdery."

CLEANING: General cleaning by washing with deionized water, brushes, sponges, low pressure compressed air and neutral detergent.

PRESERVATION: Restore damaged items, if necessary

PROTECTION: Periodical scheduled cleaning

RISTILIATURA
"Ristilatura of the mortar joints"

CLEANING: General cleaning with compressed air to remove any dust residues.

PRESERVATION: Correction of chromatic alterations and removal of materials, if chemically and mechanically damaging

PROTECTION: More attention for the next interventions

ARTIFICIAL PATINA | Cementitious mortar
"Modification of the surface unrelated to degradation phenomena and perceivable as a change in the original color of the material. In the case of artificially induced alterations, the term artificial patina is preferred."

CLEANING: Mechanical removal of the material layer

PRESERVATION: Restore, if necessary, the underlying elements removed or damaged during mechanical cleaning

PROTECTION: More attention for the next interventions

ARTIFICIAL PATINA | Bitumen
"Modification of the surface not connectable to degradation phenomena and perceivable as a variation of the original color of the material. In the case of artificially induced alterations, the term artificial patina is preferred."

CLEANING: Mechanical cleaning with suitable brushes

PRESERVATION: Restore, if necessary, the underlying elements removed or damaged during mechanical cleaning

PROTECTION: More attention for the next interventions