Problems of the Granite Obelisk in Stockholm

Malin Myrin, National Property Board, Sweden
Location & Facts

The obelisk in the Old Town of Stockholm, located next to the Royal Palace and Storkyrkan (Stockholm's cathedral), is considered to be the very centre point of the Swedish capital.

The granite obelisk is 22 m high, including the pedestal.

The granite material is from Ulvsunda a quarry close to Stockholm. The material is considered to be a very durable type of granite.
History & Background

Commissioned by the Swedish king Gustav III as a symbol of gratitude towards the citizens of Stockholm who guarded the city during the Russian war of 1788 – 1790.

Drawing by:
Louis Jean Desprez.
About the Construction

The obelisk is not cut of one piece but built of granite blocks fitted with cast-iron. The construction was at the time considered to be complicated and has caused problems.

Most likely problems occurred early in the history of the obelisk, however the earliest documentation we have of problems are from the 1920ies. We have the drawings from this survey and can easily compare the situation of the cracks. In the 1920ies damages where secured by exchanging some of the corroded iron ties, replacing them with bronze. The intervention did not have much result. The damages continued at an increasing rate.
Interventions carried out during the 1950ies:

- The granite was cleaned.
- Attempt to free the construction of moist by applying a drainage system.
- The joints were opened. New pointing with mortar based on Portland cement was undertaken.
- Joints were treated with hydrophobic agents.
- Cracks were secured with mortar.

Still damages continued and escalated.......

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Recent survey and conclusions:

- Ongoing deterioration process which worsens continuously as open cracks and fractures allow moisture to penetrate into the structure.
- When compared with previous surveys the damages have worsened considerably.
- At least seven blocks are assessed as critical, that is, exhibit cracking in several directions.
- Relatively high risk for pieces of stone material to fall down (small fractions but also larger pieces).
- The risk of total collapse of the obelisk is considered to be small.
Alternatives to discuss:

• Reconstruction of the obelisk? Dismantling the obelisk and cutting new stones.

• Consolidation treatment? Large construction to consolidate, how durable is the treatment? The problem of corroding iron.