

A Technical Analysis of the Atlante di Roma Antica: Decoding Andrea Carandini's Archaeological Masterpiece

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The **Atlante di Roma Antica** (Atlas of Ancient Rome), edited by the renowned archaeologist **Andrea Carandini** and **Paolo Carafa**, represents one of the most significant milestones in classical archaeology and urban history in the last century. Published after more than twenty-five years of exhaustive research by an international team of specialists, this work serves not merely as a collection of maps, but as a complete **biography of a city**. It provides a multi-dimensional reconstruction of Rome's urban fabric from its proto-historic origins to the end of antiquity in the 6th century AD. This technical analysis explores the methodological framework, the architectural documentation, and the stratigraphic principles that underpin this monumental publication.

The Methodological Framework: Stratigraphic Archaeology and Urban Biography

At the heart of the *Atlante di Roma Antica* lies the **stratigraphic method**, a rigorous archaeological approach that Carandini himself championed in Italy. Unlike traditional top-down historical narratives, the Atlas adopts a bottom-up methodology, treating the city as a complex sequence of overlapping layers or **stratigraphic units (US)**. This perspective allows for the reconstruction of the city's evolution through distinct chronological phases.

Defining the 'Biography of the City'

Carandini's conceptualization of Rome as a 'biography' implies that urban spaces are not static. Every building, street, and monument undergoes a lifecycle: birth (construction), life (use and modification), and death (destruction or abandonment). The Atlas meticulously documents these phases by integrating literary sources, epigraphic data, and, most crucially, physical archaeological remains. This holistic approach ensures that the **Cermalus**, the **Domus Augusti**, and the **Lupercal** are not viewed as isolated ruins, but as interconnected components of a shifting urban organism.

The Role of Topographical GIS in Archaeological Mapping

The technical execution of the Atlas relied heavily on advanced **Geographic Information Systems (GIS)**. By digitizing decades of excavation data, the team was able to create highly accurate 2D and 3D models of Rome's topography. This digital foundation allowed for the precise overlay of different historical periods, enabling researchers to visualize the spatial relationship between the Regal period's mud-and-thatch huts and the monumental marble architecture of the High Empire. The use of vector-based mapping ensures that every wall, drain, and pavement documented in the Atlas is tied to specific spatial coordinates.

Technical Structure and Organizational Layout

The Atlas is divided into two primary volumes, each serving a distinct functional purpose in the research workflow. Understanding this structure is essential for any scholar or professional architect engaged in Roman studies.

Volume 1: Text and Images (Testi e Immagini)

The first volume provides the theoretical and descriptive basis for the maps. It contains detailed essays on the history of Roman topography, the methodology of the project, and a systematic catalog of every region (*regio*) of

the city. Each entry includes:

- Historical Documentation: A synthesis of ancient literary references.
- Archaeological Summary: A technical description of the excavated remains.
- Analytical Bibliography: A comprehensive list of prior scholarship related to specific sites.
- Reconstruction Models: High-quality illustrations and axonometric projections that translate technical ground plans into three-dimensional spaces.

Volume 2: Plates and Indices (Tavole e Indici)

The second volume is the cartographic engine of the work. It features large-scale plates (*tavole*) that map the city at a scale of 1:1000 or 1:2000. These plates are color-coded to represent different chronological phases, allowing for immediate visual differentiation between Republican, Augustan, and Severan structures.

Case Study: The Palatine Hill and the Domus Augusti

One of the most technically complex sections of the Atlas focuses on the **Palatine Hill**, particularly the **Cermalus** area and the **Domus Augusti**. The Palatine serves as the epicenter of Roman power, and its reconstruction requires the synthesis of extremely dense stratigraphic data.

Reconstructing the Cermalus and the Lupercal

The Atlas provides a definitive look at the **Cermalus**, one of the two peaks of the Palatine. The documentation of **Tavole 71 and 72** highlights the identification of the **Lupercal**—the sacred cave associated with the founding myth of Romulus and Remus. Carandini's team applied a rigorous spatial analysis to confirm the cave's location relative to the House of Augustus and the Temple of Apollo. This involved the correlation of subterranean geological surveys with the remains of the Republican-era fortifications.

Engineering the Domus Augusti (36–12 BC)

The reconstruction of the **Domus Augusti** (House of Augustus) in the Atlas is a masterpiece of architectural forensics. By analyzing the **Unità Stratigrafiche Murarie (USM)**—the stratigraphic units of the masonry—the researchers identified the specific phases of expansion and renovation that transformed a late Republican aristocratic house into a palace suitable for the first emperor. The technical breakdown includes:

1. Leveling Operations: Documentation of how the slope of the Palatine was terraced to create a platform for the complex.
2. Structural Interconnectivity: Mapping the physical links between the private residence, the Temple of Apollo, and the public porticoes.
3. Decorative Integration: Correlating the world-famous Second Style frescoes with the specific architectural volumes they occupied.

Comparative Analysis: Carandini vs. Lanciani and Traditional Cartography

To understand the technical leap represented by the *Atlante di Roma Antica*, it is necessary to compare it with previous efforts in Roman topography, most notably Rodolfo Lanciani's *Forma Urbis Romae* (1893–1901).

Feature/Metric	Lanciani (Forma Urbis Romae)	Carandini (Atlante di Roma Antica)
Methodology	Antiquarian/Topographic survey	Stratigraphic/Scientific archaeology
Chronological Depth	Primarily focused on the Imperial period	Multi-layered (10th c. BC to 6th c. AD)
Data Integration	Manual drawings of visible ruins	GIS-based integration of all known excavations
Accuracy	High for 19th-century standards; some errors	Extreme precision with modern survey data
Volume Structure	46 large plates	2 volumes (Text + Maps + Digital 3D)
Interpretive Scope	Descriptive mapping	Interpretive "biography" and reconstruction

The Evolution of Precision

While Lanciani provided the foundational map of Rome, his work often lacked the chronological granularity found in the Carandini Atlas. The *Atlante* corrects several centuries of misidentification by applying a strict **relative chronology** (based on layers) and **absolute chronology**(based on carbon dating and pottery analysis) to the city's remains.

Technical Workflow: How the Atlas Was Built

The creation of the *Atlante di Roma Antica* followed a standardized technical workflow that ensures data integrity across thousands of entries. This procedure can be broken down into four distinct phases:

Phase 1: The 'Data Harvest'

The team collected all available archaeological documentation from the last two centuries. This included unpublished reports from the *Soprintendenza Speciale per i Beni Archeologici di Roma*, historical site photos, and notes from previous excavations (e.g., Boni, Gatti, and Colini). Every fragment of a wall or floor was assigned a unique ID in the database.

Phase 2: Stratigraphic Reconciliation

The core challenge was reconciling disparate excavation data. Using the **Harris Matrix**—a tool used to depict the temporal succession of archaeological contexts—the team established the sequence of events for each site. This allowed them to determine, for example, exactly when a street level was raised or when a private home was demolished to make way for a public bath complex.

Phase 3: Digital Cartography and Vectorization

Paper plans were scanned, georeferenced, and vectorized. Using AutoCAD and ArcGIS, the researchers created a 'living map' where different layers of the city could be toggled on and off. This digital environment facilitated the detection of architectural patterns and urban alignments that were previously invisible in 2D static maps.

Phase 4: Synthesis and Reconstruction

The final phase involved the creation of the interpretive plates found in Volume 2. Architects and archaeologists collaborated to fill in the 'blanks' using **typological parallels**—inferring the structure of missing sections based on

similar, better-preserved buildings from the same period. These reconstructions are clearly distinguished from the preserved remains to maintain scientific transparency.

Operational Challenges and Troubleshooting in Urban Archaeology

Mapping a city like Rome, which has been continuously inhabited for nearly 3,000 years, presents significant operational challenges. The Atlas addresses several 'failure modes' common in historical cartography:

- **The Problem of 'Empty Spaces':** Many areas of Rome remain unexcavated under modern buildings. The Atlas uses conjectural reconstruction based on the orientation of surrounding streets and sewers, clearly marking these as hypothetical.
- **Contradictory Literary Sources:** Where ancient texts (like Livy or Dionysius of Halicarnassus) conflict with physical evidence, the Atlas prioritizes the stratigraphic record while providing a technical explanation for the discrepancy.
- **Scale and Generalization:** To maintain readability at a 1:1000 scale, minor stratigraphic details must be generalized. The 'Troubleshooting' for this involved the creation of 'Detail Plates' for high-density areas like the Roman Forum.

Solution: The Multi-Scalar Approach

To solve the issue of density, Carandini adopted a multi-scalar approach. The Atlas provides overview maps of the 14 Augustan regions, followed by detailed sectoral maps, and finally, micro-reconstructions of specific architectural complexes. This hierarchy allows users to zoom from the urban scale down to the domestic scale without losing context.

Implications for Heritage Management and Urban Planning

Beyond its academic value, the *Atlante di Roma Antica* has profound implications for the modern management of Rome's cultural heritage. By providing a comprehensive 'risk map' of the city's archaeological subsoil, it serves as an essential tool for urban planners and engineers working on infrastructure projects, such as the construction of the Metro C line.

The Atlas effectively creates a **predictive model**. By knowing the typical depth and density of Republican layers in a specific valley, planners can anticipate potential archaeological discoveries before ground is even broken. This reduces the risk of construction delays and ensures that significant remains are preserved or documented according to modern standards.

The *Atlante di Roma Antica* is not just a book; it is a massive, synthetic engine that processes the fragmented data of the past into a coherent vision of the present. Andrea Carandini and his team have provided the scientific community with a definitive reference that will remain the gold standard for decades. By shifting the focus from individual 'monuments' to the 'urban fabric,' the Atlas reveals the true complexity of Rome: a city built of layers, transitions, and an endless cycle of renewal. For the technical writer, the historian, and the archaeologist, it stands as a testament to what can be achieved when rigorous stratigraphic principles are applied to the largest and most complex archaeological site in the world.

Tags: [#Andrea Carandini](#) [#Ancient Rome](#) [#Urban Stratigraphy](#) [#Roman Topography](#) [#Archaeological Mapping](#)

