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# GROUNDLINE CROSSPOINT. REFRAMING URBAN SPACE BEYOND THE SURFACE

## GROUNDLINE CROSSPOINT. RIFORMULARE LO SPAZIO URBANO OLTRE LA SUPERFICIE

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*L'articolo offre una lettura tridimensionale della città, superando l'approccio bidimensionale tradizionale. Analizzando il rapporto tra pieni e vuoti sopra e sotto la linea di terra, lo studio – applicato a quattro spazi collettivi di Torino – mette in discussione la separazione tra questi ambiti, rivelando un confine fluido e ambiguo tra superficie e sottosuolo.*
*Il paradosso è illustrato con una lettura grafica della città verticale, offrendo nuovi spunti per interpretarne la complessità.*

Parole chiave

**Città verticale, linea di terra, temi collettivi, dinamica pieni-vuoti**

Keywords

**Vertical city, groundline, collective themes, solid-void dynamics**

As Francoise Choay points out in her book The Modern City: Planning in the Nineteenth Century (1969), Ildefonso Cerdà's plan for Barcelona corresponds to when the new interest in urban studies was born. Regardless of the aspects each author will develop, a tendency emerges to consider the city and its growth only in its two-dimensional horizontal dimension. This horizontal representation has long dominated urban studies, which, at the same time, have focused their attention only on what happened from the ground level upwards. The paper presents a three-dimensional approach to urban spaces, highlights the intersections and analyses the crosspoint between above- and below-ground realities, putting the idea of above and below-ground into crisis. It provides an overview of the relationship between solids and voids, a theoretical and graphical paradox presented by applying the theoretical concepts in the vertical perspective. The analysis explores how urban spaces interact with the subterranean realm, challenging the traditional representation and the notion of solids and voids.
In the 20th century, cities began developing underground infrastructure, but studies on these areas were limited. Medicine linked bacterial diseases like cholera to poor environments, prompting urban transformations focused on improving ventilation and light. Consequently, underground travel was often viewed unfavourably. Additionally, there was a belief that subterranean facilities, like sewers and subways, served only functional purposes for the surface world.

Urban space, as a collective theme, is conceptualised by Romano (1993) as an entity that emerges through social thematisation – a process in which shared behaviours gradually evolve, culminating in a collective awareness of their broader social significance. Romano's seminal work offers an atlas and a valuable categorisation of these themes, distinguishing between typologies. In this study, we aim to revisit and critically examine these categories from a three-dimensional spatial perspective, approached through the lens of the solid-void relationship. While the solid-void representation is well established and its analytical application to these themes is widely recognised above ground, a fundamental shift in spatial perception occurs when attention moves underground. Whereas landscapes offer immediate visual recognition and spatial comprehension, subterranean environments demand a temporal exploration mode, challenging conventional spatial awareness and inviting a deeper, more immersive experiential engagement.

The article presents graphical interpretations of the urban spaces within the above- and below-ground context, challenging conventional understandings of solids and voids, offering various perspectives – from traditional ones, in which excavated ground is considered void, to a redefined interpretation where the introduction of excavation guarantees a vertical connection. The perspectives are applied to case studies in Turin, Italy: Vittorio Emanuele, Porta Palazzo squares, and Sumboy and Ripari gardens. These representative areas present a multi-layered urban landscape: above-ground – public spaces like squares and gardens, while below-ground – infrastructures like metro lines and parking lots. The historical remains, noticeable in Porta Palazzo and the ancient city wall in Ripari Gardens, are the crucial link between the two urban realities. This connection emphasises the division between surface and subsurface, serving as a significant historical reference that showcases the continuity of the city's urban development. Therefore, the relationship between built structures and urban spaces in three-dimensional settings is accentuated by emphasising the point of contact between the two realms. Traditionally conceived as a boundary separating the earth from the built environment, it becomes an unstable and ambiguous threshold when applied to the vertical perspective of the city: it connects, defines, and obscures the relationship between above-ground and subterranean spaces. This instability arises from the fluctuating roles of solids and voids across layers. Above ground, voids are open spaces such as streets, squares, and courtyards framed by solid buildings. Below ground, the roles are inverted – voids become built structures, such as metro stations or underground plazas, carved out of the solid mass of the earth.

The paper highlights a contradiction in urban spaces and analyses the groundline as a crossing point in urban realities. It presents the paradox which arises from the challenge of representing the complex relationship of urban spaces above and below ground. As cities embrace verticality, the groundline emerges as a confusing threshold; it functions as a conceptual and representational challenge, which requires frameworks to navigate and understand the dynamic interplay of space across different levels.