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CONCEPTUALIZATION OF VISUAL REPRESENTATION IN URBAN PLANNING

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This paper represents an examination of recent research in the fields of urban planning, visual artwork, visual image and text analysis, according to which the increasing importance of visual representation in modern society has altered the traditional understanding of visual representation in urban planning. Therefore it is a challenge for architects and urbanists to model and represent urban planning strategies visually to an ever-wider audience of experts and non-experts in urban planning. The focus of this paper is on the consolidation of various cross-disciplinary criteria and how to conceptualise visual representation in urban planning.

Keywords: image, urban planning, visual representation, visual representation and text, visual representation and visual artwork.

Introduction

At the beginning of the 21st century, urban planning is no longer an "expert only" oriented discipline. Urban planning has transformed into an open and cross-disciplinary process, which is influenced by decisions of various professionals as well as the public domain. It is therefore a challenge for architects and urbanists to model and represent urban planning strategies visually to an ever-wider audience of experts and non-experts in urban planning. Visual representation has always been the primary mode of modelling and communicating the key themes of urban planning. However, technological progress, cross-disciplinary collaboration and changes of the important key messages have caused extensive and unpredicted possibilities for the use of visual representation. The specific function of visual representation – to model visually urban planning strategies to facilitate communication of the key themes – is an area that has been studied relatively rarely in urban planning. Also, urban planning practice in Latvia has no methodological approach to provide legally binding sets of documentation with visual, architecturally analytical argumentation of urban planning strategies. This kind of argumentation can be one of the main tools to facilitate communication through the means of visual representation.

Specific guidelines are developed within the discipline of urban planning itself to set the framework for how visual representation can be modelled using visual signifiers and their systems. These systems of visual elements are mainly based on conventions within the discipline itself, or unstable cultural conventions, which may lack

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current updates of visual equivalents of the actual contemporary key themes and visual notions. This rigorous use of visual representation does not reflect several aspects that can be important to facilitate communication and decision-making – meaningful visual aesthetics, conceptualisation modes of information, complementary use of visual and textual signifiers to construct not only visual representation, but also viewpoint and consolidated story. Visual representation is also bound to the questions, *how can this be rendered and consequently how to conceptualise a visual representation*.

Scope of visual representation research

Existing research (iconographical and iconological analysis of visual art work, compositional interpretation, semiotic analysis, psychoanalysis, anthropological analysis, discourse analysis, content analysis and image as text analysis) has mainly been concentrated on the examination of visual representations that already exist. Visual representation in urban planning research has another status. It is a mode of visual modelling and of constructing the research questions and answers themselves. Therefore, conceptualisation of the existing visual representation is just a technique to extend the understanding of the visual inquiry in urban planning.

The cross-disciplinary conceptions about the increasing importance of the visual materials are only partly integrated into the conceptualisation of visual representation in urban planning. For this reason, it is important to devise a reasoned method of selecting and merging various cross-disciplinary assumptions. The purpose of this paper is to set out a consolidated framework of important criteria, which are used to conceptualise visual representation in related disciplines (visual arts, semiotics and media theory) so that these criteria can be related to conceptualisation of various features of visual representation in urban planning. The basic purposes, of which the goals of this paper are based on, include indentifying the notion of the visual representation in visual arts, text analysis and urban planning and the logic, how certain values and quality indicators are assigned to the visual representation in the related disciplines. The planned result is to draw closer to a set of consolidated criteria, which can be used by experts in urban planning to facilitate communication with non-experts. An attempt to draw closer to the formulation of a consolidated framework of important criteria can be seen as an innovative aspect of the results of this research work in Latvia.

There are several important concepts that should be taken into account to understand the background of cross-disciplinary conceptualisation of visual representation. Peter G. Rowe, professor of architecture and urban design, has pointed out, when describing the relationship between idea, mode of thinking and visual representation in architecture and urban planning, an architect is only able to model those ideas and processes that he is able to envisage in a certain way (Rowe 1985). Ignasi Solà-Morales Rubió, a professor of architecture and philosopher, has argued that an understanding of contemporary architecture is not a question of *logos*, of universal ideas, but of *graphē*, of writings, of conventional and logical artifices by means of which a knowledge of the particular objects, of the architectures and architects of the present moment, may

hope to become more veridical (Solà-Morales Rubió 1996: 7). According to William John Thomas Mitchell, a visual image and text analysis theoretician, an understanding of the notion *visual representation* is a study field of representative icons – written or visual image, imagery, likeness, ideas and discourses (Mitchell 1987). Emergence of visual culture as a separate research discipline features the fact that the construction of the scientific and philosophical knowledge is dominated by the mode of inquiry, which is based on the visual comprehension of the world rather than on the textual one (Rose 2007: 5; Mircefs 2002). The dominance of the visual research mode has influenced not only the interpretation of visual representation, but also the methods of visual modelling in contemporary urban planning.

The field of visual representation analysis falls into two main directions – comparison and consolidation of cross-disciplinary assumptions or disciplinary isolation of various assumptions (Mitchell 1987: 53). The latest theories are based on the integration of cross-disciplinary assumptions, similarities and oppositions of different disciplines (Mitchell 1987: 1; Rose 2007: 1–59; Dühr 2007: 1–50; Bal 2005). The assumptions of cross-disciplinary conceptualisation of visual representation can be generally summarised as follows: visual representation as visual artwork, which renders symbolic meanings of texts or conventional meanings (Panofsky 1955), visual representation as a composition of directly seen visual elements (Rose 2007: 47–60), visual representation as a system of signs comparable to text (Mitchell 1987: 47–151; Bal 2005), visual representation as a systems of visual signs (Bolter, Grusin 2002: 47–60; Rose 2007: 47–60; Eko 2006: 187–195), visual representation as a tool to facilitate communication (Bolter, Grusin 2002: 47–60), visual representation as an artistic expert oriented viewpoint and scientifically analytical document (Jong, Voordt 2002: 19–60; Smets 2002; Zeisel 1984: 1–18; Rose 2007: 5). The contemporary conceptualisation of visual representation in urban planning is grounded not only in the specific requirements within the discipline itself, but also in the adaptation of those cross-disciplinary assumptions.

The notion *visual representation* has been presupposed in this paper to introduce a clear distinction between visual representation itself (representation, depiction, envisioning of something) and idea, notion, conception, strategy and image. The notion *image* has been widely used to indicate an image as a visual representation and an image as a mental or verbal image. This convergence of these notions has encountered a range of ambiguous interpretations or even a substitution of one notion with another one. Although these concepts are interconnected, setting the boundary between visual representation and image is a distinction between form, content and ideas. This paper features visual representation as a particular separate representation, as well as a complex set, framework or series of visual representations in urban planning. The concept of framework expands the traditional assumptions of functionality of visual representation to a wider concept of visual representation as a powerful communication tool, a consolidated standpoint, an artistically architectural and scientifically analytical tool to model research questions and their answers of urban planning strategies.

Visual representation and visual artwork

Directly seen content or form of visual representation – visual signifiers and their visual composition – can be presupposed as a starting point of conceptualisation (Rose 2007: 47–60). Such analysis, which is usually conducted in the visual arts, is based on conventions of visual aesthetics. The analyses of other aspects of visual representation, such as interpretation of meaning, are complementary overlays of directly seen content interpretation. Philosopher Richard Wollheim has executed three main approaches of aesthetics to analyse visual artwork. Aesthetic realism presupposes that aesthetical quality is an absolute value independent from any human judgement. Objectivity presupposes that aesthetical quality is an absolute value, which is also dependent on the cultural and social background. The relativist position presupposes that aesthetical quality is not an absolute value, but it is dependent on the experience and competence of each individual. Wollheim states that the meaning and essence of visual art is one of the most elusive cultural categories and this aspect complicates the process of visual artwork analysis (Wollheim 1980).

Elusive aesthetical propositions are even more complicated in urban planning. According to the conventional criteria of aesthetics, visual representation in urban planning can be modelled taking into consideration what the audience is able to perceive at all, what is considered as beautiful or not and therefore also acceptable or unacceptable, adequate or inadequate. Visual aesthetics are evidence, from which the represented content can be accepted as adapted as an audience's own viewpoint. This assumption, which underlies the importance of visual signifiers and their visual composition, forms the basis of conceptualisation and understanding of visual representation in urban planning. Aesthetical analysis can be simplified and considered as visually compositional interpretation (Rose 2007: 47–60), which is mainly evaluated through optical perception of visually artistic expression – composition, rhythm, proportions, structure, materials, scale, light and colour.

Visually geometrical composition is one of the most significant criteria that assigns a value to a visual artwork, as well as to visual representation in urban planning. It is judged as adequate or less adequate to the specific convention of temporally spatial consciousness theories – Euclidean spatial geometry and Cartesian co-ordinate system, network spatial organisation or other spatial order systems, linear perspective or other perspective modes (Dühr 2007: 43–47). Other aspects of visual representation, such as interaction of different informational factors, are overlays to visually spatial composition. Interpretation of conventional indirect meanings of spatially oriented visual representation has a secondary role in visually compositional interpretation. However, it is assumed that visual representation is an inseparable interaction between its form and content or meaning of the content. Therefore, visually compositional interpretation is a basic, but rather narrow conceptualisation technique (Mitchell 1987: 35–58; Rose 2007: 1–28; Bolter, Grusin 2002: 20–52; Somol 2007).

A long tradition of iconographical analysis has been applied to interpret conventional meanings of the visual artwork or visual representation. The meaning and

essence of visual artwork is equated to the symbolic systems of other artwork and particularly text. In this way, visual representation is judged as adequate or less adequate to the specific conventions. The iconographical analysis of visual artwork proposed by art historian Erwin Panofsky is only a preparatory procedure to iconological analysis (Bal 2005). Contrary to compositional interpretation, the theory of iconological analysis presupposes that formal means of expression and style of the visual artwork has a minor role in the interpretation of visual artwork and the conceptual framework of any period is a basis of style and visual expression of artwork. Theories of temporally spatial consciousness are considered to be too complicated to be applied to each artwork separately (Panofsky 1955: 1–50). According to Panofsky, iconology and iconography are separated by differentiating the interpretation of the total symbolic system of the visual representation from the cataloguing of particular motifs. According to Mitchell, iconology is the analysis of interconnections that constitute visual representation – image, mental image, imagery and likeness (Mitchell 1987: 2). Although iconological analysis is widely applied to interpret visual representation, it has limited use due to the ambiguous conventions of meanings. As a result of this kind of analysis, the system that assigns a value to visual representation is also subordinated to the structure of conventional meanings of ever changing themes and aspects of reality.

The functions of the visual representation in urban planning are remarkably different from the purpose of the visual artwork. In contrast to visual artwork, for which the main purpose can be considered to be an aesthetical enrichment, visual representation in urban planning is functioning not only as conveyor of aesthetical information, but also as artistic and scientific modelling and as a communication tool, which transforms non-visual information into visual form. Visual representation in urban planning can be compared with visual artwork mainly due to their similarities of visual composition and less to the structure of conventional meanings. It is not of vital importance that the audience is acquainted with a whole horizon of conventional meanings to assign visually aesthetical value to visual artwork. Visual composition via innate visual elements can be a successful conveyor of modelling and communicative function. Awareness of ideas, particular opinion or viewing position in urban planning can also be mainly examined through visually artistic expression of spatial relations and less through the unstable conventional meanings. However, a visual representation in urban planning is evidence of various information transfers and thus encodes not only visually spatial data, but also other levels of facts, ideas and conventions.

In contrast to visual artwork, which can be evaluated as a purely visual composition, visually artistic expression of visual representation in urban planning needs to convey traces of conceptualisation modes, of how information is sorted, generalised and classified, how certain aspects of information are highlighted or subdued and consequently, how the common understanding of conventional meanings of visual signifiers are reached. Moreover, these modes of conceptualisation need to be embedded and thus retrievable from visual representation itself to avoid unexpected misinterpretations, which might deform the communication process in urban planning. This aspect constitutes the vital difference between visual representation in urban planning and visual artwork on the level of their communicative functionality.

Visually artistic expression of visual representation in urban planning acts as a way of conceptualising information into such visual forms, which cannot be measured, verified or classified with the help of scientific methods in most cases. Although visual aesthetics are based on temporally spatial consciousness theories and conventional meanings, visually artistic expression also performs on the level of indirect associations. This aspect can be presumed even more important for modelling and communication than factually or conventionally correct interpretation of information and correspondence to the requirements of representation in urban planning.

Indirect associations create the basis of the image, which can be called the identity of the visual representation. Visually artistic expression brings forward contradictory relations between the represented identity of the urban planning themes and the visual identity of the representation itself. Visually artistic expression initiates subjectivity and unanticipated originality, which can be considered to be an expert's alternative standpoint and evaluation of urban planning problems, goals and possibilities. Originality of visual representation facilitates singularity of a certain urban planning strategy among other similar solutions. In such a way, visual representation in urban planning consolidates temporarily spatial concepts, resources of urban planning experts and the audience into a community that had not existed before.

The importance of visually artistic expression has facilitated the development of artistic, architectonic and visually spatial modelling methods in urban planning, which are based on temporally spatial consciousness theories. In this way, the significance of clear visually spatial concepts is accentuated in urban planning strategies. Visual representation in urban planning turns into a specific filter to model and represent urban structure, its physical appearance and materiality. Thus, visual representation in urban planning is primarily the visual composition and organisational structure of represented physical space and material objects. The represented urban spatial organisation can be built or evaluated as a physical situation after a given visual representation. Convergence of spatially structural and associative visually artistic expression accentuates the fusion of physical materiality with conceptuality or the blend of content with its formal visually compositional aspects.

Visual representation and text

Purely visual representation as the primary expression mode in urban planning requires the first assessment of the visually compositional status prior to the textual one. However, text cannot be considered only as a less important secondary notation of the visual expression. Synchronised application of visual representation and text is the means to organise and notate the transfer of information into a systematised way. Consequently, certain discourse, norms and values are created and embedded culturally. Logic of communication, in principle, lead to a conclusion that visual representation in urban planning performs similarly to the communicative function of text. Visual representation in urban planning can be conceptualised not only as a purely visual expression, but also as a text and as interlinked visual and textual notational systems.

Several research fields have developed the analysis of visual representation as comparable to the examination of text as a system of signs and conveyor of a story (Mitchell 1987: 47–151; Bal 2005). Visual representation is integrally opposed and compared to the text, thus highlighting differences, similarities and functions of the two extreme notational systems. Oppositional and comparative analysis falls into several approaches, which articulate different relations between text and visual representation – visual representation as a secondary notation to the text (as illustration to the text) (Bal 2005), visual representation as text (visual representation described verbally in order to define its meaning) (Lefèbvre 1991: 1–20) and visual representation as a primary notation (as particular visual representation that can convey more meaning and information than text, but that can be read equivalently to the text) (Bal 2005; Mitchell 1987: 1–12). These approaches merge into an integrated standpoint that underlines the mode of complementarities of visual representation and text (Bal 2005; Mitchell 1987: 5–45; Meyer *et al.* 1988; Dühr 2007: 50–57). In such a way, there is no superimposed dominance of one notational system over another one. Visual and textual notations complement each other and implicitly facilitate the communicative function of visual representation in urban planning.

Such an integral analysis is based on assumptions that visual representation can be read as text and visual representation can narrate and consolidate a continuous, consolidated story. Descriptive and figurative structure of the text, which can be considered to be a visual narrative, is partly based on the textual description of visual images. Visual narrative is also the mode, of how visual representation or text can partly be understood and decoded via description of visual images. The research field of the visual narrative complements the analysis of the associative visually artistic expression, thus widening the concepts of conventional meanings to the creation of the image or imagery, visually poetic or associative writings and visualizations. Conceptualisation of the visual narrative is bound to the questions, how a written image can be read visually and how visual representation can narrate and be regarded as a narrative (Bal 2005).

The effective means of creating a written image and also a visual image or representation is generally considered to be a metaphor which can cause something to be seen in a way that cannot be revealed by literal meaning, but can be achieved through poetic description (Bal 2005). Describing the written image as visually framed through the means of visual representation often creates the metaphor. Conventions of temporarily spatial consciousness theories have a significant influence on the mode, on how the written visual metaphor is structured. Space, spatial objects and images are depicted or described through distinct visual representation and position of the viewpoint. Thus, even the thrust and plot of the story can be generated through the means of metaphors as visually framed representations. In this way, the text is being read visually. This aspect can be called figuration, similarly to the geometrical figuration or visual composition of visual representation. The representation mode of the written mental image that is framed visually is verbal in the first place (Bal 2005). However, visual representation in urban planning needs to construct images directly

by means of visual elements before any textual notation. The embedded visual image specifies the visually artistic and spatial information. Thus visual representation conveys a smaller number of ambiguous interpretations.

The effective means of creating the narrative of the text is generally considered to be continuity, coherence and sequence of the story, which indicates the comprehension of the whole written text. The continuity and sequence is reached by initiating the position of the viewpoint. Thus various images are consolidated into the whole. The coherence of the text is reached through the use of images, which act as complementary elements of the same whole. Coherence of the consolidated story can be interrupted by the inadequate use of images, causing contradictions between images of the story. The particular position of the viewpoint and complementary use of the images acts as points of focus. Thus, focalisation refers and gives organisation to the total conventional symbolic system of the story, as well as interconnecting the narrative represented with its written or visual representation (Bal 2005). In essence, the same conceptualisation of the narrative or visualising narrative can be considered as the most effective means of creating images and consolidating the structure of the visual representations or set of visual representations in urban planning. In this way, not only the visually artistic, spatial and associative image of the visual representation is offered, but the particular viewpoint or architectural discourse is also constructed. These aspects show that the means to construct and represent the meaning and way of conceptualisations are rather similar in the text and the visual representation (Bal 2005; Rose 2007: 46–47). This also indicates the complementary character of the text and visual representation, the connection between seeing and telling.

However, the differences of semantics and syntax of text and visual representation require careful consideration, how the interconnected notions of the visual narrative of the written text are applied and interpreted in visual representation in urban planning. The focal points directly mediate the text, thus the focus of the story is the direct content of the linguistic signifiers. Various viewpoints can be easily detected in the text. Focalisation of the visual representation is its directly seen visual signifiers and the implied focus point or viewpoint. The notions of focus and focalisation of the visual representation in urban planning can also be interpreted as the main idea or the backbone that gives the direction of the story, positions the viewpoint, organises and gives hierarchy to the separate visual representations. Focalisation allows avoidance of inadequate details, which can distort the consolidated structure and deform or fragment the communication process. However, it is not easy to identify the addressed, implied and represented viewpoints – who can see, how and what can be seen and what the audience is able to adapt as their own viewpoint, matching with the viewpoint represented. The position of the viewpoint determines the status or meaning of the represented content. A consolidated story and the position of the viewpoint are important coordinators of the ever-growing amount of information that urban planning strategies are dealing with into complex comprehensible sets of visual representations and text.

Visual representation as an artistic mode and an analytical approach in urban planning

The cross-disciplinary approach to conceptualise visual representation in urban planning has brought forward the question of whether visual arts, semiotics, linguistics and philosophy can interpret all of those aspects of visual representation in urban planning that cannot be explained through using the means within architecture and urban planning themselves. Urban planning research methodologies, visual modelling techniques and related concepts require several assumptions to conceptualise visual representation and integrate the cross-disciplinary notions. Taeke de Jong and Theo van der Voordt, architecture and urban planning theoreticians, have positioned visual representation as a constituent of wider architectural thinking – research by design methodology – which consolidates artistically architectural and scientifically analytical approaches into the complementary system (Jong, Voordt 2002: 19–60). Research by design can be considered as a methodological evaluative framework of architectural and urban planning theories, trends, spatial planning systems and visualisation methods.

Integration of artistically architectural and scientifically analytical approaches is also the mode used to conceptualise visual representations. Artistically architectural and scientifically analytical approaches span visual modelling from artistic possibilities to scientific probabilities. Artistic possibilities are experimental viewpoints outside accumulated facts and experience, while probabilities are predictable outsets of accumulated facts and their prospective functioning. The differences between the possible and probable outcomes also determine two different criteria to assign value to the visual representation. Possible future situations can be considered as inadequate in terms of scientific validity and truth-reliability, thus motivating the debate about the usefulness of research by design. However, scientific validity and truth-reliability is extended from fact-based probability to reliability that a situation is at all possible under certain conditions (Jong, Voordt 2002: 19–60).

In this way visual representations can function as scientific evidence, which can be evaluated as valid, verifiable and truth-reliable, and also as artistic experiments, which can be evaluated only in accordance with a certain system of conditions and values. During the process of communication visual representation as research evidence may not hold the status of scientific conclusion, but it may be considered to be as a structuring preparatory instrument and argumentation of scientific documentation and vice versa – the scientific document may be a preparatory instrument of the artistically architectural modelling. Due to the artistic approach, visual representation in urban planning can be considered as a subjective expert's viewpoint, which is one of several possibilities. The subjective expert's viewpoint is one of the major characteristic features of the 21st century's visual representation in urban planning. Visual representation in this context is an artificial framework that does not have an equivalent in laboratory circumstances or in everyday life situations to test the represented content against.

There are several criteria, which are used to examine visual representation in urban planning according to the integrated logic of artistic and scientific approaches. Visual representation needs to be comparable by the scale and symbol system used, a clear distinction between possibilities and probabilities and evidence of modelling steps also need to be identified. Visual representation needs to be retrievable for further critique and development of the research (Jong 2001). Artistically architectural and scientifically analytical approaches situate visual representation not only as representative of an existent or future situation, but also as an instrument of analysis, a visually artistic design and a scientifically probable document simultaneously.

Conclusions

Criteria that assign value to visual representation in urban planning span from visually aesthetical interpretation to visually and textually descriptive, figurative and conventional conceptualisation, and also integrate artistically architectural and scientifically analytical approaches. According to modern visual language theory and the recent research in urban planning (Dühr 2007; Meyer, Marriott 1998) such a conceptualisation can be presupposed as formation of a composite visual language in urban planning using mixed notations that interconnect visual representation and text. Thus, conceptualisation of visual representation in urban planning is a genesis of a wide modelling and communication mode, which is structured in a conventional way and consists of various representative systems. Such a system or a consolidated framework of cross-disciplinary criteria elucidates features of visual representation that are not explained within the urban planning discipline itself and establishes a multilayered understanding of elaborate visualisation possibilities. As a consequence, such a visual language can support the transfer of the key themes of urban planning, which can be understood not only by the experts in urbanism, but also by the audience of non-experts.

Although there are attempts to equalise and create a unified visual language for urban planning, at the present moment this process can be characterised as kaleidoscopic and fragmented at different planning systems and levels. Experts in urban planning intuitively use most of the cross-referenced opportunities during the design and research process. The composite visual language in urban planning can become a background map of how to navigate during the inquiry procedures and establish a protocol of communication. Thus, the composite visual language in urban planning is also a form of knowledge and a culturally embedded discourse.

The framework of cross-disciplinary criteria can be expanded in detail as a competence platform or vocabulary of visual metaphors, symbols, elements, images, themes and concepts, which can allow purposeful, analytical and conscious use of visual representation to find visual equivalents to the actual information. Due to the ever-changing vast flux of information in urban planning it is not possible to create a complete and absolute overview of all the components in such a vocabulary. However, the assumptions, which span from conceptualisation of visual to textual notational systems, form a solid basic framework for how urban planning values can be created

through analysis and mutual understanding. Effective incorporation of cross-disciplinary evaluation criteria into contemporary urban modelling and research is the next step for visual representation research.

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VIZUALIOSIOS REPREZENTACIJOS MIESTO PLANAVIME KONCEPTUALIZAVIMAS

Ilze Paklone

Santrauka

Straipsnyje nagrinėjami svarbūs miesto planavimui, vizualiajam menui, vizualiesiems atvaizdams ir teksto analizei skirti tyrimai. Remiantis šiais tyrimais, didėjanti vizualiosios reprezentacijos svarba moderniojoje visuomenėje keičia tos reprezentacijos naudojimą miesto planavime. Tai iššūkis architektams kaip vizualizacijų ekspertams, pristatant miesto planavimo strategijas plačiai tiek specialistų, tiek ir ne specialistų auditorijai. Šiame darbe dėmesys sutelkiamas ties kūrybingumu, apspręsto kriterijų, susijusių su vizualiosios reprezentacijos miesto planavime įsisąmoninimu.

Reikšminiai žodžiai: atvaizdas, miesto planavimas, vizualioji reprezentacija, vizualioji reprezentacija ir tekstas, vizualioji reprezentacija ir vizualusis menas.

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