CONSTRAINT AND UNCERTAINTY: A RISK PERSPECTIVE OF PUBLIC SPACE DESIGN AND MAINTENANCE

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ABSTRACT: The article attempts to explore the risk-aversion-led public space design and maintenance and people's response to the consequent built environment. The transformation of perception of risks from traditional *probabilistic thinking* to *possibilistic thinking* dominates the present risk evaluation and fosters a climate of fears. It contends that the subsequent over-regulation of public space constrains decision maker's vision and willingness of innovation, reinforces the vulnerability of society and hence undermines the intrinsic value of the public. Based on analysis of the paradoxes of this top-down approach and the field study of behaviour observation conducted in the South Bank, it suggests that uncertainty and toleration are the defining characteristics of public space, and 'unfinished' and 'open-ended' strategies should be encouraged and applied in public space design and maintenance.
KEYWORDS: public space, urban design, risk, over-regulation, uncertainty, constraint, creation

One of the dominant tendencies in urban design in UK, especially regarding public open space, is to minimize risks. From architects, urban designers to project managers and policy makers, risk has moved to the centre of their work. Dealing with the unexpected has became the primary task and responsibility of urban designers, who are now regarded more as experts drawing on their professional training on risk management, rather than creators of exciting urban environment. Also the government and public authorities are increasingly introducing regulations to urban space, such as segregation of vehicular traffic and pedestrians, a variety of bans and CCTV systems, in the hope of improving public safety and security. This then strikes the questions of this paper: is the world around us really full of risks and fears or does the fearful culture itself impose the conception of risk and foster a climate of uncertainty? And would this tendency provide us with an utterly secure public world or will it ultimately undermine the truly public?

PUBLIC SPACE OF RISKS

Evaluation of surrounding environment from the perspective of risk has became the defining characteristic of the society, and is governing the operation of official organizations, local communities and the public sector. Through the prism of risk, much of everyday life is seen as potential threats and people are regarded as passive victims rather than active authors of circumstance. Subsequently, people are not considered as a source of strength to deal with emergencies, but identified as weak subjects on the receiving end that need to be protected.

With respect to public space design and maintenance, this perception leads to manage-the-downside and avert-the-bad, rather than encourage-the-unpredicted and create-the-good. Therefore, the opportunity side of public open space begins to disappear and our world is thus narrowed into a defensive shell[1].

With respect to users of public space, who are heavily influenced by this prevalent ideology, they become over-cautious on their actions, sceptical about innovations and afraid of changes. Their attitude towards everyday life is far more divergent from those who focus on discovery and exploration. Rather than taking responsibilities for their own misfortunes, they perceive every 'accident' as a culpable negligence and scour the society for something or someone else to blame. Consequently, this tendency shapes a 'compensation culture' that people litigate public authorities and other bodies for minor misfortunes in the hope of gaining financial compensation.

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[1] CABE-Space, "What are we scared of? The Value of Risk in Designing Public Space," London, 2005

The 'compensation culture' usually contributes to excessive risk-aversion and unnecessary bureaucracy[2]. Under the pressure of hundreds of thousands of claims, government is likely to spend more resources on the downside of events and strengthen the regulation of public open space, so as to eliminate risks and avoid litigations. Simultaneously, a well-worked-out system to deal with suing and complains is also being developed to export *its* responsibility. The consequences are somehow contradictory. On the one hand, over-regulation surely constrains people's behaviour and oppresses designers' creation; on the other hand, these bureaucratic risk-avoidance policies to a large extent dilute people's trust of themselves and public authorities, and therefore reinforce their awareness of their own powerlessness and escalate their irresponsibility for misfortunes. As a result, public urban space turns out to be unattractive, tedious, monotonous, suppressing and even derelict.

THE DOMINANT THINKING PROCESS

What are the overall social conditions that lead to this anti-risk perception? The pervasiveness of the risk perspective on everyday life derives from the profound anxiety and uncertainty about the vast unintended effects from industrialization and globalization, including over-population, environmental degradation and so on. Because of the fear of technology out-of-control, people tend to blame the fragility of the complex systems we have established. The sciences we applied to create the world are now what we condemn for causing risks. Therefore, all the innovation and creation are viewed as a potential resource of vulnerability, rather than a resource that can be utilized and modified against potential risks. Vulnerability has been increasingly experienced as a defining condition of existence[3].

The unprecedented sensitivity to vulnerability has transformed the perception of risks from the traditional *probabilistic thinking* to *possibilistic thinking* that invites speculation of what can possibly go wrong. Because it is believed that the present society lacks adequate information to calculate the potential threats and therefore risk is no longer subject to the probability-based assessment, but intuition of the possible high-consequence risks.[4] In other words, *possibilistic thinking* is likely based on and promotes worst-case studies, because it encourages speculation of 'everything'. This approach in turn can increasingly inform us how vulnerable we are and intensify our feeling of fears. By only highlighting the worst and fostering a fatalistic consciousness of the future, *possibilistic thinking* may prohibit our understanding of the threat itself. Moreover, in the long term, the cumulative outcome of this thinking process might be the routinisation of the expectation of the worse possible situations[5]. On the contrary, rather than normalizing risks, *probabilistic thinking* provides us with an insight into the threats and helps minimize the adverse outcomes. Although it might be arbitrary to state that probabilistic analysis indicates a safe future, it is *possibilistic thinking* that provokes our paranoia and narrows down our visions.

RISK-AVERSION AND RISK-AWARENESS

With respect to perception of the environment, the paradigms of *possibilistic thinking* and *probabilistic thinking* formulize two fundamental approaches, namely risk-aversion and risk-awareness. As stated above, vulnerability-led perspective of everyday life is dominated by *possibilistic thinking*. Therefore, risk-aversion has been advanced as the predominant solution to the pessimistically perceived environment – a dangerous jungle with risks lurking around every corner and vulnerable people confronted by the fatalistic future. While it is inaccurate to suggest that this approach is purely radical, risk-aversion definitely made the public subconsciously ignore the opportunity side of the environment. On the contrary, instead of inclusively regarding the world as a myriad of risks, *probabilistic thinking* sees the world as neutral existence and discriminates between the minor risks that are unlikely to occur and the major risks that might have serious

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[2] CABE-Space, "Living with Risk: Promoting Better Public Space Design," London, 2007

[3] Furedi F., "Fear and Security: A Vulnerability-led Policy Response," Social Policy and Administration, Vol.42, No.6 (2008), pp.645-661

[4] Furedi F., "Fear and Security: A Vulnerability-led Policy Response," Social Policy and Administration, Vol.42, No.6 (2008), pp.645-661

[5] Furedi F., "Fear and Security: A Vulnerability-led Policy Response," Social Policy and Administration, Vol.42, No.6 (2008), pp.645-661

consequences. With benefits and drawbacks compared, risks thus can be rationally understood and decisions are made accordingly. In this view, never has risk-awareness preclude discovery and exploration. Rather, it helps keep people sensitive to the environment.

To gain a better understanding, it is helpful to distinguish 'hazard' from 'risk'. The former refers to something that may cause harm, while the latter means the chance of that harm occurring and the likely impact of it[6]. Accordingly, risk-aversion tends to view all the hazards as risks that require active management to prevent otherwise undesirable consequences, while risk-awareness provides a procedure of identifying hazards and determining the extent of risks. Therefore, risk-awareness, which is proportionate to the level of risks, may benefits the decision-making process of urban design, whereas risk-aversion is likely to misguide it.

Mirrored in the field of urban design, risk-aversion obligates designers and policy makers to primarily deal with risks in regard to public safety and security. The so-called creation of designers therefore is likely to be constrained in the scope of innovative risk management, that is, how to mitigate pitfalls and utilize benefits of risks. Subsequently, their awareness of the positive effects of 'taking a risk' might be unconsciously diminished, let alone their sensitivity to creating new characteristics. In contrast, through the prism of risk-awareness, designers' visions can be significantly extended. In other words, the focus of urban design is shifted from mere risks to a much wider range of issues, and more stimulations and inspirations are therefore unveiled. Even for risk avoidance, risk-awareness still opens up a new window for risk management, because the positive outcomes of new created features of public space may prevail over and even help reduce the presupposed risks.

Within the field of management of public space, risk-aversion often leads to over-regulation. As demonstrated previously, this may escalate people's irresponsibility for their misfortunes and increasingly amplify their vulnerability, which in turn might intensify bureaucracy. On the contrary, risk-awareness assumes individuals as active subjects who can identify the positive outcomes, choose among the available choices and even alter their circumstances. In other words, it acknowledges the inability of decision makers to preclude all the risks on behalf of individuals and casts more trust on the public. Therefore, restrictions on uses of public space and even the urban design process are likely to be reduced, and exploration, creation and experiment therefore can be allowed and encouraged.

RETREAT OR RESILIENCE?

Ironically, a paradox underlying the risk-aversion-led policies is the government's heroic belief that excessive regulations, which are constituted primarily for eliminating all the risks, can ensure and improve resilience of the public. In other words, instead of believing that resilience can flourish by itself from within the emergencies, official discourse assumes that the ability of people and communities to deal with and bounce back from disruptions rests on 'intelligent' legislative requirement that prevents people from encountering the unexpected.

However, this utmost top-down process does not get into grips with the intrinsic value of 'resilience'. As Kendra and Wachtendorf asserted, resilience is presented as 'creative thinking, flexibility and the ability to improvise in newly emergent situation'[7]. How people behave in front of the unintended events is largely dependent on their experience and inextricably intertwines with everyday life of a community.[8] It is through the process of wide social interactions and cooperation that resilience is developed. Accordingly, though risks may have negative effects and even cause disruptive consequences, it is also through these suffering processes that people can learn their weaknesses and, more importantly, discover their strengths and intelligences.

Therefore, the government's advocacy of 'bureaucratic resilience' is merely a Utopia. On the contrary, it intensifies people's consciousness of vulnerability and undermines their confidence of their ability to deal with emergencies. *Possibilistic thinking* has formulated a vicious circle that increasingly amplifies the

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[6] CABE-Space, "Living with Risk: Promoting Better Public Space Design," London, 2007

[7] Kendra, J. and Wachtendorf, T., "Elements of Resilience In the World Trade Centre Attack, " Preliminary Report Published by the Disaster Research Centre, Newark, DE: University of Delaware, 2002

[8] Furedi F., "Fear and Security: A Vulnerability-led Policy Response," Social Policy and Administration, Vol.42, No.6 (2008), pp.645-661

powerlessness of both institutions and the public in the face of the unexpected and therefore disrupts the intrinsic value of 'resilience' of society. In this view, encouraging people to take their own responsibility of citizenship and engage in the public is the essential response and indispensable tactic.

FREEDOM OR CONSTRAINT?

Most importantly, this raises another paradox between freedom and constraint. While regulation aims for providing people with places where they can go about their business freely and with confidences, it, at its most basic, undermines people's freedom of exercising choices in public spaces by constraining their behaviour. This addresses the kernel questions posed by truly public space: what is public realm? And who has the right to use it?

Clichéd as it is, public space, by definition, is designed and produced for all. Different groups of people can share and use the same places in different ways for different purposes. It is not only the activities of shopping, eating, walking and talking, which are generally regarded safe, that make public realm. Everything we do in public space contributes to it and simultaneously shapes ourselves. Carr suggests that public space should be responsive, democratic and meaningful, so as to enable people to freely satisfy their need, exercise their rights and establish a sense of community and places.[9] Rather than simply providing free accessibility and accommodating activities confined to individuals or family units, a successful public space is definitely an arena for social interaction and intermingling and a platform for learning and information exchange.

In this view, over-regulation and gentrification of public space precisely reveals a narrowing of understanding of what 'public' is. Though conceptually justified as responses to concerns about public safety and health, those restrictions dramatically constrain people's freedom of exercising choices whilst also reducing opportunities for communication. While vagrants, alcoholics, vandalism and alike that are generally considered as potential threats to the public are directly prohibited, other activities that may make people uncomfortable are also frequently controlled. As such, people's behaviour in public space has to conform to an ever narrowing range of what is acceptable and the idea that public is for everyone is therefore losing the ground[10].

Moreover, people's behaviour is not only motivated by their demands, but also influenced by their experience and dependent on the immediate environment. In other words, much of the enjoyment and pleasure of public space is gained through the process of engaging in the public, as the surrounding world and others' behaviour can inspire new ideas and decisions. Richard Sennett asserts that part of the urban life is a sense of unpredictability, even edginess.[11] Similarly, Iain Borden contends, 'much of the joy of public spaces comes from their surprising qualities, from not always knowing them or the people they contain … these are our rewards: the unpredicted, the alternative, surprising ways of living in cities '[12]. Complexity and uncertainty are essentially indispensable qualities of public space. In this view, by reducing the diversity of environmental characteristics and activities, restrictions on public space design and management considerably eliminate the opportunity of stimulation, undermine people's freedom of choices and impoverish the quality of public life. A tedious, inanimate and suppressing public environment is definitely disruptive to the public.

Admittedly, uncertainty is not necessarily always positive and surprising, and toleration of others and activities can sometimes indulge the undesirable behaviour that may pose threats and even cause harms to the users. However, the drawbacks of uncertainty are often overestimated, and, due to the subsequent excessive anxiety, the negative effects of over-regulation are sometimes neglected. Compared with other serious problems like the death caused by traffic accidents, threats to public safety, such as personal injuries, perceived threats and damages to the built environment, are definitely not insuperable. It is because of the overall fearful climate enhanced by the media coverage that the issue of public safety is magnified and we are disposed to expect bad outcomes. Besides discouragement of social engagement, reduction of use of public spaces is also criticized for its potential threats to people's health, such as obesity, cardio-vascular

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[9] Carr S, Francis M, Rilvin L.G & Stone A.M, "Public Space," Cambridge, Cambridge University Press, 1992

[10] Dolan C, "How public is Public Space," Blueprint, Issue 281 (2009), pp.44-52

[11] Richard S, "The Fall of Public Man," London, Penguin, 2002

[12] CABE-Space, "What are we scared of? The Value of Risk in Designing Public Space," London, 2005

diseases and cancers caused by sedentary lifestyles. However, these problems are often overlooked, while murders and sexy insults often grab the headlines. Pitfalls of excessive restrictions are therefore concealed, though they are repeatedly justified in the name of safety and freedom.

What essentially matters is not the apparent consequences that over-regulation causes, but the profound distrust on the public it results in. Our right to use the public space for various purposes ultimately rests on our confidence of ourselves and willingness to accept, engage in and celebrate the uncertainty[13].The unpredictable behaviour 'shows people's continued capacity for invention, discovery, appropriation, re-appropriation and expansion of the meanings that urban spaces can convey.'[14] As such, people and the environment become increasingly reciprocal. However, our willingness of engagement is disrupted by excessive regulations. On the one hand, spaces that endeavour to remove risks are often turning into places of consumerism, and people tend not to go to those places except for shopping related purposes. More seriously, our bodies tend to become passive and our active role of interacting with public space may give way to accepting minds. On the other hand, strict restrictions can impoverish the attractiveness and enchantment of public space and which subsequent may turn out to be left-over but a fecund soil for undesirable behaviour. Both the scenarios progressively intensify the vulnerability of the public and the institutions, and therefore undermine the confidence and trust. The more vulnerable we perceive ourselves, the less responsibility we will take, and the less we aspire to the public.

As a compromise to those conflicts and effective reduction of invasive security, CCTV has been widely accepted and welcomed as invisible surveillance that can help achieve public safety. The extraordinary growth of CCTV in UK has already transformed the country into a surveillance society with people being captured more than 400 times a day if travelling through London[15]. However, the proliferation of CCTV makes individuals feel alienated in public space. This increasingly fosters the fearful climate of society, reinforces people's awareness of vulnerability and therefore reduced their social engagement.

In short, the truly public space is where we gain stimulations to our actions, feelings and attitudes towards others and the world. It is a place that has genuine diversity and encourages and tolerates all that people do. The biggest risk therefore is not to take the risk of allowing the unexpected and creating opportunities for freedom.

UNCERTAINTY OR RETROFITTING?

Considering the complexity and uncertainty of public space, a further paradox is that the conditions, unpredictable and continuously changing, that we attempt to manipulate on the purpose of risk management are what we are based on to assess and calculate risks. Since the circumstances are not consistent, risks, to a large extent, can not be predicted in advance. This is also reinforced by the sophisticated differences existing in urban space design and maintenance process ranging from decision making to implementation.

Firstly, people of different backgrounds, age groups, genders and socio-economic status tend to perceive and response to risks in different ways. Activities that might benefit people are usually given a higher level of acceptance, while those estimated more harmful are often averted. Young children, senior citizens and those belong to lower socio-economic groups are usually considered more vulnerable and tend to be more susceptible to risks and response cautiously. Secondly, stakeholders from a wide range of professions usually have varying understandings of along with differing focuses on risks. Thirdly, there has long been and will always be a gap in risk perception among designers, administrators of public space and the ordinary users. Finally, people's perceptions and responses to risks are not static, but reliant on specific situations. All those differences indicate significant complexity to public space design and maintenance.

Therefore, no spaces can be made neutral. The official agenda requires that all stakeholders' perceptions of and possible responses to risks should be inclusively taken into account, and an effective, tangible and sufficient communication between them and decision makers be ensured. It is believed that this is the best

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[13] Dolan C, "How public is Public Space," Blueprint, Issue 281 (2009), pp.44-52

[14] Stevens. Q, "The Ludic City: Exploring the Potential of Public Spaces," Routledge, London & New York, 2008

[15] Dolan C, "How public is Public Space," Blueprint, Issue 281 (2009), pp.44-52

process through which design decisions can be mediated and modified and thus an inclusive environment can be created. Nevertheless, in actuality, such an inclusive process can only lead to a protracted and even endless discussion. Admittedly, proportionate risk awareness can help to produce a high quality urban environment, but it does not necessarily means an inclusive solution. Even if design strategies are formulated based on this debate, builders and administrators' interpretations of those guidelines in the implementation stage are likely to be different from its original meanings. It might be argued that retrofitting is necessary for maintenance of public spaces not only due to the unpredictability of risk but also the dynamic relationship between people and the environment. However, retrofitting is again the product of risk-aversion and *possibilistic thinking*, because it is completely blind to people's ability to deal with risks and the fact that variation of environment may create opportunities to reduce anticipated risks.

Accordingly, a retrospective of the unpredictability of risk indicates the necessity and importance of spontaneous bottom-up response to and management of emergent risks. So instead of assessing every possible risks and endeavouring to manage them, why not give more freedom to the public, given that risk in public space, per se, can only be alleviated but not eliminated through design and maintenance?

FIELD STUDIES

To investigate how people's behaviour is stimulated and constrained by the immediate environment and regulation of public space, field work was conducted at the South Bank of the River Thames, London. Two representative sections of the promenade was selected, namely the Queens' Walk and the City Hall. In general, both the sites accommodate heterogeneous population and have diverse physical characteristics but are also simultaneously highly regulated by public authorities.

Generally, people's creative appropriation of public space for recreational purpose was widely observed. Users' desire of engagement in public space can be reflected by the increasing number of unplanned activities corresponding to the growth of the overall population. With regard to specific activities, physical features of the built environment, such as change of levels, staircase and public installations, played a crucial role in encouraging people's exploration and participation. Most sustained activities were recorded concentrated in those places. For instance, teenagers got together and exercised their skills of somersault in the stair of pier after ebb (Fig. 1.); kids stepped into the water and ran through the fountains back and forth near the City Hall (Fig. 2.); and young children climbed up and down and chased each other around the annular stone installation in the Queens' Walk (Fig. 3.). Notwithstanding the potential risks that may hurt users, people continuously appropriated those characteristic spaces. This not only mirrors their capacity of interacting with the environment but also the positive effect of taking proportionate risks in public space design.

Figure 1   Teenagers practice skills of somersault

Figure 2   Young children run through fountains

Figure 3   Kid climb and chase each other   **Figure 4**   Skateboarding constrained under platform

However, some behaviour that might cause personal injuries, perceived threats and damages to the built environment were rigidly prohibited or merely constrained in a particular place. Skateboarders were only allowed to assemble under the platform of Queen Elizabeth Hall, which was specially designed for them (Fig. 4.). Although it had become an attraction of the South Bank, this precisely reflects the strict regulation on the usage of public space. Moreover, skateboarding, cycling and ball games were also occasionally observed occurred in the lawn terrace or the Scoop near the City Hall, but immediately interrupted and stopped by staffs from the authorities (Fig. 5. & Fig. 6.). People's willingness of engagement was substantially oppressed by regulation and surveillance, which only left behind the seductive but desolate landscape.

Last but not least, young children, whom are considered to be one of the most vulnerable groups by risk-aversion paradigm and so need to be carefully protected, were recorded as the most distinct users of public space. Whether or not they were supervised by their parents, they appropriated public space in their special ways whenever they were there. This is particularly true for the cases of the fountain near City Hall and the annular stone installation in the Queens' Walk. Children's nature of play can be wholly inspired by the characteristic environment, so why not the adults if freedom and space were given?
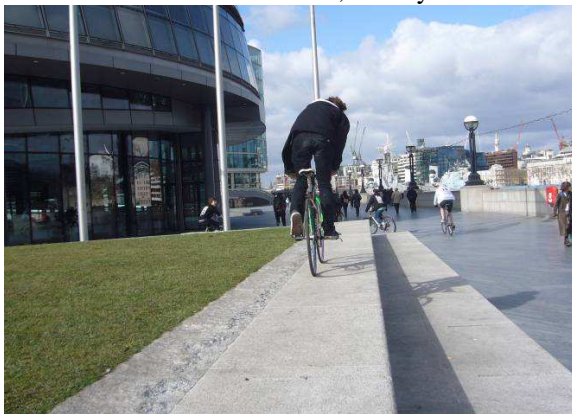

Figure 5-6   Cycling and skateboarding occasionally emerge around City Hall but are immediately interrupted

IMPLICATION

What is the implication for public space design and maintenance? Although it might sound clichéd, it is necessary to reiterate that public space is produced by and for all. In other words, freedom and uncertainty as the defining characteristics of public space surely have to be acknowledged. What this connotes is the coexistence of opportunities and risks. As demonstrated previously, creating places of safety and certainty by eliminating all the risks is certainly a Utopia. Risk-aversion that is dominated by *possibilistic thinking* definitely undermines the public. Therefore, an objective perspective of risk and opportunity is of particular importance for achieving the truly public.

First and foremost, this essentially requires a rational view of the environment and people, as well as their relationship, because this overarching perception underlies the overall decision making process. With the fearful climate which harbours in society, everything is preceded with a possible threat and people are

perceived as passive victims of circumstance who are completely vulnerable in the face of risks. The immediate influences of such paradigm on public space design and maintenance are enforcement of risk management and over-regulation. Cumulatively decision makers may become blind to the opportunity for experiment, innovation and creation. Both the short term and long term effects are combining to degrade public space and form a vicious circle. Thus, acknowledgement of the dynamic interactive relationship between people and environment and awareness of both the possible risks and potential opportunities of the world are utterly vital.

Subsequently, this fundamental perception enables decision makers to gain a better understanding of risk. While possibilistic interpretation of problems works to normalize all the possible harmful outcomes and produces restrictions based on 'worst-case studies', probabilistic analysis helps to identify the extent to which risk occurs and the likely impact, and which substantially assists the decision making about when to experiment and innovate and when to regulate and constrain. Therefore, risks will not only be rationally understood and assessed, but also utilized as positive elements to benefit the public. For urban designers, proportionate risk-awareness not only opens up the opportunity for creation, but also reinforces their engagement in and sensitivity to the environment.

Moreover, engaging in and manoeuvring the risks and uncertainty is not only the responsibility of urban designers and public authorities, but also the right of users. The sophisticated differences of population and the unpredictability of people's behaviour and risks rightly mirrors the limited capacity of the top-down process of public space design and maintenance in managing risks and shaping behaviour. Since people are willing to enjoy a certain degree of complexity and uncertainty and exercise their freedom to respond to risks,[16] therefore, instead of aiming for certain groups of people, which will inevitably fall short in predicting and regulating users, urban space design and maintenance strategies should shift to providing unfinished projects or open-ended spaces that allows and encourages people's active engagement and interaction and may even spontaneously generates opportunities for re-appropriation and solution to potential risks. The diversity of activities concentrated on the annular stone installation and fountains in the South Bank observed during the field work set lively examples.

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