Opportunities arise when regulations contradict each other

Risks and bodily limits meet scale and generosity

On contradictory regulations

Liam Ross

British Standard 8213-1: 2004 provides design recommendations for windows, door-height windows and rooflights, based upon a detailed assessment of the risk of accident encountered in their use and cleaning. Conservation Area guidance in Edinburgh's New Town sees windows instead as part of the special character of the place. The contradictions between BS 8213-1 and Edinburgh City Council's Conservation Area Guidelines are considered here as a creative opportunity for design.

British Standard 8213-1: 2004

The Standard BS8213-1 considers the danger of collision, entrapment and falls from height posed by a range of commonly available window types: vertically- and horizontally-sliding; top-, side-, and bottom-hung; horizontally- and vertically-pivoted; tilt-and-turn, louvres and fixed lights. It considers how the configuration of lights affects their reach ability, mitigating or attenuating these dangers; allowing occupants to reverse or opening a window inward, or requiring them to reach out, to reach through an adjacent opening, or to clean from the ground or an access deck.
The document refers to anthropometric data (*Older Adultdata: The Handbook of Measurements and Capabilities of the Older Adult: Data for Design Safety,* Department of Trade and Industry) that determines the mean and fifth-centile reach capability of women in the 64–75 year age range, and makes a judgement as to the level of risk windows should expose users to. Clause 8 of the standard recommends that windows should be cleanable from inside by 95% of the elderly female population without the need for stretching and limits the size of windows to require a maximum overhead reach of 1825 mm, and 556 mm while reaching out.

In Scotland, the recommendations of BS8213 are legally enforced by Scottish Building Standard 4.8.3, which states that any domestic window:

> [...] *all or part of which is more than 4 m above adjacent ground, should be constructed so that any external and internal glazed surfaces can be cleaned safely from* [either]*: inside the building in accordance with Clause 8 of BS8213: Part 1: 2004; or a load-bearing surface large enough to prevent a person falling further.*[1]

Standard 4.8.3 incorporates these detailed recommendations into a broad legislative apparatus that employs governmental acts, supporting statistical research, published technical standards, compliant buildings, and modes of enforcement, in order to ensure our safety, our 'freedom from unacceptable risks of personal harm'.

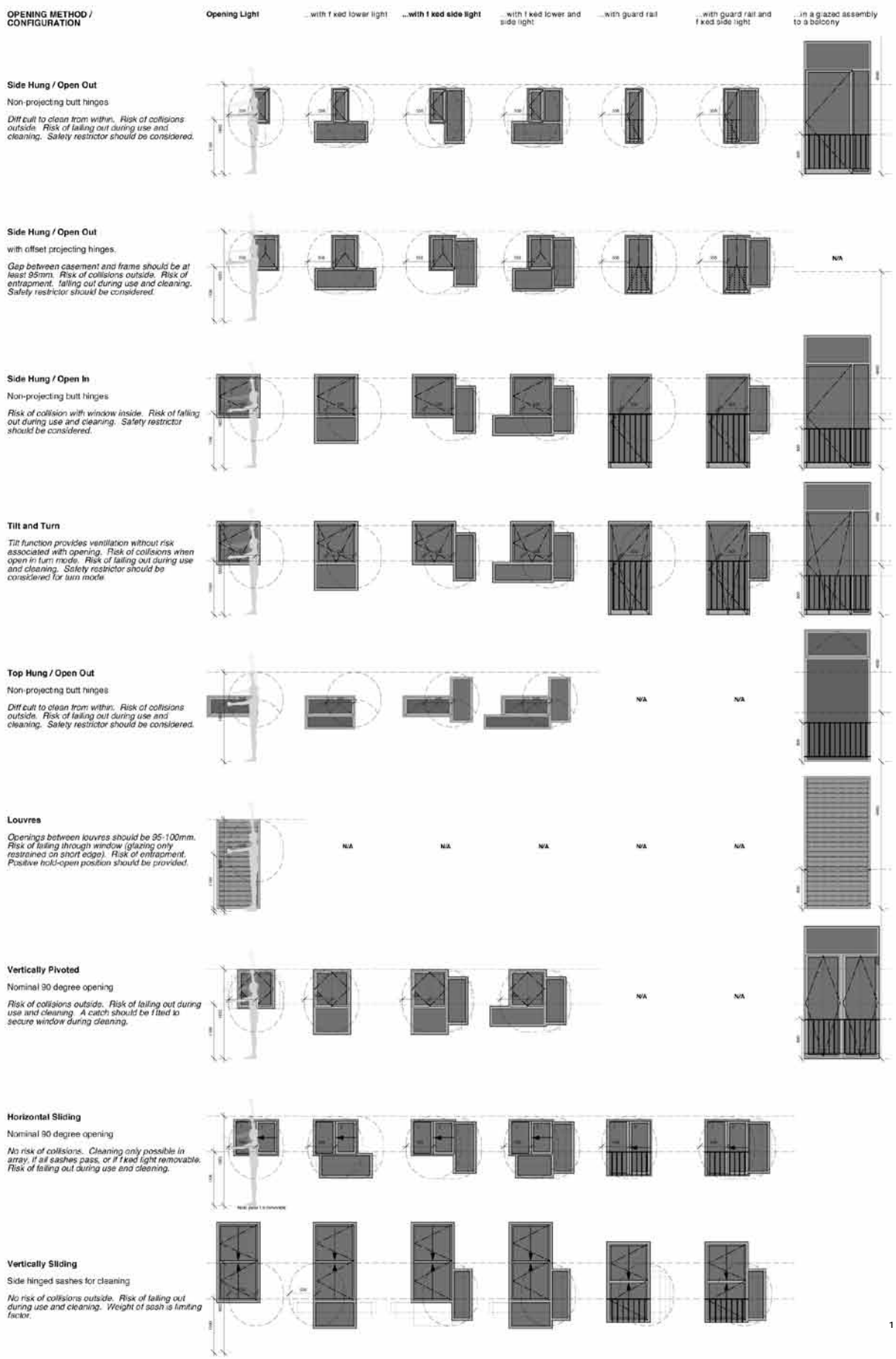
This apparatus has had a significant impact on architecture in Scotland. Specifically, BS8213 is responsible for the proliferation of balconies, Juliet-balconies and under-sized door-like windows in contemporary Scottish residential developments; since the standard outlaws domestic windows higher than 1825 mm – specifying a maximum head height 70 mm higher than the average Scottish adult male height – and makes the most economic way of maximising glazed area a short, guarded door-like window. More generally, we could say that this legislative framework has asked us to think about architectural design as a means of coming to understand, and to negate, a range of risks inherently posed by building.[2]

Edinburgh City Council Conservation Area Guidelines

The values and requirements of building standards, however, often contradict other parameters that architectural design is subject to, some of which also enjoy legal status. For instance, planning guidelines concerned with the conservation of our built heritage – the transmission of inherited property and traditions – are often at odds with the requirements of contemporary technical standards. Edinburgh's Local Plan states that development within designated conservation areas is only permitted where it 'preserves or enhances the special character or appearance of the conservation area and is consistent with the relevant conservation area character appraisal'.[3] The New Town Conservation Area Character Appraisal recognises the regularity, and generous scale and proportion of windows in central Edinburgh as being of special value, and supports design guidance requiring new buildings to be designed with windows of a similar size.

While the box-sash windows of Edinburgh's New Town are themselves an eighteenth-century innovation in design for safe cleaning – two vertically-sliding, inward-opening, counter-weighted sashes – they represent a different way of thinking about the body, and a different attitude to risk, to those of our current standards. The large size of these windows exceeds the dimensional limits set by BS8213 – exhibiting the exaggerated bodily proportions of classicism, rather than indexing the actual dimensions of a very small old woman – and they were designed to be cleaned by domestic staff rather than elderly owner-occupiers. For architects designing new domestic

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1 Diagramming BS8213. Matrix of diagrams illustrating the maximum window sizes possible within the recommendations of BS8213. The vertical axis illustrates the range of different opening methods considered by the regulation. The horizontal axis illustrates the range of different cleanable configurations considered

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2 Edinburgh's New Town Conservation Area Character. Elevation and section of facade of no. 6 Royal Circus, 1823, William H. Playfair

properties in conservation areas, then, the contradiction between these two mandatory requirements poses a problem, asking that two differing dimensional requirements, cleaning methods and attitudes to risk be resolved.

This problem tends to be resolved legally rather than physically. In Scotland, architects are permitted to specify non-compliant windows as long as a factoring agreement attached to the deed of sale of the property ensures that the windows will be cleaned professionally, in perpetuity. Such cleaning contracts typically specify detailed method statements, calling for specialist technologies to clean high-level external glazed surfaces from the ground, as well as making provision for regular home visits to clean internal faces.

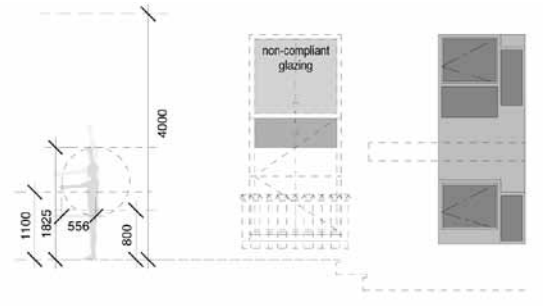
Counter to its ambition to provide for universal safe cleaning, then, in practice the onerous requirements of BS8213 often legislate against occupants cleaning their own windows. Rather than negating the risks associated with window cleaning it leads, in its interaction with other design considerations, to their being redistributed and professionalised. We might say that rather than freeing us from inherent problems associated with building, such legislative requirements appear to generate their own internal problems, which capture buildings, and their designers and occupants, in increasingly complex legal, social and architectural obligations.

Specific and universal contradictions

What should we make of the problem posed by contradictory regulations? The existence of such unresolved concerns within our regulatory framework might be taken as evidence that further and more integrated tiers of national and international master-regulation are required, to make the definitive judgements necessary to resolve their contrary concerns. Certainly, our current building standards are themselves the result of such a historical process, through which local practices and byelaws are gradually superseded by nationalised norms and standards. On the other hand, such contradictions provide evidence of precisely what is obscured by such universalising processes, the possibility of thinking differently in different circumstances.

This specific contradiction, then, offers insight into processes of regulation per se. Prior to BS8213 and Edinburgh's Conservation Area Guidelines contradicting each other, both acts of regulation are already contradictory in themselves. Positive legislation is only necessary to the degree that it contradicts some other possibility: BS8213 contradicts the possibility that architects or building users make their own assessment of the acceptable exposure to risk generated by a given window design; Edinburgh's Conservation Area Guidelines contradict the possibility that contemporary property developments and traditions revalue or devalue inherited ones. Regulations are necessarily contradictory – it is by making contradictions that they frame our thinking about building – and specific contradictions

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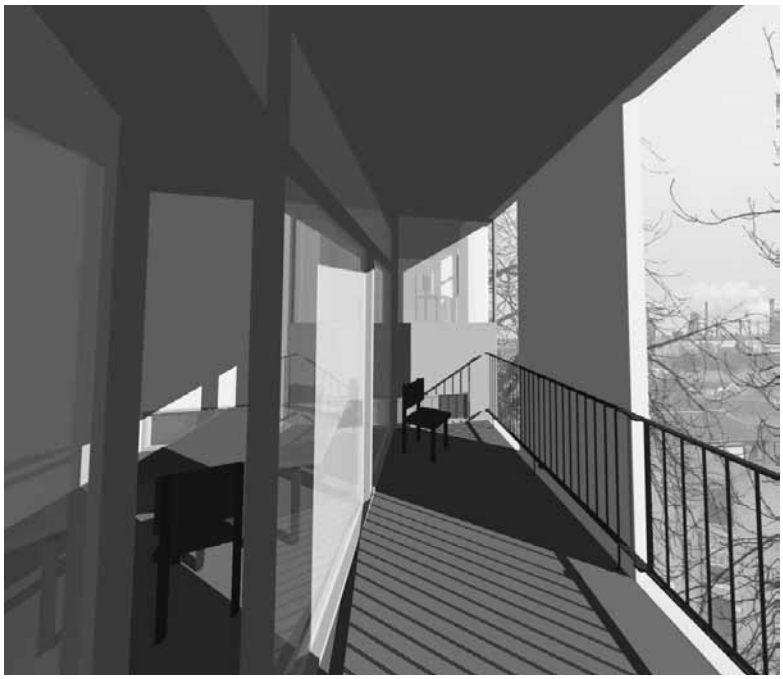
3a–c



3d

3 Resolving BS8213 and Environment Policy 6. Diagram showing:
a Dimensional limits imposed by BS8213
b Extent of non-compliant glazing to typical New Town window
c Proposed window including mezzanine level to maximise glazed area cleanable from within without stretching
d–f Elevation, interior and exterior visualisation of facade design resolving BS8213 and Edinburgh City Local Plan Environment Policy 6. Design features projecting and recessed balconies, and stepped and mezzanine floor levels, to maximise safely cleanable glazed area within opening of a scale and proportion in keeping with the Conservation Area

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between regulations are simply moments when this universal contradiction becomes explicit and reflexive.

Whether we agree that new property or values should be thought subordinate to inherited ones, or that clients, architects and occupants be prohibited from making their own risk assessments, we might nonetheless find an architectural opportunity in the problem posed by these two requirements. First, because this contradiction is a moment in which regulation, and compliant architecture, registers the possibility of thinking differently per se. Second, because in resolving their contrary requirements, something common is discovered between them: that the bodily limit and risks indexed by the Standard are precisely what makes sensible the scale and generosity demanded by the planners.

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Notes

1. Mandatory Standard 4.8.3, Section 4: Safety, Technical Handbook 2010: Domestic, Building Standards Division of the Scottish Government, *Technical Handbook 2010: Domestic Handbook* (London: TSO, 2010).
2. For an extended consideration of regulation as a means of coming to know, and limit, the inherent risks posed by building, refer to: Liam Ross, 'Compliant Architecture: Building Regulation and the Materiality of Risk', *Candide: Journal for Architectural Knowledge*, 4 (June 2011).
3. Chapter 4: Caring for the Environment, Policy Env 6: Conservation Areas – Development, Edinburgh City Local Plan. Edinburgh City Council, *Edinburgh City Local Plan*, 2010. Online at: <http://www.edinburgh.gov.uk/eclp> [accessed 07.10.2012].

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