BRINGING HOME REFORM: A PRINCIPLES-BASED APPROACH TO REGULATION OF CONSTRUCTION FOR RESIDENTS' SAFETY

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This article contributes to construction regulatory reform programs currently underway in Australia, the United Kingdom ('UK') and beyond. It does so by proposing six regulatory design principles in pursuit of a goal of ensuring that dwellings are built so as to keep residents safe. The article critically examines perspectives from regulatory theory, workplace health and safety, and civil aviation to distil the six principles. It concludes by offering an example of how the principles may holistically be applied as a tool for regulatory analysis and design in the context of construction practitioner competence.

I INTRODUCTION: THE REGULATORY CHALLENGE OF RESIDENTIAL CONSTRUCTION

In 2020 and 2021, COVID-19 imposed upon billions of people around the world an unsolicited opportunity to get to know their homes better. As early as February 2020, many residents of Wuhan found themselves confined to their dwellings as part of Chinese authorities' measures to suppress the novel coronavirus. By March 2021, a year after the pandemic was declared by the World Health Organisation, millions of people remained locked down across several continents; at the same time, the numbers of officially recorded cases and deaths significantly exceeded 100 million and 2 million respectively.[1]

For some, the experience opened up opportunities for home improvement, via renovations or repairs. For many others, including those living in apartment buildings clad in combustible aluminium composite material ('ACM'), lockdown

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1 World Health Organization, *COVID-19 Weekly Epidemiological Update* (9 March 2021) 2. In the following years, the pandemic continued to cast a heavy shadow upon the way in which people lived; by the third anniversary of its declaration, there were more than 760 million reported cases and nearly 7 million reported deaths from COVID-19 globally: World Health Organization, *COVID-19 Weekly Epidemiological Update* (16 March 2023) 2.

increased the anxiety of living in the shadow of the life-threatening risks which had so tragically crystallised at the Grenfell Tower in London on the night of 14 June 2017 resulting in the loss of 72 lives. Two weeks before Christmas in 2020, residents of the upper storeys of a Sheffield block were ordered to evacuate, after their ACM-clad building failed a fire safety test; they then learned that each flat would have to contribute towards a daily £2,000 bill for 'waking watch' fire patrols.[2]

At the same time, Phase 2 of the Grenfell Tower Inquiry continued to paint a grim picture of the ineffectiveness of the regulatory regime — at least, as it prevailed in the UK in the early 2010s — to forestall behaviours which lead to residential construction defects. The Inquiry completed its Phase 2 hearings on 10 November 2022 and, as of early 2023, was working up its report in relation to the Phase 2 evidence.[3] In the meantime, the voluminous evidence presented to the Inquiry provides alarming insights into how the regulatory system, comprising a complex web of legislative, contractual and commercial strands, is in fact more akin to a 'Swiss cheese', every layer of which contains holes through which defect-producing behaviours can readily slip. In his closing statement, lead Counsel to the Inquiry, Richard Millett KC, summarised the 'common structural themes that persist across the evidence' as

> insufficient or inadequate standards of competence; poor, ill-focused or insufficient training; lack of independent peer review; inability or unwillingness to regulate conflicts of interest sufficiently robustly; under-resourcing; short-termism; siloed thinking; over-dependence on small numbers of individuals with professed expertise; lack of internal challenge systems; overcomplicated strategies, policies, protocols, governance structures that valued the purity of conceptualism over the human experience; localism; various deregulatory policies pursued by successive governments; a fundamental failure to understand and to assess fire risk in high-rise blocks; and a concomitant failure to pay due respect to the idea of home as a physical aspect of human privacy, agency, safety and dignity.[4]

2 Jack Simpson, 'Leaseholders in Sheffield Block Made to Pay £2000-A-Day Waking Watch Bill after Evacuation', *Inside Housing* (online, 15 December 2020) <https://www.insidehousing.co.uk/news/news/leaseholders-in-sheffield-block-made-to-pay-2000-a-day-waking-watch-bill-after-evacuation-69017>. A detailed discussion of the multi-layered legal issues faced by residents in apartment buildings is provided in Rebecca Leshinsky, 'Living with Strata Towers: A Case Study of Metropolitan Melbourne in Disruptive Global Times' in Randy K Lippert and Stefan Treffers (eds), *Condominium Governance and Law in Global Urban Context* (Routledge, 2021) 116.

3 In its April 2023 newsletter, the Inquiry noted that it is hoping to finish the drafting of the report by the end of 2023 and that various procedures, including government review, then need to be undertaken before its public release: 'April 2023 Newsletter', *Grenfell Tower Inquiry* (Web Page, 2 May 2023) <https://www.grenfelltowerinquiry.org.uk/news/april-2023-newsletter>.

4 *Grenfell Tower Inquiry* (Transcript of Proceedings, 10 November 2022) 29–30 <https://www.grenfelltowerinquiry.org.uk/evidence/counsel-inquirys-closing-presentation> ('*Grenfell Tower Inquiry Transcript: 10 November 2022*').

Specifically in respect of the key contributing factor in the catastrophe at Grenfell, the use of combustible building materials in the Tower's refurbishment,[5] the evidence as to how that material came to be on the building has been summarised as follows:

> We now know that not only was Grenfell Tower encased in several layers of incendiary materials, but that a series of manufacturers had lied about this, and successive governments had failed to produce a regulatory environment that deterred them from doing so. The aluminium composite cladding on Grenfell Tower was Reynobond PE, manufactured by Arconic, whose polyethylene filling produces noxious fumes when heated. … Arconic has admitted to dismissing the flammability of its PE panels, knowing the cheaper price would appeal to developers. And even if the cladding had not metastasised the fire, the insulating panels would probably have done that on their own. The Celotex insulation used in Grenfell Tower had failed its fire safety check.[6]

Getting to the bottom of what happened at Grenfell, and why it did, has been made all the more challenging because of the defensive stance almost universally taken by firms and individuals under the Inquiry's scrutiny:

> The three firms involved in the Grenfell cladding have all denied responsibility for the disaster: Celotex emphasises that it had no design responsibility, and that compliance was a matter for the professionals who refurbished the tower. … Kingspan says it did not pursue the Grenfell Tower job, knew nothing of the specific design … Arconic says that its cladding should not have been used on the tower in the way it was …[7]

Richard Millett referred to this stance in his opening statement as a 'merry-go-round of buck-passing',[8] and lamented in his closing statement that, 'on Day 312 of this phase of this Inquiry, the merry-go-round turns still';[9] in that closing statement he presented a series of PowerPoints which he called the 'web of

5 A key finding of Sir Martin Moore-Bick in his phase one report was that 'the principal reason why the flames spread so rapidly up the building was the presence of the ACM panels with polyethylene cores', and that the presence of polyisocyanurate and phenolic foam insulation boards 'contributed to the rate and extent of vertical flame spread': Martin Moore-Bick, *Grenfell Tower Inquiry: Phase 1 Report* (Report No HC 49, 30 October 2019) vol 4, 557 [23.52].

6 Arianne Shahvisi, 'Life in a Tinderbox' (2021) 43(6) *London Review of Books* <www.lrb.co.uk/the-paper/v43/n06/arianne-shahvisi/diary>. Peter Apps has provided a more detailed account of the refurbishment project, commenting that it is 'not just a story of one shoddy construction job, but a deeper one concerning the neglect of social housing and the degradation of the entire construction industry': Peter Apps, *Show Me the Bodies: How We Let Grenfell Happen* (Oneworld, 2022) 163 ('*Show Me the Bodies*').

7 Peter Apps, 'The Grenfell Tower Inquiry Is Uncovering a Major Corporate Scandal', *The Spectator* (online, 6 December 2020) <www.spectator.co.uk/article/the-grenfell-tower-inquiry-is-uncovering-a-major-corporate-scandal>.

8 *Grenfell Tower Inquiry* (Transcript, 4 June 2018) 106 (Richard Millett, Counsel to the Inquiry) <https://www.grenfelltowerinquiry.org.uk/hearings/opening-statements>.

9 *Grenfell Tower Inquiry Transcript: 10 November 2022* (n 4) 32 (Richard Millett, Counsel to the Inquiry).

blame'.[10] Such a 'buck-passing' stance may reasonably be anticipated given the liabilities and reputational damage which adverse findings bring. Yet, inevitably, it has delayed the delivery of the 'justice' sought by the bereaved and survivors, and the explanation required by the broader community as to how the homes at Grenfell had failed to be what, as Queen Elizabeth II observed, we have a right to expect them to be: a 'place of safety — sanctuary even'.[11]

More broadly, the proceedings at the Inquiry have reinforced the view expressed by Dame Judith Hackitt, leading the first post-Grenfell regulatory review for the UK government in 2017–18, that 'the current system of building regulations and fire safety is not fit for purpose'[12] and that the only way in which it can be remedied is through '[t]rue and lasting change … requir[ing] a universal shift in culture'[13] from 'achieving lowest cost to providing buildings which are safe and fit for people to live in for years to come'.[14] Hackitt also emphasised that '[t]his is most definitely not just a question of the specification of cladding systems, but of an industry that has not reflected and learned for itself, nor looked to other sectors'.[15]

Similar views have been expressed in Australia. In 2018, the Senate Economics References Committee regarded Australia's building regulatory system as 'broken and fragmented'.[16] The same year, Peter Shergold and Bronwyn Weir, in their *Building Confidence* report for the Building Ministers' Forum, noted that regulatory problems 'have led to diminishing public confidence that the building and construction industry can deliver compliant, safe buildings which will perform to the expected standards over the long term'.[17]

As of early 2023, a raft of reform programs were well under way in the UK and Australia, to a large extent initiated by the findings and recommendations of, respectively, the Hackitt and Shergold-Weir reports and the phase one report of the Grenfell Tower Inquiry. Prominent amongst their outputs and activities are:

10 'Counsel to the Inquiry's Closing Presentation', *Grenfell Tower Inquiry* (Web Page) <https://www.grenfelltowerinquiry.org.uk/evidence/counsel-inquirys-closing-presentation>.

11 Queen Elizabeth II, 'The Christmas Broadcast 2017' (Speech, Buckingham Palace, 25 December 2017) <https://www.royal.uk/christmas-broadcast-2017>.

12 Dame Judith Hackitt, *Building a Safer Future: Independent Review of Building Regulations and Fire Safety* (Cm 9607, 2018) 11 ('*Final Report*').

13 Dame Judith Hackitt, *Building a Safer Future: Independent Review of Building Regulations and Fire Safety* (Cm 9551, 2017) 10 ('*Interim Report*').

14 Ibid 20.

15 Hackitt, *Final Report* (n 12) 5.

16 Senate Economics References Committee, Parliament of Australia, *Non-Conforming Building Products: The Need for a Coherent and Robust Regulatory Regime* (Report, December 2018) 49.

17 Peter Shergold and Bronwyn Weir, *Building Confidence: Improving the Effectiveness of Compliance and Enforcement Systems for the Building and Construction Industry across Australia* (Report, February 2018) 3 ('*Building Confidence*'). The Building Ministers' Forum is now known as the 'Building Ministers' Meeting'. See also Rodger Hills, 'Rebuilding Confidence: An Action Plan for Building Regulatory Reform' (Discussion Paper, Building Products Innovation Council, April 2018) 7, 12.

- in the UK, a new *Fire Safety Act 2021* (UK) and a wide-ranging *Building Safety Act 2022* (UK) (the latter incorporating a new Building Safety Regulator, National Construction Products Regulator and New Homes Ombudsman);[18]
- in New South Wales ('NSW'), implementation of the *Residential Apartment Buildings (Compliance and Enforcement Powers) Act 2020* (NSW), *Design and Building Practitioners Act 2020* (NSW) under the auspices of the office of Building Commissioner, and the Commissioner's 'Six Pillar' approach to building regulatory reform;[19]
- in Victoria, banning of certain types of combustible cladding on several classes of high-rise buildings,[20] the ongoing program of work facilitated by Cladding Safety Victoria to rectify buildings identified in that state's Cladding Audit,[21] and a wholesale Building System Review, the expert panel for which includes Dame Judith Hackitt; certain reforms recommended by that panel in its stage one report have been carried through into the *Building Legislation Amendment Bill 2023* (Vic) which, as of early 2023, was making its way through the Victorian Parliament.[22]

This article is written in parallel with these reform programs and the many others which are in train around Australia and across the world. Its intent is not to engage with these programs directly, but to offer a 'lens' through which they, and their proposed and implemented reforms, may be analysed to assess their effectiveness in meeting the regulatory goal of ensuring that homes are built to keep their residents safe. This 'lens' comprises six regulatory design principles which are distilled from the perspectives of regulatory theory and practice relevant to residential construction which are examined in Part II. The principles, laid out in Part III, are:

1. occupant health and safety is paramount;
2. prevention is better than cure;

18 See generally Philip Britton, 'New Home Sales, Defects and Insurance in the UK: The Building Safety Act 2022 and After' (2022) 38(6) *Construction Law Journal* 355. The *Building Safety Act 2022* (UK) applies to England only but equivalent (though, differently-framed) reforms are being explored or implemented in Wales, Scotland and Northern Ireland.

19 See, eg, Matthew Bell, 'New Powers in NSW to Order Rectification of Apartment Buildings before and after Occupancy: A Game Changer for Resident Safety?' (2020) 31(5) *Australian Construction Law Bulletin* 58. On 16 May 2023, the newly elected Minns government in NSW announced the creation of a Building Commission, to be headed by the current Building Commissioner, David Chandler: NSW Government, 'NSW Government Acting to Strengthen Building Industry' (Media Release, 16 May 2023) <https://www.nsw.gov.au/media-releases/strengthens-building-industry>.

20 Minister for Planning (Vic), 'Prohibition of High-Risk External Wall Cladding Products Declaration' in Victoria, *Victoria Government Gazette*, No S 22, 13 January 2021, 2. See, eg, Jeanette Barbaro and Maisie Hull, 'Victoria Prohibits Use of High-Risk Cladding Products' (2021) 196 *Australian Construction Law Newsletter* 48.

21 Cladding Safety Victoria*, 21–22 Annual Report* (Report, 19 October 2022) 13.

22 Expert Panel on Building Reform, *Stage One: Final Report to Government* (2021). See generally 'Building System Review', *Victorian Government* (Web Page, 7 March 2021) <www.vic.gov.au/building-system-review>.

3. risk and control are the foundation for standards-setting and decision-making;
4. industry-based norms are to be harnessed, consistent with the regulatory goal;
5. vulnerability sets the boundary for legislative intervention; and
6. the 'buck' should stop somewhere.

II REGULATORY DESIGN PERSPECTIVES

A sense of the complexity of the regulatory problem posed by residential construction defects was provided in Part I.[23] Conceptually, the challenge lies in residential construction procurement's position at the intersection point between two vast fields of human endeavour which are inherently in tension: the 'public' sphere of commerce and industry, and the 'private' sphere of homes as a place of 'sanctuary'.

Most of us move within, and between, these spheres on a daily basis (at least, when not in lockdown), but we do so in immeasurably diverse ways. We might encounter this regulatory matrix as: a commercial manager choosing a building product when a project is under commercial strain; a homeowner deciding whether to spend extra to buy a higher-quality appliance; a regulator weighing up whether to put a stop to construction work which we believe might be noncompliant; a lawyer deliberating upon what level of warranty protection to draft for in a contract; or a potentially infinite number of other settings.

All of this means that residential construction, especially post-Grenfell, is a field in which the regulatory balancing act noted by Fiona Haines is prominently manifest:

> Regulatory reform is perennially attractive to contemporary governments as they demonstrate their sincerity in providing a sufficient response to tragedy and future threat, but it is a response heavily shaped by an equally pressing demand for them to release the chains around the creativity of the market.[24]

It also leaves open a wide field of regulatory modes for consideration (Part II(A)), ranging on the spectrum from 'command and control' to 'self-regulation', along with 'co-regulatory' modes which sit between those ends of the spectrum, and the notion of 'nudging' which to an extent sits outside of the spectrum entirely. The 'precautionary principle' (Part II(B)) and perspectives from kindred regulated areas, workplaces and civil aviation (Part II(C)) also offer valuable insights.

23 For a more detailed treatment, see Philip Britton and Matthew Bell, *Residential Construction Law* (Hart Publishing, 2021) ch 3.

24 Fiona Haines, *The Paradox of Regulation: What Regulation Can Achieve and What It Cannot* (Edward Elgar, 2011) 6.

A *The Smorgasbord of Modes Offered by Regulatory Pluralism*

1 *'Command and Control': Its Rise, Fall and (Partial) Resurrection*

'Command and control' techniques expressly prescribe or proscribe certain behaviours; typically, they seek to motivate compliant behaviour through onerous compliance regimes, including penalties. Whilst such '[c]entralized, bureaucratic standard-setting' amounted to a default mode in many areas of regulation in the postwar years,[25] and that mode was reinstated urgently and in many places around the world, with great severity during the COVID-19 pandemic[26] — the broader influence of 'command and control' began to dwindle in the 1970s due to what Neil Gunningham and Peter Grabosky have characterised as an efficiency-based neoliberalist critique.[27]

Colin Scott has noted that these challenges to 'monolithic government structures' were driven by 'both a degree of necessity and also ideology' — the former having its origins in the 1973 oil shock and the latter as expounded by the Reagan and Thatcher governments.[28] Karen Yeung regards this new 'regulatory state' as 'a rather fuzzy edged heuristic, rather than a precisely formulated term of art',[29] but has noted that the former monolithic state has been 'hollowed out', replaced by 'an allegedly trimmer, policy-focused core executive supplemented by a series of discrete units, with varying degrees of autonomy from the central core'.[30] Similarly, Scott has tracked the shift from single-line links between the relevant ministry and the citizen, to the interposition of a range of agencies, public-private

25 Neil Gunningham and Peter Grabosky, *Smart Regulation: Designing Environmental Policy* (Clarendon Press, 1998) 6.

26 The literature and public debate about the policy settings during COVID, and whether they represent an appropriate and sustainable approach, is one of the defining issues of the early 2020s. A useful overview is provided by the symposium papers on the topic introduced in Peter Boettke and Benjamin Powell, 'The Political Economy of the COVID-19 Pandemic' (2021) 87(4) *Southern Economic Journal* 1090.

27 Gunningham and Grabosky (n 25) 6–7.

28 Colin Scott, 'Welfare, Regulation and Democracy' (Conference Paper, Social Justice Ireland Annual Social Policy Conference, 18 November 2014) 90.

29 Karen Yeung, 'The Regulatory State' in Robert Baldwin, Martin Cave and Martin Lodge (eds), *The Oxford Handbook of Regulation* (Oxford University Press, 2010) 64, 68.

30 Ibid 66, citing RAW Rhodes, 'The Hollowing Out of the State: The Changing Nature of the Public Service in Britain' (1994) 65(2) *Political Quarterly* 138. Scott also has charted the rise of the regulatory state: Colin Scott, 'Regulation in the Age of Governance: The Rise of the Post-Regulatory State' in Jacint Jordana and David Levi-Faur (eds), *The Politics of Regulation: Institutions and Regulatory Reforms for the Age of Governance* (Edward Elgar, 2004) 145 ('Regulation in the Age of Governance'). For their part, Christine Parker and John Braithwaite have traced this more generalised rise in private-sector involvement to the philosophy espoused by the Clinton administration in the 1990s whereby 'not only does the state do less rowing and more steering, it also does its steering in a way that is mindful of a lot of steering that is also being done by business organisations, NGOs, and others': Christine Parker and John Braithwaite, 'Regulation' in Mark Tushnet and Peter Cane (eds), *The Oxford Handbook of Legal Studies* (Oxford University Press, 2005) 119, 126.

entities and non-government organisations, accompanied by 'the recasting of the citizen as consumer'.[31]

To a certain extent, the diminished interest in interventionist regulation can be ascribed to political expediency and, in particular, the desire to avoid expending significant political capital in order to pass onerous legislation. Hence, as Terence Daintith has noted, offering as an example the provision of improved insulation in existing homes, governments may see it as more efficient to seek a result through the provision of grants rather than the imposition of penalties.[32] However, subsidies are themselves controversial because they place the burden on general taxpayers,[33] and, in any case, punishment and retribution continues to be regarded as important in social justice terms. Thus, in the example just given, many citizens would agree with Max Neiman in 'chaf[ing] at the idea that a safe and clean supply of air, for example, must be guaranteed by paying potential air polluters a bribe not to pollute'.[34]

Coercion has also underpinned increasingly stringent penalty regimes for 'white-collar' crimes over recent decades, such as financial fraud and failing to provide safe workplaces.[35] Thus, even in the current age of 'better' or 'smart' regulation, 'classical regulatory options are likely to be judged necessary where direct coercion provides a proportionate mechanism to achieve public objectives'.[36]

Where government does opt for penalty regimes, their effectiveness in achieving policy objectives may, however, be diminished due to a number of factors. Fundamentally, coercive strategies rely upon an assumption that those being regulated (in residential construction, primarily, construction practitioners, but also to an extent dwelling owners and occupiers) will respond in economically rational ways to the sanctions. In order for this assumption to hold true, penalties need to be set at a level high enough that commercial parties will regard absorbing the cost of compliance as a preferable alternative to running the risk of incurring the penalty.

Moreover, scholars have noted that this simplistic, economically-based model of deterrence has been found no longer to give a complete answer to what motivates business people to modify their behaviour in the face of coercive regulations.

31 Colin Scott, 'The Regulatory State and Beyond' in Peter Drahos (ed), *Regulatory Theory: Foundations and Applications* (ANU Press, 2017) 265, 269 ('Regulatory State and Beyond').

32 Terence Daintith, 'The Techniques of Government' in Jeffrey Jowell and Dawn Oliver (eds), *The Changing Constitution* (Clarendon Press, 3rd ed, 1994) 209, 214, quoted in Bronwen Morgan and Karen Yeung, *An Introduction to Law and Regulation: Text and Materials* (Cambridge University Press, 2007) 82.

33 Anthony Ogus, *Regulation: Legal Form and Economic Theory* (Hart Publishing, 2004) 248–9, quoted in Morgan and Yeung (n 32) 87.

34 Max Neiman, 'The Virtues of Heavy-Handedness in Government' (1980) 2(1) *Law and Policy Quarterly* 11, 24.

35 Haines (n 24) 11.

36 Ciara Brown and Colin Scott, 'Regulation, Public Law and Better Regulation' (2011) 17(3) *European Public Law* 467, 468, 483.

Rather, they apply a more sophisticated calculation, including giving significant weight to maintaining their reputation amongst peers, customers and the broader community, and likewise take notice of what competitors are doing in relation to the regulations.[37] As discussed below,[38] these types of factors may prove more effective in securing compliance with regulatory regimes than onerous penalty regimes.

Another risk for the effectiveness of penalty regimes is that the agency charged with enforcing the regulation may be insufficiently resourced to investigate and prosecute the non-compliance,[39] or does not hold the trust of those it regulates: studies have shown that this increases the incidence of non-compliance and challenges to agencies' decisions.[40] Underfunding also raises the prospect of regulatory capture (as do consensus-based interventions as discussed below, especially where the public and private sectors are so closely aligned that regulatory officers are drawn from entities they now regulate),[41] in the sense that regulatory bodies and their officers tend to 'turn a blind eye to minor (or, more major) transgressions.[42]

Finally, there is the risk embodied within the legal theory of 'autopoiesis', a term derived from biology taken to mean that the law 'reproduces itself according to its own norms'.[43] The risk is that 'courts will not treat wrongdoing with sufficient seriousness'.[44] Scott regards it as inherent within the way that the legal system 'operationalize[s]' the determination of whether a penalty is to be imposed. Thus, courts regard a penalty provision 'on its own terms, processing it according to the wider normative principles of criminal law'.[45]

37 See, eg, Parker and Braithwaite (n 30) 131–2; Brent Fisse and John Braithwaite, *The Impact of Publicity on Corporate Offenders* (State University of New York Press, 1983).

38 See below Part II(A)(2).

39 Parker and Braithwaite (n 30) 130.

40 Ibid 134.

41 Scott has noted the work of Braithwaite and others in illuminating the relevance of 'relational distance' to industry-linked regulators' motivation to take enforcement action: Scott, 'Regulatory State and Beyond' (n 31) 270, citing Donald Black, *The Behavior of Law* (Academic Press, 1976), Peter Grabosky and John Braithwaite, *Of Manners Gentle: Enforcement Strategies of Australian Business Regulatory Agencies* (Oxford University Press, 1986) and Christopher Hood et al, *Regulation inside Government: Waste-Watchers, Quality Police, and Sleaze-Busters* (Oxford University Press, 1999).

42 Haines (n 24) 19. She notes there that 'regulatory capture' holds a different meaning for public choice economists, namely that government and a regulated private sector entity work to restrict market entry for their mutual benefit: at 19, citing George J Stigler, 'The Theory of Economic Regulation' (1971) 2(1) *Bell Journal of Economics and Management Science* 3.

43 Scott, 'Regulation in the Age of Governance' (n 30) 151. He notes that the leading exponent of the theory is Gunther Teubner: at 152.

44 Colin Scott, 'Enforcing Consumer Protection Laws' in Geraint Howells, Iain Ramsay and Thomas Wilhelmsson (eds), *Handbook of Research on International Consumer Law* (Edward Elgar, 2nd ed, 2018) 466, 479 ('Enforcing Consumer Protection').

45 Scott, 'Regulation in the Age of Governance' (n 30) 151.

Scott has noted, in particular, that, where legislation sanctions behaviour by way of strict liability — that is, where the usual criminal standard of intent is not a necessary element — judges tend to overlay upon the provision their overriding concern for doing justice by imposing a more lenient penalty upon offenders who lack such intent.[46] He has observed, moreover, that 'enforcement agencies typically use their discretion to prosecute offences to put forward only those involving deliberate and/or persistent wrongdoing, and those where substantial harm has occurred'.[47]

Parker and Braithwaite have noted that the risk of strict sanctions having ambivalent enforcement outcomes is especially acute where a law has been passed primarily in order to pacify public concerns, without the machinery having been put in place to rigorously enforce it,[48] or without having adequately undertaken the task with which regulatory design ought primarily to be concerned; that is, 'dedicated intellectual engagement in defining the exact nature of the regulatory problem and the most effective method of amelioration'.[49]

2 *Self-Regulation*

Difficulties in precisely delineating the proper limits of coercive regulation have also led to a justification for self-regulation — the view that the industry is in a better position than the state to know what needs to be regulated. From a regulatory theory viewpoint, the focus is on 'meta-regulation': that is, steering internal processes within self-regulated organisations so as to achieve the desired outcome.[50] This does not necessarily entail laissez-faire; rather, government may co-opt industry associations on a mandatory basis to set standards.[51] As Ayres and Braithwaite have pointed out, this may in fact lead to more stringent, specific interventions than those which may be imposed as part of the legislative process.[52]

In recent decades, there has been detailed examination of how commercially-oriented communities tend to operate according to internalised regulatory norms;[53]

46 Scott, 'Enforcing Consumer Protection' (n 44) 479.

47 Ibid.

48 Parker and Braithwaite (n 30) 127, 130.

49 Haines (n 24) 9.

50 Ibid 17, citing Christine Parker, *The Open Corporation: Effective Self-Regulation and Democracy* (Cambridge University Press, 2002).

51 Parker and Braithwaite (n 30) 141.

52 Ian Ayres and John Braithwaite, *Responsive Regulation: Transcending the Deregulation Debate* (Oxford University Press, 1992) 106–7, quoted in Morgan and Yeung (n 32) 106–8.

53 See, eg, Lisa Bernstein, 'Opting Out of the Legal System: Extralegal Contractual Relations in the Diamond Industry' (1992) 21(1) *Journal of Legal Studies* 115 ('Opting Out of the Legal System'); Lisa Bernstein, 'Private Commercial Law in the Cotton Industry: Creating Cooperation through Rules, Norms and Institutions' (2001) 99(7) *Michigan Law Review* 1724 ('Private Commercial Law in the Cotton Industry'); Robert C Ellickson, *Order without Law: How Neighbors Settle Disputes* (Harvard University Press, 1991) ('*Order without Law*'); Barak D Richman, 'Community Enforcement of Informal Contracts: Jewish Diamond Merchants in

during the 2010s, there was increasing interest in how these communities foster systems of transnational private regulation across jurisdictions.[54] Whether these studies indicate that communities operate in the 'shadow of the law',[55] or point to 'a highly complex relationship between state and non-state actors',[56] a key undercurrent of their findings is a challenge to the legal centrism of lawyers' (and, traditionally, policy-makers') conceptions of the role of formal law within society.[57] The reality, as observed by Ellickson, is that 'most people know little private law and are not much bothered by their ignorance. Their experience tells them that the basic rules that govern ordinary interpersonal affairs are not in the law books anyway.'[58]

Lisa Bernstein's studies of 'private legal systems' ('PLSs') indicate that, where the degree of shared interests and culture is sufficiently widespread, some communities' operation in this shadow goes to the extent of 'systematically reject[ing] state-created law'.[59] The studies have focused on commercial communities which are relatively homogenous in their interests (though, often operating transnationally), including diamond traders in New York,[60] cotton traders in Memphis,[61] cattle ranchers in California's Shasta County,[62] and whalers in Nantucket.[63]

New York' (Discussion Paper No 384, John M Olin Center for Law, Economics and Business, Harvard University, September 2002); Barak D Richman, 'Firms, Courts, and Reputation Mechanisms: Towards a Positive Theory of Private Ordering' (2004) 104(8) *Columbia Law Review* 2328; Richard E Speidel, 'Court-Imposed Price Adjustments under Long-Term Supply Contracts' (1981) 76(3) *Northwestern University Law Review* 369; Brian Uzzi, 'Social Structure and Competition in Interfirm Networks: The Paradox of Embeddedness' (1997) 42(1) *Administrative Science Quarterly* 35. See generally John Gava, 'How Should Judges Decide Commercial Contract Cases?' (2013) 30(2) *Journal of Contract Law* 133, 134–5; Jonathan Morgan, *Contract Law Minimalism: A Formalist Restatement of Commercial Contract Law* (Cambridge University Press, 2013) 5.

54 See, eg, Fabrizio Cafaggi, 'New Foundations of Transnational Private Regulation' (2011) 38(1) *Journal of Law and Society* 20; Deirdre Curtin and Linda Senden, 'Public Accountability of Transnational Private Regulation: Chimera or Reality?' (2011) 38(1) *Journal of Law and Society* 163.

55 Gava (n 53) 135.

56 Peer Zumbansen, 'Neither "Public" nor "Private", "National" nor "International": Transnational Corporate Governance from a Legal Pluralist Perspective' (2011) 38(1) *Journal of Law and Society* 50, 53.

57 Morgan (n 53) 99.

58 Ellickson, *Order without Law* (n 53) 146–7.

59 Bernstein, 'Opting Out of the Legal System' (n 53) 115.

60 Bernstein, 'Opting Out of the Legal System' (n 53).

61 Bernstein, 'Private Commercial Law in the Cotton Industry' (n 53).

62 Ellickson, *Order without Law* (n 53).

63 Robert C Ellickson, 'A Hypothesis of Wealth-Maximising Norms: Evidence from the Whaling Industry' (1989) 5(1) *Journal of Law, Economics and Organization* 83.

These PLSs revolve around merchants favouring relationship-based, internalised modes of commercial interaction (including contracting and dispute resolution) which are based on a shared cultural understanding. The manifestations of these preferences are as varied as the commercial endeavours they reflect, but rest upon the fostering of a 'club' mentality amongst members of the community.

These studies suggest, for example, that, where a close-knit commercial community has in place robust mechanisms for sharing information about traders' reputations,[64] there may be little need to incur transaction costs at the front end of a deal by making independent enquiries as to the counterparty's creditworthiness. When that factor is combined with the relatively high cost of enforcement of legal agreements, the parties tend to prefer extra-legal arrangements. Conversely, where parties are unable efficiently to assess the standing of their counterparties, this militates towards the use of legally binding contracts. In this situation, however, Ellickson has cautioned that '[t]he arm's length negotiation of a contract can pollute the atmosphere of a close relationship by implying that the parties don't trust each other enough to rely on informal exchange'.[65]

Since Bernstein wrote her pioneering study, there appears to have been a significant erosion in the prevalence within the diamond trading community of the trust-based mechanisms which she described. By 2017, Richman observed that 'the industry's reliance on arbitrators, privately constructed law, and reputation mechanisms has succumbed to conventional commercial relationships and legal enforcement'.[66] This led him to suggest that '[r]eputation mechanisms and their underlying coordinated punishments are sensitive to their institutional environment, and changes in technology, geopolitics, and culture can disrupt a cooperative equilibrium'.[67]

Moreover, Casey and Scott have discounted the 'legal' aspect of PLS behaviours. They see the members' agreement to be bound by intra-community codes as being a manifestation of 'associational contractual relations',[68] therefore regarding Bernstein's work on diamond traders as being a 'study of the evolution and application of *non-legal* norms'.[69] Similarly, they regard Ellickson's study of the behaviour of Shasta County cattle traders as an example of social norms being 'crystallized to the extent that they trump legal norms',[70] rather than as a manifestation of a non-state *legal* regulatory regime.

64 Bernstein, 'Opting Out of the Legal System' (n 53) 132–3.

65 Ellickson, *Order without Law* (n 53) 247.

66 Barak D Richman, 'An Autopsy of Cooperation: Diamond Dealers and the Limits of Trust-Based Exchange' (2017) 9(2) *Journal of Legal Analysis* 247, 278.

67 Ibid 279.

68 Donal Casey and Colin Scott, 'The Crystallization of Regulatory Norms' (2011) 38(1) *Journal of Law and Society* 76, 79.

69 Ibid 80 (emphasis added), citing Bernstein, 'Opting Out of the Legal System' (n 53).

70 Casey and Scott (n 68) 83.

These criticisms having been noted, the observations of the law-in-action studies remain worthy of note for their potential insights into the way in which residential construction ought to be regulated.

3 *Consensus and Cooperation*

Consensus- and cooperation-based strategies provide a 'third way' between command and control and self-regulation.[71] They have seen an increase in popularity in recent decades due to studies which have shown that techniques such as 'trust', 'restorative shaming' and 'nurturing pride in corporate social responsibilities' — but, fostered here by external regulators rather than 'within the club' as is the case with self-regulatory PLSs — are more effective than sanctions in internalising compliant behaviour.[72] Roger Brownsword has noted Stewart Macaulay as a pioneer in recognising that 'at least some (and, probably, a great deal of) business contracting is conducted on a basis that fits better with an ethic of cooperativism than one of individualism'.[73] He has cautioned, however, that it could be

> a mistake to assume that every instance of cooperative contracting in practice reflects a deeply held moral concern for one's fellow contractors. Rather, it might be the case that contractors treat one another as having equal interests as a matter of enlightened self-interest, as a matter perhaps of long-term rather than short-term prudential calculation.[74]

As noted by Parker and Braithwaite, the aim of consensus-based regulation is that regulators and those affected by the regulations enter into a symbiosis of 'habituated compliance': 'their dialogues and disagreements, constitute, define, and redefine appropriate norms of behaviour' based upon shared goals.[75]

Consensus- and cooperation-based strategies have been critiqued on the basis that they risk disempowering vulnerable parties because only elites are able to protect themselves through negotiated rights.[76] They also rely upon the assumption that the 'intent of the regulated individual or organisation is honourable, [and] that most want to comply most of the time'.[77] This assumption is undermined by the reality

71 See, eg, Neil Gunningham, 'Enforcement and Compliance Strategies' in Robert Baldwin, Martin Cave and Martin Lodge (eds), *The Oxford Handbook of Regulation* (Oxford University Press, 2010) 120.

72 Parker and Braithwaite (n 30) 134, citing John Braithwaite, *Restorative Justice and Responsive Regulation* (Oxford University Press, 2002) 17–18, 112.

73 Roger Brownsword, *Contract Law: Themes for the Twenty-First Century* (Oxford University Press, 2nd ed, 2006) 28–9, citing Stewart Macaulay, 'Non-Contractual Relations in Business: A Preliminary Study' (1963) 28(1) *American Sociological Review* 55.

74 Brownsword (n 73) 29.

75 Parker and Braithwaite (n 30) 136.

76 Jerold S Auerbach, *Justice Without Law?* (Oxford University Press, 1983) 145, discussed in Karen Yeung, *Securing Compliance: A Principled Approach* (Hart Publishing, 2004) 179, and quoted in Morgan and Yeung (n 32) 142.

77 Haines (n 24) 17.

that many parties adopt recalcitrant stances (or, at least, those which 'game' the system strategically) as a default mode of behaviour.[78]

In other words, consensus-based strategies are prone to regulatory failure where parties to the regulatory scheme are not, in practice, acting based on a true consensus of interests. For example, studies have shown that companies are often 'highly motivated', for their reputational enhancement, to foster programs which demonstrate compliance with the strict legal requirements of regulations, yet exploit 'loopholes' and otherwise behave in ways that are contrary to the underlying spirit and intent of those regulations.[79]

4 *'Nudging'*

'Nudging' or 'choice architecture' is a species of light-touch external regulatory intervention which has received significant attention in recent years. Yeung has described these techniques as those which 'deliberately seek to elicit a particular behavioural response from another, whilst formally preserving the latter's freedom of choice'.[80] Study of these techniques has a substantial history, and interest in them rose markedly due to the collaboration between the behavioural economics scholar Richard Thaler and lawyer and legal academic Cass Sunstein to produce their 2008 bestseller.[81]

The term 'nudge' is derived from the following basic design principles (with the bold letters giving the theory its name):

- consideration of the i**n**centive effects of particular choice architecture;
- **u**nderstanding how good choice architecture assists people to map alternative options;
- the ubiquity and power of **d**efault options;
- **g**iving feedback; and
- **e**rror also is ubiquitous and to be anticipated.[82]

78 Indeed, Scott has noted that the empirical evidence about compliance indicates that businesses tend to fall into three categories, namely, those which seek to be compliant 'as one of their operating values', 'amoral calculators … who will comply where it makes sense from a cost-benefit perspective' and 'incompetents who … lack the capacity to act in a manner which complies': Scott, 'Enforcing Consumer Protection' (n 44) 481.

79 Parker and Braithwaite (n 30) 135, discussing Lauren B Edelman, 'Legal Environments and Organizational Governance: The Expansion of Due Process in the American Workplace' (1990) 95(6) *American Journal of Sociology* 1401 and Doreen McBarnet and Christopher Whelan, 'Creative Compliance and the Defeat of Legal Control: The Magic of the Orphan Subsidiary' in Keith Hawkins (ed), *The Human Face of Law: Essays in Honour of Donald Harris* (Clarendon Press, 1997) 177. See also Haines (n 24) 26.

80 Karen Yeung, 'Nudge as Fudge' (2012) 75(1) *Modern Law Review* 122, 122 ('Nudge').

81 Richard H Thaler and Cass R Sunstein, *Nudge: Improving Decisions about Health, Wealth, and Happiness* (Yale University Press, 2008).

82 Yeung, 'Nudge' (n 80) 129–30.

As Yeung has noted, referring to the 'allure of simple, cheap and effective solutions to policy problems',[83] 'nudging' quickly captured politicians' attention, 'spawning a plethora of nudge-based policy proposals across a varied range of social sectors'.[84] Sunstein was appointed by the Obama administration as Administrator of the White House Office of Administration and Regulatory Affairs and was by far the most widely-cited legal academic in the early 2010s;[85] for his part, Thaler won the Nobel Prize for Economics in 2017.[86]

Nudging has, however, been the subject of sustained critique, mainly around its superficiality as an alternative mode of regulation and also the way its aspirations towards 'libertarian paternalism' may act in insidious ways in practice. For example, Yeung has characterised aspects of nudging as 'a subtle form of manipulation by taking advantage of the human tendency to act unreflectively' which is 'inconsistent with demonstrating respect for individual autonomy'.[87]

An inquiry by the UK House of Lords similarly cast doubt upon the empirical and theoretical underpinnings of nudging. In a thinly-veiled admonition to politicians to dampen their enthusiasm for the 'quick fix' solutions, apparently offered by nudging, to complex policy issues such as obesity and car use, the Inquiry's Chair, Baroness Neuberger noted that, whilst awareness in government of the importance of understanding behaviour was to be welcomed, '[w]e are concerned … that emphasising non-regulatory interventions will lead to policy decisions where the evidence for the effectiveness of other interventions in changing behaviour has not been considered'.[88]

B *Precautionary Principle*

Fisher, Jones and von Schomberg have described the precautionary principle as being,

> [a]t its most basic, … a principle of public decision making that requires decision makers in cases where there are 'threats' of environmental or health harm not to use 'lack of full scientific certainty' as a reason for not taking measures to prevent such harm.[89]

83 Ibid 124.

84 Ibid 122.

85 Nick Farris et al, 'Judicial Impact of Law School Faculties' (Research Paper, 18 August 2016).

86 'The Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel 2017', *The Nobel Prize* (Web Page) <https://www.nobelprize.org/prizes/economic-sciences/2017/summary/>.

87 Yeung, 'Nudge' (n 80) 136.

88 Science and Technology Select Committee, *Behaviour Change* (House of Lords Paper No 179, Session 2010–12) 69. See also Elizabeth Day, 'Julia Neuberger: "A Nudge in the Right Direction Won't Run the Big Society"', *The Guardian* (online, 17 July 2011) <www.theguardian.com/society/2011/jul/17/julia-neuberger-nudge-big-society>.

89 Elizabeth Fisher, Judith Jones and René von Schomberg, 'Implementing the Precautionary Principle: Perspectives and Prospects' in Elizabeth Fisher, Judith Jones and René von Schomberg

The influence of the principle rose during the 1980s and 1990s, including in relation to landmark environmental protection measures such as the *Montreal Protocol on Substances that Deplete the Ozone Layer* (1987) and the *Rio Declaration on Environment and Development* (1992).[90] According to Warwick Gullett, by the turn of the millennium the principle's adoption was so widespread that it was then

> difficult to find in either the international environmental arena or countries with advanced environmental protection frameworks an environmental policy document, a new environmental law, or even a political statement about environmental management that does not include a reference to the principle or reflect some of the core ideas of the precautionary concept.[91]

Indeed, Julia Black observed in 2010 that the precautionary principle had 'developed in the last decade to become the central principle of risk regulation in the EU'.[92] Conversely, it is equally difficult to find any such explicit application of the precautionary principle in respect of construction regulation, in the UK, Australia or elsewhere. It has, however, had indirect application to construction, through restrictions upon on-site activities as part of state-mandated measures to contain the spread of COVID-19; those measures have, at least in Australia, tended to be justified by statements which are very much aligned with the precautionary principle.[93] In any case, the principle's foundation in risk assessment in deciding whether to take (or not take) action where to do so (or not to do so) might impact on public health arguably offers a flexible yet robust means of balancing many of the factors which are in play in key aspects of construction regulation.

In particular, one of the two central elements of the principle as identified by Gullett — that 'we should be confident about predictions of future … effects of activities before allowing them'[94] — appears to have direct application to

(eds), *Implementing the Precautionary Principle: Perspectives and Prospects* (Edward Elgar, 2006) 1, 2.

90 Ibid 2–4, discussing *Montreal Protocol on Substances that Deplete the Ozone Layer*, opened for signature 16 September 1987, 1522 UNTS 3 (entered into force 1 January 1989) and *Rio Declaration on Environment and Development*, GA Res 151/26, UN Doc A/CONF.151/26 (12 August 1992) annex I.

91 Warwick Gullett, 'The Precautionary Principle in Australia: Policy, Law and Potential Precautionary EIAs' (2000) 11(2) *Risk: Health, Safety and Environment* 93, 93.

92 Julia Black, 'The Role of Risk in Regulatory Processes' in Robert Baldwin, Martin Cave and Martin Lodge (eds), *The Oxford Handbook of Regulation* (Oxford University Press, 2010) 302, 318 ('Risk in Regulatory Processes').

93 See, eg, Michael Bleby, 'Building Chiefs Warn of Cash Flow Crunch on NSW Shutdown' *Australian Financial Review* (online, 18 July 2021) <https://www.afr.com/property/commercial/building-chiefs-warn-of-cashflow-crunch-on-nsw-shutdown-20210718-p58aoy>. Construction company Multiplex made a statement, responding to the restrictions announced for Greater Sydney on 17 July 2021: 'While the enforced shutdown clearly brings many challenges for our industry, we recognise the duty we have in limiting movement and supporting the NSW government's COVID-response plan.'

94 Gullett (n 91) 95.

important building safety questions, including whether potentially dangerous building materials should be available for use in particular situations (or, at all). More generally, the precautionary principle's entrenchment of norms which tend to counter market forces[95] offers an important ingredient within the regulatory recipe given the inherent tensions, identified above, between commercial and social policy drivers within residential construction. Conversely, Peter Apps has made a compelling case that the absence of such a precautionary ingredient to temper the laissez-faire approach prevailing in the UK construction industry was a key factor in the regulatory settings which allowed the Grenfell Tower disaster to occur.[96] In particular, he criticised a 2011 guidance note, which discouraged reconsideration of the 'stay put' policy in place for residents during high-rise apartment fires because fires necessitating evacuation were 'rare',[97] in terms akin to the precautionary principle: '[a] low probability event with calamitous consequences should still be something planned for carefully'.[98]

C *Perspectives from Other Regulated Areas*

As the discussion in Part I sought to illuminate, residential construction work is a field of human endeavour which affects the lives and livelihoods of billions of people around the world and has the potential to cause harm to those people — ranging from inconvenience to catastrophe — if the myriad foreseeable risks involved in properly building dwellings are not appropriately addressed.

Residential construction is, however, by no means a unique field in these factors holding prominence. They are also harboured in, for example, civil aviation and workplace health and safety ('WHS'). Like residential construction procurement, these fields exist at an intersection point between the public (here, as passengers and workers) and commerce, and are encountered in almost all places around the world. Therefore, like residential construction, civil aviation and WHS directly affects millions of people in almost infinitely varied settings.

Unlike the stance of construction procurement towards residents' safety, however, civil aviation and WHS are areas in which, over the past decades, there has been a concerted regulatory project with a clear goal of paramountcy of safety for passengers and workers. The impact of WHS in the construction industry has, for example, made site safety signage ubiquitous; similarly, in civil aviation, passengers are well aware that they will be subject to restrictions on what they can do on aircraft, including materials they are allowed to bring on board. Likewise, when there are failures in the systems — which, unfortunately, inevitably mean the injury or death of persons — these are matters of significant public attention.

95 Mike Feintuck, 'Regulatory Rationales beyond the Economic: In Search of the Public Interest' in Robert Baldwin, Martin Cave and Martin Lodge (eds), *The Oxford Handbook of Regulation* (Oxford University Press, 2010) 39, 52.

96 Apps, *Show Me the Bodies* (n 6) 248–9.

97 Ibid 249, quoting *Fire Safety in Purpose-Built Blocks of Flats* (Guide, 2011) 27.

98 Apps, *Show Me the Bodies* (n 6) 249.

These regulatory safety projects have achieved remarkable success. For Great Britain, the incidence rate of all self-reported workplace injury in the construction sector dropped from approximately 5% of workers in 2002–03 to approximately 3% in 2012–13;[99] in Australia, the rate for serious claims in the sector showed a similar decline over the same period (approximately 2.5% to 1.7%).[100] This still equates, however, to around 64,000 injuries in the industry each year in Great Britain and 12,600 in Australia.[101]

The regulatory scheme for civil aviation, covering elements including design and construction, maintenance supply chains and pilot training, restrictions (primarily, security-related) on passenger autonomy, and air traffic control, has been singularly successful in minimising life-threatening events. In 2017, the year of the Grenfell Tower fire, the International Civil Aviation Organization ('ICAO') recorded 50 fatalities for scheduled commercial departures; on the ICAO's figures of 4.1 billion passengers travelling by air worldwide, this represents 12.2 fatalities per billion passengers.[102]

Whilst 2017 was, to that point, the safest year on record for aviation, its figures were by no means outliers: the number of accidents per million departures was at 3.0 or less for every year from 2013–21.[103] Unfortunately, a number of fatal civil aviation crashes occurred in 2018 and the early part of 2019, of which the most high profile, involving two nearly-new Boeing 737 MAX aircraft, resulted in the loss of 346 lives, the grounding of the aircraft globally and a significant drop in Boeing's share price.[104]

Nonetheless, the regulatory experience of WHS and civil aviation merits attention in gathering applicable regulatory perspectives for residential construction. WHS principles were, for example, highly influential upon the methodologies and recommendations of the Hackitt Review. Dame Judith Hackitt had previously been Chair of the UK's peak WHS regulator, the Health and Safety Executive ('HSE') for the best part of a decade,[105] and was explicit that WHS perspectives were

99 Health and Safety Executive, *Health and Safety in Construction Sector in Great Britain: 2016/17* (Report, November 2017) 14 ('*Health and Safety in Construction in Great Britain*').

100 Safe Work Australia, *Construction Industry Profile* (Report, May 2015) 2 <https://www.safeworkaustralia.gov.au/doc/construction-industry-profile>.

101 Ibid; *Health and Safety in Construction in Great Britain* (n 99) 12.

102 International Civil Aviation Organization, *Safety Report* (Report, 2018) 5.

103 Ibid; International Civil Aviation Organization, *Safety Report* (Report, 2020) 5–6; International Civil Aviation Organization, *Safety Report* (Report, 2022) 5. The 2022 Report noted that the rate dropped to 2.14 and 1.93 for 2020 and 2021 respectively, but on much-reduced traffic due to the pandemic.

104 See, eg, Jack Nicas and Julie Creswell, 'Boeing's 737 Max: 1960s Design, 1990s Computing Power and Paper Manuals', *The New York Times* (online, 8 April 2019) <www.nytimes.com/2019/04/08/business/boeing-737-max-.html>; Niraj Chokshi and Michael S Schmidt, 'Boeing Reaches $2.5 Billion Settlement with US over 737 Max', *The New York Times* (online, 7 January 2021) <https://www.nytimes.com/2021/01/07/business/boeing-settlement-justice-department.html>.

105 Hackitt, *Interim Report* (n 13) 106.

directly applicable to her approach, especially in relation to whole-life fire safety in high-rise residential buildings:

> The principle of risk being owned and managed by those who create it was enshrined in UK health and safety law in the 1970s … and its effectiveness is clear and demonstrable. … It should be clear to anyone that this principle should extend to the safety of those who live in and use the 'products' of the construction industry …[106]

For its part, civil aviation is an industry which shares with residential construction features including its transnational nature, existence of very significant risks (stemming from its core activity being the transmission of humans across the stratosphere at close to supersonic speed) and a highly competitive market which places the profit margins of the (mostly) private entities in the industry under constant pressure. The industry harbours the following features which have resonance with the problem of residential construction safety as explored in this article:

- the regime's primary safety-related goal being explicitly interlinked with growth of the industry;
- the overarching concern being with 'prevention' of safety-related defects during the life of the aircraft, from its design and manufacture through to its operation (the consequences of needing to 'cure' safety-related defects in aviation almost inevitably being catastrophic);[107]
- recognition, and regulation, of international supply chains for labour and materials, including through internationally-recognised standards and transnational regulatory bodies;
- responsibility and obligations to prevent safety-related incidents on aircraft being shared, in well-defined ways, by all participants in the industry (including, significantly, consumers as passengers through restrictions on their behaviours in relation to flights); and
- well-established insurance markets and products, able promptly to respond to the predictable consequences of safety-related defects.

This success has, however, come at significant cost in terms of intervention into corporate and individual autonomy (for example, the high levels of security and restrictions on what can be taken on to, and done on, aircraft). Hence, the aviation regulation example also offers a caution that a model seeking to protect the health and safety of dwelling occupiers throughout the life cycle of the building necessarily will entail significant incursions into those occupiers' privacy and autonomy within their homes (and, for that matter, the apartment buildings which contain their homes).

106 Hackitt, *Final Report* (n 12) 7.

107 Insights into the far-reaching consequences faced by Boeing in relation to the 737 MAX crashes are provided in, eg, Douglas MacMillan and Aaron Gregg, 'Boeing, Initially Defensive, Now "Humbled" by 737 Max Crisis', *The Washington Post* (online, 27 March 2019) <www.washingtonpost.com/business/2019/03/27/boeing-initially-defensive-now-humbled-by-max-crisis/?utm_term=.0451de716fcc>. See below Part III(A) for discussion of the regulatory design principle proposed in respect of prevention.

Ron Bartsch regards the existence of three matters as being essential to the effectiveness of the international regulatory regime for aviation: 'effective legislation', 'competent regulatory agencies' and 'a culture of compliance'.[108] He has noted also the vital importance, to achieving such a culture of compliance, of 'educating aviation professionals and the travelling public'.[109]

Drilling further into such regulatory design aspects of civil aviation provides the following insights of potential relevance to the pursuit of a goal of residential construction safety:

- *A well-resourced regulator*: The budget of ICAO's regular programs for 2020–22 as approved by the United Nations General Assembly was CAD322.7 million.[110]
- *Diverse normative sources*: Bartsch has noted custom, common law and (domestic) statutes — the same three sources of norms which are the foundations of residential construction regulation — as being components of the international regulatory system for aviation.[111] Whereas the influence of industry norms extends back many centuries in construction, however, aviation is a much more recent human enterprise, dating back barely a century.[112] The First World War was said to be 'the hellish laboratory in which aviation became adult and was shaped to flawless perfection',[113] meaning both that aviation industry norms are far less historically entrenched than are those in construction and that many of the attitudes which shaped the civil aviation industry were borne by pioneers who had gained their skills and experience during that conflict.[114]
- *Clear, safety-focused regulatory goal*: The *Convention on International Civil Aviation* ('*Chicago Convention*') enshrines a clear regulatory goal in its art 44(a), that the primary objective of ICAO is to ensure 'the safe and orderly

108 Ronald IC Bartsch, *International Aviation Law: A Practical Guide* (Routledge, 2nd ed, 2018) 52.

109 Ibid.

110 'Budget of the Organization for 2020–2021–2022', *ICAO* (Web Page) <www.icao.int/annual-report-2019/Pages/supporting-strategies-finances-budget-2020-2021-2022.aspx>. On the necessity for a well-funded construction industry regulator, see Douglas Maxwell and Matthew Bell, '(How) Can a Building Safety Regulator Help Cure the UK's Defects Crisis? Analysing the Current Proposals in the Light of Australia's Experience' (2020) 36(1) *Construction Law Journal* 3, 12–15.

111 Bartsch (n 108) 53.

112 Indeed, safety in interstate aviation in the USA was 'almost wholly unregulated' by the state until the passage of the *Air Commerce Act of 1926* introduced some modest measures regarding pilot training, keeping of fatality records and aircraft inspection: Bill Bryson, *One Summer: America 1927* (Penguin Random House, 2013) 42–4. Bryson notes that Europe was considerably more advanced in its civil aviation systems than the USA at that time: at 42.

113 Camille Allaz, *The History of Air Cargo and Airmail from the Eighteenth Century*, tr John Skilbeck (Christopher Foyle Publishing, 2004) 32, quoted in Bartsch (n 108) 51.

114 It does not seem too far-fetched to posit that the continuing authority and respect given to airline pilots — as compared, for example, to builders and other construction professionals — stems from their having never relinquished the peaked caps and other trappings of such a military background.

growth of international civil aviation throughout the world'.[115] Bartsch has observed that enshrining the safety objective in this interlinked way has led to an understanding throughout the industry and travelling public that air safety must be assured, even where carriers compete primarily on price — that is, 'aviation enterprises will only grow if they are perceived to be safe'.[116]

- *Expert-led standards-setting*: Over its history, ICAO has developed a series of annexes to the *Chicago Convention*, setting out 'standards' and 'recommended practices' ('SARPs') dealing with issues including rules of the air (annex 2), standardised units of measurement (annex 5), operations and maintenance (annex 6), airworthiness of aircraft (annex 8), air traffic services (annex 11), accident investigation (annex 13), safe transport of dangerous goods (18) and safety management systems (annex 19).[117]
- In turn, SARPs are developed with expert input, and reviewed and updated for technological developments and other matters. Under art 12 of the *Chicago Convention*, member states are required to align their domestic regulations with 'standards' (ie SARPs 'necessary for the safety or regularity of international air navigation');[118] although primarily directed to international aviation, the impracticality of having different rules applying to international and domestic aviation in the same airspace means that the measures tend to have at least de facto force within member nations as well.[119]
- *Independent compliance audit*: The 1990s were a time when state-based institutional oversight of residential construction was decreasing in the UK and Australia, with a corresponding rise in the influence of co-regulation (particularly, by way of private sector conduct of inspection and audits).[120] By contrast, ICAO increased its independent oversight of compliance by member states with the regulatory regime for international civil aviation during this period, including through initiation of its Universal Safety Oversight Audit Programme in 1997. Under this program, each member state is audited at least once every five years, with the audit closely linked to ICAO's *Global Aviation Safety Plan* which has a goal of achieving significant decreases in incident rates.[121]

III REGULATORY DESIGN PRINCIPLES

This section distils the range of regulatory design perspectives canvassed in Part II into six regulatory design principles.

115 *Convention on International Civil Aviation*, opened for signature 7 December 1944, 15 UNTS 295 (entered into force 4 April 1947) art 44(a) ('*Chicago Convention*').

116 Bartsch (n 108) 57.

117 See, eg, the summary of the *Chicago Convention* (n 115): ibid 57–61.

118 *Chicago Convention* (n 115) Annex 1, x.

119 Ibid 62–4.

120 See, eg, Ronald Webber, 'Microeconomic Reforms and Influences on Policy Development for the Privatisation of the Building Regulation System in Victoria, their Evaluation and an Alternative Regulatory Proposal' (PhD Thesis, RMIT University, 2005).

121 Bartsch (n 108) 64, discussing International Civil Aviation Organization, *Global Aviation Safety Plan*, Doc No 10004, 2016.

A *Occupant Health and Safety Is Paramount*

This principle appears little more than a restatement of the regulatory goal of resident safety which was introduced at the start of this article. It is necessary, however, that it explicitly underpins the analysis of the existing and proposed regimes as a bulwark against the constant threat of regulatory drift.

Such explicit recognition may be found, for example, in the final report of the Hackitt Review, which recommends that, for 'higher risk residential buildings', contracts should 'specifically state that safety requirements must not be compromised for cost reduction'.[122] This recommendation was not directly carried through into the reformed scheme anchored within the UK's *Building Safety Act 2022*, yet the express acknowledgement that safety overrides cost is an entirely appropriate aspiration for contracts going forward. At the very least, it could take on a 'tone setting' role akin to the requirement generally to 'act in a spirit of mutual trust and co-operation' which has been part of the *New Engineering Contract* form for many years.[123]

The primacy of the regulatory goal is, however, problematic in relation to existing rights. This was illustrated when the builder of the Lacrosse apartments in Melbourne (its 2014 cladding-fuelled fire precipitated the case discussed in Part III(B) below) challenged in the Supreme Court of Victoria the purported exercise by the Victorian Building Authority ('VBA') of a power to give the builder a 'direction to fix building work' in respect of cladding at the building.[124] The statutory provision was silent as to any time restrictions upon issue of such a direction.[125] In turn, the VBA submitted that it was able to issue such a direction 'at any time at all, even 50 or 100 years after the building work in question was completed'.[126] Justice Cavanough rejected that submission on the basis of a textualist construction of the provision in its statutory context, supported by considerations including the principle of legality (that is, interpretation to avoid encroachment upon common law rights and freedoms — here, of the builder).[127]

122 Hackitt, *Final Report* (n 12) 109.

123 See, eg, Institution of Civil Engineers, *NEC4: Engineering and Construction Contract* (Thomas Telford, 2017) cl 10.2 ('*New Engineering Contract*'). As an example of the provision's 'tone setting' nature, in *Costain Ltd v Tarmac Holdings Ltd* [2017] EWHC 319 (TCC), Coulson J was prepared to note that the clause might require correction of a false statement but indicated that it would not otherwise compel a party to act against its self-interest: at [124]. Whilst the *New Engineering Contract* forms are widely used in the UK, it is moot whether such a clause would as readily be accepted in Australia, given that a 'mutual trust and co-operation' clause was proposed in the draft Australian Standard AS11000, but that form's development was discontinued: see, eg, Alexander Di Stefano, 'Good Faith in the AS11000: Has the Eagle Landed?' (2017) 33(1) *Building and Construction Law Journal* 13.

124 *LU Simon Builders Pty Ltd v Victorian Building Authority* [2017] VSC 805 ('*LU Simon*').

125 The relevant power is under *Building Act 1993* (Vic) s 37B.

126 *LU Simon* (n 124) [5].

127 Ibid [30].

The Court found, therefore, that the power expired upon the issue of a certificate of final inspection or occupancy permit.[128]

B *Prevention Is Better than Cure*

The observation that 'money spent early buys more than money spent late' is a truism of construction risk allocation and dispute avoidance.[129] It also underpins an important regulatory design principle: that it is more economically efficient to expend public and private resources on avoidance of defects than upon their rectification or — even less efficiently — legal fights over them.

Arguably, such conflicts are of benefit solely to the economic sustainability of the legal profession. As a Melbourne-based lawyer with more than 25 years of experience in residential building disputes noted, these disputes 'have a well-deserved reputation for complexity, length and as a convenient vehicle for the transfer of client funds to lawyers and experts. Some of us make a tidy living out of it'.[130]

Rectification of defects causes disruption to the construction professional and their client, and tends to be substantially more expensive than doing the job properly the first time, especially where the original work needs to be demolished and redone. In the leading Australian case on rectification, the original contract value to build the house was £3,500 but the homeowner was awarded £4,950 to demolish and rebuild it.[131]

Moreover, the residential building caselaw of the UK and Australia is littered with examples illustrating the inefficiency of seeking to achieve quality outcomes retrospectively via the legal process. *SMK Cabinets v Hili Modern Electrics Pty Ltd* is a classic of this genre: it was a dispute over a cabinet installation subcontract, worth $2,190, for a house in the northern Melbourne suburb of Fawkner.[132] As recounted by Brooking J, its 'melancholy chronicle' included

128 Ibid [65].

129 See, eg, 'Introduction and Conclusions' in PA Thompson and JG Perry (eds), *Engineering Construction Risks: A Guide to Project Risk Analysis and Assessment* (Thomas Telford, rev ed, 2003) 1, 3; Nigel Smith, 'The Future for Engineering Project Management' in Nigel J Smith (ed), *Engineering Project Management* (Blackwell Science, 2nd ed, 2002) 357, 359; Ivor H Seeley, *Quantity Surveying Practice* (Macmillan Press, 2nd ed, 1997) 540.

130 Neil McPhee, 'Traps for Young (and Old) Players: The Settlement of Domestic Building Disputes' (2018) 58 *Building Dispute Practitioners Society News* 12, 12.

131 *Bellgrove v Eldridge* (1954) 90 CLR 613, 614. See, generally, Matthew Bell, 'Contract Damages for Defective Construction Work: An Unsolvable Puzzle?' (2022) 38(1) *Building and Construction Law Journal* 4.

132 [1984] VR 391, 392 (Brooking J) ('*SMK Cabinets*'). See also the long-running series of cases in relation to an apartment building in inner Melbourne, commencing with the 1,066-paragraph judgment in *Kane Constructions Pty Ltd v Sopov* [2005] VSC 237 and ending on 11 December 2009 with the High Court of Australia refusing special leave to appeal one of the Victorian Court of Appeal's judgments in Transcript of Proceedings, *Sopov v Kane Constructions Pty Ltd* [2009] HCATrans 338, [340] (Kiefel J).

> a preliminary hearing at which pleadings were directed … Then the hearing began, two of the pleadings being amended and a schedule of questions being agreed upon. The hearing, which included a view, lasted some six days. … The arbitrator rose to the occasion by making an award that ran into 108 pages. … [T]hat should have been enough. But by now the Juggernaut was quite out of control and it careered into the Practice Court on a motion to set the award aside. The Practice Court could not contain it, so off it went to the miscellaneous causes list … [After many further proceedings, the case was] deflected into this Court by way of application for leave to appeal. I for one am not in the least disposed to let it go on its way again …[133]

Justice Brooking's readily-evident frustration was echoed in London some three decades later by another eminent construction law jurist, Jackson LJ. In *Faidi v Elliott Corporation*,[134] the England and Wales Court of Appeal — Civil Division was faced with a fairly straightforward dispute over carpet; as the Lord Justice of Appeal observed, however,

> neither side wrote to the other proposing mediation until shortly before the hearing in the Court of Appeal. By then huge costs had been incurred. … [T]he total costs thrown away amount to £140,134. If the parties were driven by concern for the well-being of lawyers, they could have given half that sum to the Solicitors Benevolent Association and then resolved their dispute for a modest fraction of the monies left over.[135]

Proactive case management of the type which is nowadays routinely deployed in specialist construction fora like the English Technology and Construction Court and the Victorian Civil and Administrative Tribunal ('VCAT') can, however, avoid cases from festering within court processes. VCAT in particular has demonstrated its ability to dispose of cases relatively quickly. In a case involving around $10,000 of (poorly laid) concrete, for example, the work was done in the middle of August 2013, the owners brought their proceedings shortly after that and hearings were conducted in January and February 2014; the ruling was handed down on 19 March 2014.[136]

VCAT has, though, recently conceded that its list is experiencing increased pressures as it receives more complex cases relating to high-rise apartment buildings.[137] A paradigmatic example of that complexity was the hearing at trial of the claim by the owners' corporations against certain construction parties (and, the backpacker whose neglected cigarette started the blaze) arising from the fire at the Lacrosse building (introduced in the previous section). The hearing involved 91 volumes of materials and 22 sitting days; Judge Woodward V-P noted the contribution of the 'commendable cooperation' of the parties and use of technology

133 *SMK Cabinets* (n 132), 392–3 (Brooking J, Starke J agreeing at 401, Kaye J agreeing at 401).

134 [2012] EWCA Civ 287.

135 Ibid [37].

136 *Hurdle v Commerford* [2014] VCAT 282 [8], [14] (Senior Member Walker).

137 Victorian Civil and Administrative Tribunal, *VCAT 2015–16: Annual Report* (Report, 2016) 31. These capacity pressures continued to build during the pandemic, to the extent that VCAT needed to refer around 80 of its cases to the Victorian County Court pursuant to a collaborative protocol promulgated between the Court and VCAT: see, eg, *Owners Corporation 1 Plan No PS707553K v Shangri-La Construction Pty Ltd* [2023] VCC 222, [5] (Judge Anderson).

in keeping to the allotted hearing time, and the ruling was handed down less than five months after the hearing.[138]

These cases reflect that parties to residential construction projects will likely seek legally binding enforcement of their rights (or, to resist enforcement of others' rights) where they believe it is in their strategic interests to do so, and they can afford the time, cost and energy which must be expended in such activities. From a regulatory point of view, however, it remains an open question whether allocating public and private resources to facilitate those processes is likely to contribute meaningfully to the goal of residents' safety.

C *Risk and Control: The Foundation for Standards-Setting and Decision-Making*

The nature of construction procurement is often akin to the moral which emerges from the 'for want of a nail, the battle was lost' tale. Apparently trivial actions may have momentous results. The primary cause of the failure of a water riser, contributing to flood damage exceeding £5 million at the Greenwich Millennium apartments in London in 2007, was the use of a metal wrench to tighten a plastic nut.[139] Conversely, factors of safety or sheer luck may mean that serious errors have no adverse consequences whatsoever.

The inherently risky nature of residential construction dictates that attention be paid to the emerging stream of regulatory thought, especially since the global financial crisis, around using 'risk-based' approaches to decide not only *how* to regulate but also *what* should be regulated.[140] In particular, this article adopts the contemporary view noted by Haines that '[r]egulation that works is that which demonstrably and measurably reduces risk'.[141] Specifically, when it comes to standards-setting and decision-making, this article concurs with Hackitt's view that '[a] risk-based approach to the level of regulatory oversight based on a clear risk matrix will be most effective in delivering safe building outcomes'.[142]

The risk assessment informing the level of regulatory intervention ought, therefore, to be based upon the likelihood and consequences of risks arising from defects and the level of control which occupants of the building have available to them in relation to the relevant construction outcome.

138 *Owners Corporation No 1 of PS613436T v LU Simon Builders Pty Ltd (Building and Property)* [2019] VCAT 286, [13]–[15] ('*Lacrosse Case*'). The Victorian Court of Appeal dismissed all but one ground of appeal from that ruling (the one ground going to the proportionate liability of the building surveyor) in *Tanah Merah Vic Pty Ltd v Owners Corporation No 1 of PS631436T* [2021] VSCA 72, [273] (Beach and Osborn JJA and Stynes AJA).

139 *Greenwich Millennium Village Ltd v Essex Services Group Plc* [2013] EWHC 3059 (TCC), [162] (Coulson J) ('*Greenwich Millennium Village*'). See also below n 161.

140 Colin Scott, 'Regulation and Risk Today' (2017) 8(1) *European Journal of Risk Regulation* 24, 25, quoting Rob Baldwin and Julia Black, 'Really Responsive Risk-Based Regulation' (2010) 32(2) *Law and Policy* 181, 181 ('Regulation and Risk').

141 Haines (n 24) 17. See also Black, 'Risk in Regulatory Processes' (n 92) 303.

142 Hackitt, *Final Report* (n 12) 6 (emphasis omitted).

One end of the spectrum is the very low level of control which typically is able to be exerted by occupants of multi-dwelling apartment buildings in relation to the safety of common services (such as water and electricity supply conduits, footings, fire evacuation pathways and facade cladding systems). There, occupants (and other users of the building, including visitors) are almost wholly reliant upon there not being any break in the chain comprising myriad links in the design, construction, operation, maintenance, and occupation of the relevant elements — and, that, if there are such breaks in the chain, there is sufficient redundancy in the system to ensure that those breaks do not threaten the health and safety of occupants.[143]

In order to achieve the policy goal, therefore, the regulatory system aspires to eliminate any possibility of failure in respect of such applications which are beyond occupants' influence or control. Therefore, whilst aspects of self-regulation by the industry (including concern for reputations, and professionalism)[144] may *tend* towards achievement of defects-free outcomes, they do not provide the required *assurance* of safety. The starting point is that achieving such protection requires deployment of interventionist regulatory tools, primarily of a 'command and control' type, including strict standards-setting (both as to workmanship and materials outcomes and practitioner competence) and quality assurance regimes. These regimes extend into the occupancy phase, inevitably meaning incursion into occupants' freedom to interact with the built environment which comprises (or, in multi-dwelling buildings, contains) their home in relation to these health and safety systems-related matters.

At the other end of the spectrum is the (relatively) high level of control which is typically available to an owner of a freestanding house, specifying construction elements such as taps or benchtop materials when engaging a builder directly.[145] These are matters in respect of which a range of quality solutions will fulfil basic safety and habitability requirements for all occupants, yet there can be a widely-divergent range of possible aesthetic outcomes (for example, taps could be stainless steel or gold-plated). A concomitant range of costings applies.

For elements of this type, this regulatory principle posits that regulatory intervention is only justified to ensure that consumers 'get what they paid for', meaning that in most instances private law means of enforcing bargains via contract are appropriate and sufficient. That said, higher levels of quality than those applying by default under the model may be negotiated and agreed in a legally-binding manner by the parties to the construction. This is acknowledged by the principle laid down in Part III(E) below that only those who are in a position of vulnerability ought to be afforded protection beyond that available at general law.

143 Apps provided a detailed and poignant account of how fire suppression and evacuation systems broke down at Grenfell due to 'neglect, penny pinching and a refusal to listen to complaints': Apps, *Show Me the Bodies* (n 6) 214, ch 12. Further examples are provided in Part III(F) below.

144 See above Part II(A)(2).

145 An example of a dispute arising out of such a situation is documented in detail in *Lee v Creative Lifestyles Homes Pty Ltd (Building and Property)* [2015] VCAT 511.

D *Industry-Based Norms to Be Harnessed, Consistent with the Regulatory Goal*

The discussion of 'law-in-action' studies in Part II(A)(2) above indicated that homogenous, commercially-oriented communities exhibit preferences towards 'self-regulation'. In particular, the evidence seems consistent across these communities that they tend to: set their own standards for behaviour within the community and towards outsiders based on 'tried and tested' techniques; deploy community-endogenous modes of regulation of that behaviour, including the use of standard forms of contract, the threat of reputation-based sanctions and 'lumping' of disputed amounts; and be reticent to engage in formal (including state-sanctioned) modes of dispute resolution.

Insufficient empirical work has been undertaken to establish whether the behaviours observed in respect of these communities are also prevalent in construction procurement, let alone residential construction. As Bernstein acknowledged, the reputation bonds she observed are the documentary manifestation of practice which has developed within a geographically-concentrated, culturally-homogenous group which relies on repeat dealing.[146] These three aspects are by no means universally applicable in residential construction; rather, the industry is geographically-dispersed (across the world, in fact), culturally-diverse, and the opportunity for repeat dealing is limited, at least so far as home owners engaging builders is concerned.

That said, commonly-encountered tendencies in construction practice indicate that attitudes of the type observed by Bernstein, Ellickson and others are widespread in the industry. For example, 'heuristics' — shortcuts for making decisions — seem to have strong application in the way consumer owners make decisions to enter into building contracts in the absence of detailed knowledge of the risks involved. They tend to rely upon trust and reputation (and, therefore, 'endogenous preferences' — those influenced by the choices of others — such as how 'popular' a builder appears to be on social media) and are therefore susceptible to 'anchoring' by way of pricing for 'standard' fixtures and fittings.[147] These are all staples of behavioural economics, as are the dangers of 'optimism bias'.[148]

Likewise, the way in which builders place heavy reliance on 'rules of thumb' and their own experience raises the prospect of what behavioural theorists term 'status-quo-bias'[149] (aptly expressed in construction terms by the 'law of the instrument':

146 Bernstein, 'Opting Out of the Legal System' (n 53) 140.

147 Yeung, 'Nudge' (n 80) 124–6. The way in which consumers make choices in relation to building projects is ripe for detailed research; observations along similar lines have been found to have an empirically-sound basis in the related area of real estate purchases: see, eg, Karen M Gibler and Susan L Nelson, 'Consumer Behaviour Applications to Real Estate Education' (2003) 6(1) *Journal of Real Estate Practice and Education* 63.

148 Yeung, 'Nudge' (n 80) 125 (emphasis omitted). An accessible introduction to heuristics is provided in part 2 of Daniel Kahneman, *Thinking, Fast and Slow* (Farrar, Straus and Giroux, 2011).

149 See, eg, William Samuelson and Richard Zeckhauser, 'Status Quo Bias in Decision Making' (1988) 1(1) *Journal of Risk and Uncertainty* 7.

'when all you have is a hammer, everything looks like a nail').[150] Thus, whilst it may be second nature for builders to operate efficiently in a complex environment with the tools (physical and mental) they have mastered over that time, where they are faced with new rules or situations, they may be less nimble in their ability to adapt.

These observations, along with the important role played by industry-based norms, lead to a two-limbed regulatory design principle for residential construction:

1. Regulatory intervention which does not take account of entrenched expectations of the industry (or, indeed, those of dwelling owners and residents) needs to be approached with caution, especially because it cannot be assumed that participants in the building industry — which in the English tradition have had guild-based modes of self-regulation since at least medieval times — will universally show the commitment to the legitimacy of external regulation which is a prerequisite to the effectiveness of such regulation[151] (at least, absent coercion).
2. Conversely, incorporating industry-based tendencies and norms within the regulatory model offers many opportunities to harness, consistent with the effective achievement of the regulatory goal, what Gunningham and Grabosky term 'the enlightened self-interest of the private sector'.[152]

These opportunities are of vital importance in framing an effective regulatory model for residential construction. This is primarily because, taken as a whole, people making decisions which go to occupant health and safety outcomes tend to fall into the second category of compliance amongst actors as identified by Scott:[153] 'amoral calculators'.[154] In construction procurement, few actors (whether construction professionals, dwelling occupants or others) fit neatly within the first or third categories noted by Scott (respectively, those who hold compliance as a core value or who routinely act without any regard to the law):[155] rather, most people apply cost-benefit analyses in the circumstances to compliance with regulatory requirements.[156]

In turn, the regulatory design principles for residential construction proposed here incorporate 'responsive regulation' modes, such as Ayres and Braithwaite's 'pyramid of sanctions' as suggested by Scott to apply to this second category of

150 Abraham H Maslow, *The Psychology of Science: A Reconnaissance* (Maurice Bassett Publishing, 2002) 15.

151 Casey and Scott (n 68) 79 (citations omitted).

152 Gunningham and Grabosky (n 27) 12.

153 See above n 78.

154 Scott, 'Enforcing Consumer Protection' (n 44) 481–2. See also Casey and Scott (n 68) 83.

155 See also Scott, 'Enforcing Consumer Protection' (n 44) 481.

156 Ibid 482.

actors (ranging from education through to licence revocation),[157] as well as dissemination of performance data impacting upon builders' reputations, and 'nudging' of consumers and occupiers towards choices which are consistent with whole-life value for money rather than a sole focus upon initial contract price. They also acknowledge that industry-based norms outside of the construction industry have an important role to play — notably, the global insurance market and its means of assessing and mitigating risks.[158]

Perhaps most importantly (and, closely linked to the principle discussed in the next section, that external regulatory intervention be limited to protection of those who are vulnerable in the relevant sense),[159] the regulatory scheme should embrace the possibilities for the legally enforceable alignment of parties' interests in pursuit of optimal quality (and, therefore, occupant health and safety) outcomes via contract. The detail of how such alignment might be achieved is beyond the scope of this article. Nonetheless, there is burgeoning literature documenting, by reference to actual projects, the potential benefits of embedding within the contracting arrangements (within, crucially, their liability and remuneration modes) the types of project-focussed behaviours which construction professionals have (as noted at the start of this section) exhibited for centuries.[160]

These behaviours broadly fall under the umbrella of 'collaboration', as opposed to the 'your loss is my gain' approach embedded in the lump sum, design-and-build model under which, as was exemplified by *Owners Corporation No 1 of PS613436T v LU Simon Builders Pty Ltd*, design and delivery risk is pushed down the contracting chain to parties which may have little practical ability to control it.[161] Hence, 'early contractor involvement' and 'alliancing' contracting modes (along with others under that 'collaborative' umbrella) can bring the 'cost' and 'quality' sides of the proverbial construction risk 'iron triangle' into closer

157 Scott, 'Enforcing Consumer Protection' (n 44) 482, citing Ayres and Braithwaite (n 52) 35. See also Casey and Scott (n 68) 83.

158 Scott has observed that '[t]he potential of insurers to act as regulators of conduct has been identified, but developed remarkably little within the scholarly and practice literatures': Scott, 'Regulation and Risk' (n 140) 26 (citations omitted). See also Scott, 'Enforcing Consumer Protection' (n 44) 468.

159 See below Part III(E).

160 See especially the case studies in David Mosey, *Collaborative Construction Procurement and Improved Value* (Wiley Blackwell, 2019) ch 15 and, in the Australian context, Rebecca Dickson, 'Understanding and Administering Co-operation Clauses in Major Australian Project Contracts' (2020) 36(2) *Building and Construction Law Journal* 96.

161 *Lacrosse Case* (n 138) [51]. A further example is *Greenwich Millennium Village* (n 139) noted in Part III(C) above. There, a sub-sub-subcontractor, whose workmanship errors were the primary source of defects in water risers (including the likelihood, though denied, that it was their plumbers who had 'succumbed to temptation' and used a metal wrench on a plastic nut), was found to bear liability far exceeding their £5 million insurance coverage: *Greenwich Millennium Village* (n 139) [162] (Coulson J); *Greenwich Millennium Village Ltd v Essex Services Group plc* [2014] 1 WLR 3517, 3533 [100] (Jackson LJ); *Greenwich Millennium Village Ltd v Essex Services Group plc* [2014] EWHC 1099 (TCC), [201] (Coulson J).

alignment.[162] They do this by harnessing, in a legally binding way, the expertise of the party who ultimately will deliver the required component — whether that be design, materials or otherwise — at the time when decisions are being made about the scope for that work and how much will be paid for it.[163]

E *Vulnerability Sets the Boundary for Legislative Intervention*

The primary concern of this article is to identify regulatory principles which are more likely to effectively embed norms which ensure that dwellings are built so as to protect the safety of their occupants. In saying that, the regulatory scheme ought not unnecessarily undermine the ability of well-informed parties to agree, in a legally enforceable way, that the dwelling to be built is not only safe but also incorporates aesthetic aspects beyond those which would be provided under baseline implied warranties.

For this reason, it is appropriate to contemplate, within the 'ingredients' for regulatory reform constituted by these principles, the upholding of formalist notions which seek, to the extent possible, the enforcement of bargains on the terms agreed rather than those which might be imposed upon the parties through judicial or legislative intervention. As noted by Ellickson,

> [t]he great advantage of contracting, compared with third-party social controls, is that contracts give force to individuals' *subjective* valuations of outcomes, as opposed to the impersonal objective valuations that third-party controllers are forced to employ.[164]

Therefore, this article proposes, as a regulatory principle in pursuit of a regulatory goal of residential construction safety, that parties who are in a position to enter into informed bargains in relation to residential construction work should be able to make those bargains in a legally binding manner with minimal external interference (other than in relation to matters derogating from the primacy of resident safety in line with principle (A)).

This primacy needs constantly to be front of mind. The reality is that many residents are vulnerable in the sense that they have little realistic control, legally or otherwise, over construction outcomes. This is exemplified in evidence given to the Grenfell Tower Inquiry by Lee Chapman, who lived on the Tower's 22nd floor:

162 The third side of this 'triangle' is 'time': see generally Julien Pollack, Jane Helm and Daniel Adler, 'What Is the Iron Triangle, and How Has it Changed?' (2018) 11(2) *International Journal of Managing Projects in Business* 527.

163 Mosey (n 160) provides many examples of the benefits of such an approach in residential construction practice, including the involvement of the balcony supplier during the design stage under the Rogate House project alliance in West Sussex, resulting in aesthetic improvements yet a lower cost compared to a similar project: at 291, quoting Association of Consultant Architects, *10 Years of Partnering Contracts* (Compilation) 35 <http://ppc2000.wiserhosting.com/wp-content/uploads/2016/12/10-Year-Anniversary-PPC-and-5-Year-TPC.pdf?fbclid=IwAR0AYSeBYooYS1xtD74p6NEKQ2txXoDcoCQNiITlrjKtMDjdQlE2UZLPYe>.

164 Ellickson, *Order without Law* (n 53) 246 (emphasis in original).

> I remember going to bed thinking, 'I really hope nothing ever happens'. … But what can you do? You live somewhere and you have to trust that the people that are responsible for that building are looking after the health and safety, because that's normally the number one thing that everybody worries about in day-to-day life.[165]

A case over the construction of a multimillion-pound mansion, built in Jersey for the founder of the Body Shop, arguably presents an example of a home owner who — consistent with this principle — ought not to be given any regulatory support to pursue their claims beyond their rights at general law. By his own admission, the owner was not vulnerable in any relevant sense; rather, as Coulson J noted by reference to a statement made in cross-examination, 'his wealth allowed him to indulge his likes and dislikes'.[166] At trial, Coulson J summarised the litany of defects the owner complained of as being almost entirely aesthetic in nature, with perhaps one only structurally unsound or dangerous.[167] His Honour (a construction law expert who was later elevated to the Court of Appeal) commented that the architects were entitled to produce a 'very high quality finished building … not … a perfect building',[168] because 'a perfect standard of interior fitting and finish could only be provided by boat-fitting specialists, not construction contractors'.[169]

F *The 'Buck' Should Stop Somewhere*

The palpable sense of anger amongst the local and wider community after Grenfell has been extensively documented,[170] as has the very real perception that there is a gap between the expectations of people that the state will keep them safe and the reality of the way in which state-based authorities make decisions which impact upon that safety. These were illustrated by accounts of a public meeting at the Kensington and Chelsea Council five weeks after the fire. Many survivors were initially locked out of the chamber and therefore the ability to address councillors; when given the opportunity to do so, one North Kensington resident said: '*We* fear being burned to death in our homes. … *You* fear being shouted at.'[171]

Expectations that the state will ensure the health and safety of its citizens are longstanding within the English policy tradition (including as transferred to

165 *Grenfell Tower Inquiry* (Transcript, 19 April 2021) 53 <https://assets.grenfelltowerinquiry.org.uk/documents/transcript/Transcript%2019%20April%202021.pdf>.

166 *McGlinn v Waltham Contractors Ltd [No 3]* [2007] EWHC 149 (TCC), [89].

167 Ibid [813].

168 Ibid [191].

169 Ibid [192].

170 See, eg, *Grenfell* (Minnow Films, 2018) <https://vimeo.com/276775321>; Andrew O'Hagan, 'The Tower' (2018) 40(11) *London Review of Books* <https://www.lrb.co.uk/the-paper/v40/n11/andrew-o-hagan/the-tower>; Apps, *Show Me the Bodies* (n 6); *Grenfell: In the Words of Survivors* (National Theatre, 2023); *Grenfell: System Failure* (Nick of Time Productions, 2023) <www.grenfellsystemfailure.com>.

171 Tom Lamont, 'Trapped: The Grenfell Tower Story', *GQ* (online, 28 November 2017) <www.gq.com/story/grenfell-tower-fire-inside-story> (emphasis in original).

Australia). They were exemplified in Thomas Hobbes' *Leviathan*, a 17th century vision of a strong and well-resourced state. Hobbes observed that, without civil society, the state of nature might make human life *free*,[172] yet it would also be 'solitary, poore [sic], nasty, brutish, and short'.[173] In the modern conception of the democratic state, there exists what Curtin and Senden have termed an 'accountability chain', between citizens and public office holders (and, within such office holders, between elected politicians and bureaucrats); citizens can pass judgement on the office holders and, if dissatisfied, 'throw the rascals out'.[174]

The realisation after Grenfell was, however, that the levers of regulatory intervention had been shifted in such a way that the state was no longer able to guarantee such health and safety (assuming that it ever was able to, which of itself is a moot point). Broadly, the fire has been seen as symptomatic of a

> gross failure of government oversight, a refusal to heed warnings from inside Britain and around the world and a drive by successive governments from both major political parties to free businesses from the burden of safety regulations.[175]

More specifically, the Phase 2 evidence at the Grenfell Tower Inquiry highlighted particular limitations upon the ability of the state to provide the guarantee of safety sought by the community. These limitations include a lack of capacity for intervention, consistent with the 'hollowing out' of the state referred to above, and a focus on measuring of performance at the expense of actually ensuring effective performance in pursuit of the relevant regulatory goal.[176]

The following exchange between Counsel to the Inquiry and Janice Wray, who on the night of the fire was the Health and Safety Facilities Manager for the Tenant Management Organisation ('TMO') covering Grenfell, offers insights into the risk of regulatory ineffectiveness inherent in imposing responsibilities without providing concomitant resources:[177]

> Q. Did you understand that you were the TMO person with primary operational responsibility for ensuring that the TMO complied with its legal obligations as the responsible person under [the] legislation?

172 Thomas Hobbes, *Leviathan* (Andrew Crooke, 1651) ch 21.

173 Ibid 62.

174 Curtin and Senden (n 54) 172.

175 David D Kirkpatrick, Danny Hakim and James Glanz, 'Why Grenfell Tower Burned: Regulators Put Cost Before Safety', *The New York Times* (online, 24 June 2017) <www.nytimes.com/2017/06/24/world/europe/grenfell-tower-london-fire.html?_r=0>.

176 In this context, Scott has noted the distinction between pursuit of 'better regulation' and the attention paid to audit: Colin Scott, 'Evaluating the Performance and Accountability of Regulators' (2014) 37(2) *Seattle University Law Review* 353, 354.

177 *Grenfell Tower Inquiry* (Transcript, 7 June 2021) 42 (Richard Millett, Counsel to the Inquiry) <https://assets.grenfelltowerinquiry.org.uk/documents/transcript/Transcript%207%20June%202021.pdf>.

> A. The reason I'm hesitating is because so much of it was outside my control. I recognise these responsibilities … but a lot of these were met by me having to chase and cajole and harangue people who had responsibilities. … I couldn't be responsible for the overall control, but I had oversight, I had monitoring, I could escalate, and those were the things that I did, and did all the time. But I couldn't ensure, I wasn't in a position to do that.

The Inquiry heard of many instances indicating that the regulatory oversight which remains after such hollowing-out is mere 'box-ticking' rather that the type of holistic, independent engagement which construction professionals hold as essential to their role. Paul Hanson, from the Royal Borough of Kensington and Chelsea, explicitly noted that, in his role 'as building control, I'm following practice in the industry'.[178] Similarly, a call centre operator for the responsive maintenance provider at Grenfell said that, in conducting customer satisfaction surveys, she was aware that a satisfaction rate between 90% and 95% needed to be achieved; this meant that, if low scores were received from residents on surveys, other residents were called for straightforward jobs with 'almost a guarantee[d] positive reaction' so as to bolster the average score.[179]

The question of whether there remains strong ongoing community support for the notion that 'the buck should stop' with a publicly accountable body or office holder is one which underpinned discourse across the world about restrictions on activities in the face of the COVID-19 pandemic. That discourse was constantly evolving, divergent and often rancorous, and its implications will no doubt be studied for years to come. That said, evidence from the *Australian Consumer Survey 2016* ('*Survey*') indicates that Australian consumers continue to subscribe to the view that the place where the 'buck' should 'stop' is a state-based regulatory body. Such bodies were seen as the first port of call for complaints by approximately 46% of respondents, with social media and online forums third at 13%.[180] The *Survey* also reported a high overall awareness (90% nationally) that laws exist to protect basic consumer rights,[181] and 64% of respondents agreed or strongly agreed with the statement, '[i]n Australia, you can generally buy products and services knowing that businesses will do the right thing and not mislead or cheat you'.[182]

178 *Grenfell Tower Inquiry* (Transcript, 1 July 2021) 186 (Kate Grange, Counsel to the Inquiry) <https://assets.grenfelltowerinquiry.org.uk/documents/transcript/Transcript%201%20July%202021.pdf>.

179 Samantha Burrell, Submission No TMO00894344/11, *Grenfell Tower Inquiry* (3 December 2020) 10–11 [44]–[46], cited in *Grenfell Tower Inquiry* (Transcript, 29 June 2021) 101–2 (Andrew Kinnier, Counsel to the Inquiry) <https://assets.grenfelltowerinquiry.org.uk/documents/transcript/Transcript%20-%2029%20June%202021.pdf>. Putting the operator's statement to Graham Webb, Managing Director of the maintenance provider: he responded that he was '[a]bsolutely not' aware of such practices: at 102. See also Apps, *Show Me the Bodies* (n 6) 203.

180 Treasury and EY Sweeney, Commonwealth, *Australian Consumer Survey 2016* (Report, 18 May 2016) 35 <https://consumer.gov.au/sites/consumer/files/2016/05/ACL-Consumer-Survey-2016.pdf> ('*Survey*').

181 Ibid 21.

182 Ibid 26. This had, however, dropped significantly from the 71% who agreed with the statement in the 2011 survey: at 28.

Generally, the *Survey*'s findings were consistent with Scott's observation that consumer responses to problems with goods and services are primarily 'gradated in terms of the time and cost involved', but also take into account factors including the consumer's level of knowledge of their entitlements and his note that consumers are likely to seek advice and become better informed when larger losses are involved.[183] Thus, the most significant factor in the decision whether to take action was the value of the product or service, with $282 (down from $326 in 2011) the average amount considered to be significant for seeking information, $275 for a complaint (down from $342) and more than 50% of consumers regarding $100 or less to be the relevant threshold for either action.[184] The second highest factor, a concern that others would also be affected by the same issue, motivated 19% of consumers to seek information.[185]

Whilst Australian consumers exhibit a baseline willingness to complain, the *Survey* indicated a reticence to move to the next step, being participation in formal dispute resolution processes such as conciliation or mediation. Thirty-one percent of Australian consumers reported that they would definitely do so 'if they had an issue with a business that they could not resolve', and 61% that it depended on the circumstances.[186] Some reasons consumers cited for not participating in such processes were that it would not be 'worth the hassle or effort' (28%) or 'pointless as nothing good will come out of it for me' (12%), with 21% reporting that they would not participate because they did not like confrontations.[187]

Those who had experienced residential building issues indicated a higher than average level of pessimism about their problems being resolved: the overall percentage of consumers reporting that their case was 'unresolved/unlikely to be resolved' was 26%, whereas it was 33% in residential building.[188] Similarly, in response to the 2008 survey of the Victorian Building Commission (the predecessor to the VBA), 12% of consumers reported a disagreement with their builder which was resolved without recourse to third party intervention.[189] In addition, 7% of consumers reported having a concern which they did not raise with their builder as 'it resolved itself or they had little expectation of a better outcome'.[190]

183 Scott, 'Enforcing Consumer Protection' (n 44) 469, citing Jagdip Singh and Robert E Wilkes, 'When Consumers Complain: A Path Analysis of the Key Antecedents of Consumer Complaint Response Estimates' (1996) 24(4) *Journal of the Academy of Marketing Science* 350.

184 *Survey* (n 180) 31, 34.

185 Ibid 31.

186 Ibid 37.

187 Ibid. Similar factors were reported upon by consumers who did not take steps to resolve an actual problem, including that it was not worth the effort (32%), time (31%) or cost (23%) involved: at 45. Thirteen percent noted that they did not want to deal with the trader again.

188 Ibid 49–50.

189 Building Commission (Vic), *Pulse Building Intelligence 2008* (Report, 2009) 15.

190 Ibid.

These Australian studies support the notion — underpinning Hackitt's recommendations that residents' voices be listened to in relation to matters which affect them and their homes[191] — that dwelling owners and occupants are willing to take responsibility for their homes, up to a point. For some occupants, this point may entail an appetite for years-long struggles in court to assert their rights; for others, they might regard themselves as wholly reliant on family, friends or the state to protect those rights.[192] Wherever on their personal spectrum that point sits, however, it seems to be a near universal expectation that, beyond it, there will be a publicly accountable guardian of their interests to which they ultimately can look for protection or recourse.

IV CONCLUSION

Part III put forward six regulatory design principles directed toward the regulatory goal of promoting resident safety through construction practices. The principles are distilled from the application of construction practice to the regulatory theory and kindred enterprise perspectives laid out in Part II. They are deliberately drawn at a high level of abstraction, anticipating — as noted in Part I — that they may therefore be applied as an analytical 'lens' to a diverse range of reform programs in pursuit of a regulatory goal of resident safety.

The principles also lend themselves to more granular application in the design and critique of regulatory regimes and reforms. Just as the reform programs have emphasised the need for wholesale change, so too the principles need to be viewed as 'pieces' in a 'holistic jigsaw puzzle' of building regulation.[193]
An example may be provided by the issue of building practitioner competence:

- Principle (A) demands that, in case of any conflict between other principles, *resident safety remains paramount*;
- Principle (B)'s focus on *prevention* encourages investment in education programs for practitioners, including meaningful continuing professional education;
- Principle (C) encourages a *risk-based approach* to matters like registration requirements and standards-setting: these need to be directed to expertise and aptitudes which minimise the risk of defects as opposed to 'box-ticking exercises';

191 Hackitt, *Final Report* (n 12) ch 4.

192 A review of relevant studies of stakeholder satisfaction in relation to building services is provided in Argaw Gurmu, Anna Galluzzo and John Kite, 'Modelling Customers' Perception of the Quality of Services Provided by Builders: A Case of Victoria, Australia' (2021) 21(1) *Construction Economics and Building* 100, 102–3.

193 Kim Lovegrove, 'Best Practice Elements of Enlightened Building Control for the Third Millennium: 2018 and Beyond', *Lovegrove and Cotton: Construction and Planning Lawyers* (Article, 23 February 2018) <http://lclawyers.com.au/best-practice-elements-enlightened-building-control-third-millennium-2018-beyond/>, quoting Kim Lovegrove, 'World's Best Practice Ingredients for Enlightened Building Regulation', *Lovegrove and Cotton: Construction and Planning Lawyers* (Article, 21–24 October 2012) <https://perma.cc/CHQ9-XEGA>.

- Principle (D) acknowledges that the *construction industry has over a long history developed norms* which can be effective in delivering safe dwellings; in the context of practitioner competence, this assessment ought to begin with a detailed understanding of the relative merits of industry- and state-based registration schemes;
- Principle (E) uses *vulnerability* as a touchstone to counsel a discriminating approach to regulatory intervention: where residents or other parties are under a systemic or situational disadvantage vis-a-vis practitioners, additional protection is justified; where they are not, regulatory intervention can unduly constrain innovation and other desirable outcomes;
- Principle (F), in seeking to ensure that '*the "buck" stops somewhere*', places transparency and accountability at the heart of the regulatory model.

For the reasons explored in Part I, it is this last principle which is perhaps the most challenging to effectively deliver upon in the current regulatory environment. This is inherent in the reality that no reform program is drafted on a 'clean slate'; rather, reforms need to be overlaid upon the existing regulatory system. In the case of the UK and Australia, the building regulatory systems have developed by accretion over centuries, across their layers of private and public law, processes, commerce and politics, so as to entrench multiple pathways for avoiding being left holding the 'hot potato' of responsibility when something goes wrong.[194]

For that reason, the revelations at the Grenfell Tower Inquiry not only speak to the challenge of effective residential construction regulation, they also exhort all those involved to continue doing the very hard, and never-ending work of striking the right balance in reforms to the existing regulatory schemes. As Shergold and Weir observed, there is 'no panacea or "silver bullet"'; rather, the 'compliance and enforcement systems … need to change as a matter of priority' as '[t]he problems have led to diminishing public confidence that the building and construction industry can deliver compliant, safe buildings which will perform to the expected standards over the long term'.[195]

194 Philip Britton has pointed to the embryonic level of holistic understanding, notwithstanding Hackitt, Shergold-Weir and other reviews, of how these different regulatory modes fit together in residential construction; in the context of the interplay between civil liability and compliance with standards, he noted that that 'particular elephant seems not yet even to have entered the room': Philip Britton, 'Post-Grenfell Reform: Rethinking Civil Liability' (2021) 37(4) *Construction Law Journal* 243, 248.

195 Shergold and Weir (n 177) 3–4.