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Modern Solutions to Ancient Problems

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'HIRED GUNS': MODERN SOLUTIONS TO ANCIENT PROBLEMS[1]

Professor Doug Jones AO[2]

Τίτος Φλαούιος Τιτιανὸς ἔπαρχος Αἰγύπτου λέγει· οὐκ ἔλαθέ με ὅτι οἱ ἀπὸ τῆς Αἰγύπτου νομικοί, ἄδειαν ἑαυτοῖς ὧν ἁμαρτάνουσι ἔσεσθαι νομίζοντες, πανταχοῦ μᾶλλον καταχωρίζουσι τὰς ἀσφαλείας ἢ ἐν Ἀδριανῇ βιβλιοθήκῃ, διὰ τοῦτο [κατασκευασθεισης] μάλιστα ὅπως μηδὲν τῶν παρὰ τὸ προσῆκον πρασσομένων ἀγνοῆται. τούτους τε οὖν κελεύω καὶ τοὺς πολειτικοὺς πάντας τὰ ἀκόλουθα τοῖς προστεταγμένοις ποιεῖν, εἰδότας ὅτι τοὺς παραβάντας καὶ τοὺς διὰ ἀπειθίαν κακῶς ἀφορμὴν ζητοῦντας ἁμαρτημάτων τειμωρήσομαι. προτεθήτω.

— Papyrus from Oxyrhynchus, Egypt, 127 AD[3]

Titus Flavius Titianus the prefect of Egypt declares: It has not escaped me that the nomikoi *[experts on local law consulted during magistratical hearings] of Egypt, thinking that they would be unpunished for their crimes, are filing their expert reports everywhere except in the Library of Hadrian, which was built for this specific purpose, namely, in order that nothing done contrary to good practice be missed. Therefore, I order the* nomikoi *and all the officials to do what is required by my orders, and to know that I will punish those who break the rules and who, through their disobedience, seek profits wickedly. Let it be written.*[4]

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[1] This paper adapts elements of a paper, entitled 'Redefining the Role and Value of Expert Evidence', previously presented by the author at the 41st Annual Conference of the ICC Institute of World Business Law on 29 November 2021, available at the author's website: https://dougjones.info/publications/.

[2] International arbitrator and International Judge of the Singapore International Commercial Court (www.dougjones.info) The author gratefully acknowledges the assistance provided in the preparation of this paper of Alisha Mathias and Peter Taurian, Legal Assistants, Sydney Arbitration Chambers.

[3] Text adapted from Bernard P Grenfell & Arthur S Hunt, *The Oxyrhynchus Papyri* (Egypt Exploration Fund, 1898) 'P. Oxy. I 34'.

[4] Translation adapted from Ari Z Bryen, 'Judging Empire: Courts and Culture in Rome's Eastern Provinces' (2012) 30(3) *Law and History Review* 771, 797–8.

I *Introduction*

In an ancient rubbish tip outside Oxyrhynchus, Egypt, we find, preserved for nearly two millennia, this statement of frustration; directed at nothing other than the improper and partial deployment of expert witnesses in ancient legal disputes.[5]

Without resorting to the moralising, edictal tone of Titianus, and without making reference to 'crime', 'punishment' and 'wicked profit-seeking', it is possible to make some similar observations (and lamentations) about the use of expert evidence in modern arbitrations: that expert reports are sometimes prepared contrary to best practice; that experts, though not (necessarily) corrupt, may have motivations other than the desire to assist the tribunal as candidly as possible; and that rules and procedures must be put in place and followed to prevent this from happening.

This paper approaches the problem of 'hired guns' — experts who, through a real or perceived sense of obligation towards their appointing parties, bring their expertise to bear in a manner that is obviously partial and ultimately unhelpful to the tribunal.[6] First, the paper considers some basal questions concerning the role of experts and expertise in arbitration, particularly of complex and technical construction disputes; secondly, the problems associated with conventional party-appointed experts are discussed, which include but are not limited to problems stemming from overt bias; finally, attempts currently being made to mitigate these problems are evaluated, and novel techniques, which place primacy on the proactivity of the tribunal, are proposed by which a tribunal might manage this process of collecting and interpreting expert evidence:[7] modern solutions to ancient problems.

[5] This same rubbish tip is known for having revived the works of Menander of Athens (342–290 BC), a comic playwright, whose extant plays notably include *Epitrepontes* = 'The Arbitration' (literally 'Those who submit their disputes to arbitration'): see generally Alan H Sommerstein, *Menander:* Epitrepontes *(The Arbitration)* (Bloomsbury Academic Press, 2021).

[6] This paper naturally focuses on party-appointed experts, as opposed to tribunal-appointed experts. See further below on this distinction.

[7] With example procedural orders provided in the **Appendices**.

II *Expertise & Arbitration*

While there are numerous reasons why arbitration is a preferred means of dispute resolution for large and complex disputes — international uniformity, enforceability, the opportunity for flexible and efficient procedures — the opportunity to select arbitrators with familiarity, even expertise, in the relevant industry is often an important consideration. Such arbitrators have a greater capacity to understand the true issues in dispute, and are able to formulate the procedure in a way that is best suited to the dispute in question.[8] It is also a consideration with significant historical precedent: in democratic Athens, whereas juries were habitually *elected* by the deme, in matters of sufficient importance or complexity they would be elected from a select group of men who were familiar with commercial matters, with a view to expediting the determination of the dispute.[9]

In this way, 'expertise' can rightly be seen as a fundamental concomitant of almost all arbitrations. However, even the specialised knowledge that may be possessed by the arbitrator is typically not sufficient in complex arbitrations; the use of expert witnesses supplying expert evidence is almost always called for. This is particularly true of construction disputes, in which the scope of the work, and the legal and factual complexity of the dispute, typically necessitate individuals of specialised expertise in order for the relevant issues to be given due attention. With the rise of international 'megaprojects', with multiple stakeholders and complex multi-tiered contracts,[10] the demand for this kind of expertise will only increase.[11]

There are *three* important categorical distinctions to observe in relation to experts in commercial arbitrations.

First, experts differ in terms of the nature of the discipline in which they possess expertise. It is possible to speak of three kinds of experts in this regard:

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[8] See generally Nigel Blackaby, Constantine Partasides & Alan Redfern, *Redfern and Hunter on International Arbitration* (Wolters Kluwer, 7th ed, 2023) [4.41]–[4.68].

[9] Particularly in the 'emporic courts', which are understood to have dealt particularly in matters of maritime commerce: see Edward E Cohen, *Ancient Athenian Maritime Courts* (Princeton University Press, 1973) 93–9. Cohen describes these courts as 'summary in procedure, rendering rapid decisions' and 'open to individuals of varied citizenship', with access to 'uniquely strong measures … to enforce [their] judgment[s]'; in sum, 'marked by *rapidity*, *supra-nationality* and *rigor*' (at 8) — all features with which modern commercial arbitration is familiar. See further Emmanouil ML Economou & Nicholas C Kyriazis, 'The Emergence and the Evolution of Property Rights in Ancient Greece' (2017) 13(1) *Journal of Institutional Economics* 53, 67.

[10] See particularly Aisha Nadar, 'The Contract: The Foundation of Construction Projects' in Stavros Brekoulakis & David Brynmor Thomas (eds), *The Guide to Construction Arbitration* (Global Arbitration Review, 5th ed, 2023).

[11] See generally Bent Flyvbjerg, 'What You Should Know about Megaprojects and Why: An Overview' 45(2) *Project Management Journal* 6.

(a) Technical experts are those with knowledge of a particular industry or specialist technical field (pharmacology, computer programming, metallurgy, etc). They will be needed only where the dispute concerns that particular field, and as such are often less familiar with giving expert evidence.

(b) 'Analysis' experts are those trained to undertake surveys and calculations with respect to such issues as frequently arise in disputes (particularly construction disputes), including delay, disruption and quantum. Their expertise derives not so much from technical ability in a specialist field (although certain complex mathematical models and analytical methodologies may demand such ability),[12] but from the ability to survey and interpret vast quantities of data that the tribunal simply does not have the resources to analyse with granular detail itself.[13] They are a common staple in the pool of expert witnesses.

(c) Legal experts are, as their name suggests, experts in particular, often niche or specialised, areas of the law. In international contexts, they are sometimes required where the laws of a country or legal system are unfamiliar to the parties or the tribunal.[14] The *nomikoi* of Roman Egypt discussed above, who assist magistrates or governors acting in a judicial capacity in matters of local law,[15] provide an ancient example of this kind of expert; as do their more well-known and (slightly) better understood early Imperial counterparts, the *consiliarii*.[16] Their use in arbitrations is sometimes problematised insofar as their role overlaps with the legal expertise of counsel (and the tribunal).[17]

The second, and arguably most important distinction, is as between party-appointed and tribunal-appointed experts. This distinction derives from international arbitration's joint inheritance of common law and civil law traditions. In the adversarial tradition of the common

[12] John A Trenor, 'Strategic Issues in Employing and Deploying Damages Experts' in John A Trenor (ed), *The Guide to Damages in International Arbitration* (Global Arbitration Review, 5th ed, 2023).
[13] Edna Sussman, 'Arbitrator Decision Making: Unconscious Psychological Influences and What You Can Do about Them' (2013) 24 *American Review of International Arbitration* 487, 497.
[14] Donald Francis Donovan, 'Re-Examining the Legal Expert in International Arbitration' in Hong Kong International Arbitration Centre (ed), *International Arbitration: Issues, Perspectives and Practice: Liber Amicorum Neil Kaplan* (Walters Kluwer, 2018) 247, 253–5.
[15] See further Bryen (2012) (n 4) 796–7.
[16] The antecedents of the *amici curiae*, which term owes its origins not to ancient Rome but to early English common law: Luigi Crema, 'The Common Law (and Not Roman) Origins of *Amicus Curiae* in International Law: Debunking a Fake News Item' (2020) 20(1) *Global Jurist* 1, 2–4. See further S Chandra Mohan, 'The Amicus Curiae: Friends No More?' [2010] (December) *Singapore Journal of Legal Studies* 352, 363.
[17] See George Burn, Claire Morel de Westgaver & Victoria Clark, 'Annual Arbitration Survey 2021: Expert Evidence in International Arbitration: Saving the Party-Appointed Expert' (Bryan Cave Leighton Paisner, 2021) 11.

law, in which parties bear the principal responsibility for shaping and presenting their cases to the comparatively more passive court or tribunal, parties will engage and brief their own experts. By contrast, the inquisitorial tradition of civil law systems means that courts or tribunals naturally appoint their own experts to assist with their inquiry into the relevant facts. As is now trite to acknowledge, party-appointed experts are the standard for most arbitrations;[18] although the civil law's experience with tribunal-appointed experts still has a unique part to play.[19]

Finally, there is a distinction in terms of how party-appointed experts are used by that party. In addition to the more traditional kind of independent expert, appointed by a party but having a fundamental duty to the tribunal to whom they present their expert evidence, there is the notion of the 'shadow expert' or expert adviser,[20] who assists and consults the party in the preparation of its case from the outset.[21] Though there is a distinction in *role* as between these kinds of experts, the same expert may occupy both roles sequentially in the arbitration, which can bear significantly on the issues of bias in the giving of evidence that will be discussed below.[22]

As noted above, this paper primarily focuses on independent, party-appointed 'analysis' experts, which describes the most commonly deployed kind of expert witness in modern construction arbitrations. However, by bearing in mind the alternatives that exist to this kind of expert, it is possible to reveal both the advantages and disadvantages that characterise such experts. It is to this topic that the ensuing Part now turns.

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[18] See ibid 10; Paul Friedland & Stavros Brekoulakis, '2012 International Arbitration Survey: Current and Preferred Practices in the Arbitral Process' (White & Case, 2012) 29. On the shifting preferences for common law and civil law traditions, see further Professor Doug Jones AO, 'Redefining the Role and Value of Expert Evidence' in Bernardo M Cremades & Patricia Peterson (eds), *Rethinking the Paradigms of International Arbitration* (ICC Institute of World Business Law, Dossier XX, 2023) 142, 144–6.

[19] See particularly Rolf Trittmann & Boris Kasolowsky, 'Taking Evidence in Arbitration Proceedings between Common Law and Civil Law Traditions: The Development of a European Hybrid Standard for Arbitration Proceedings' (2008) 31(1) *University of New South Wales Law Journal* 330, 340.

[20] Or, more dysphemistically, the 'dirty' expert: 'Experts in International Arbitration', *LCIA* (Web Page, 17 January 2018) para 9 < https://www.lcia.org/News/experts-in-international-arbitration.aspx>.

[21] See Julian Haslam-Jones, 'Are Shadow Experts Having a Positive Impact on Disputes?' 22 (October) *Driver Trett Digest* 22, 22–3.

[22] See also International Chamber of Commerce Commission on Arbitration and ADR, *Construction Industry Arbitrations: Recommended Tools and Techniques for Effective Management* (Report, 2019 update) 22 [18.3] ('*Construction Industry Arbitrations*').

III *'Hired Guns'*

The most fundamental (and obvious) issue with party-appointed experts is the fact of their appointment by one party:[23] though they are enjoined to be 'independent and impartial' and to assist the tribunal, they are, essentially and inherently, partisan. For this reason, there is a widespread and oft-cited perception of party-appointed experts as being 'hired guns':[24] 'hired' in a very literal sense by their appointing parties, and 'guns' insofar as their findings are invariably weaponised against the other party and its experts. This should properly be regarded as a function of a broader problem with the use of party-appointed experts: namely, that experts might naturally provide their evidence in response to questions generated by their appointing party, based on the factual evidence held at that time by the appointing party, and, as a consequence, not meaningfully join issue with the opposing party's expert.[25] This partisan approach to expert evidence provides a fertile breeding ground for more overt instances of bias.

This is not simply a question of procedural inefficiency. As noted above, expertise lies at the heart of arbitration and its origins, such that anything vitiating the deployment of expertise in an arbitration should be seen as a serious and essential problem.

There are many potential sources for bias in a party-appointed expert. There is the natural familiarity that an expert will have with counsel of their appointing party, and with the case theory put forward by that party, such as may sway the experts towards pursuing certain avenues of inquiry in their evidence. Money may be a motivating factor, whether in the illicit and explicit manner described by Titianus in the epigraph or in a more subtle and subconscious manner. Particularly where experts are consistently retained by the same party, that expert may begin, consciously or subconsciously, to regard their livelihood as linked to the success of that party, such that they subtly tailor their findings to favour that party.

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[23] Cf Burn, de Westgaver & Clark (2021) (n 17) 12, finding that opinion was divided as to whether this phenomenon actually exists, and that it was further divided as to whether this phenomenon was a problem. Notwithstanding this, the masses of literature attesting to the phenomenon, and the author's own experience in arbitrating disputes that demanded large amounts of complex expert evidence, attest to the reality of this problem and its consequences. It should be noted that in the same survey (at 21), respondents thought that a tribunal should give limited weight to the evidence of a party-appointed expert who breaches their duty to remain independent and assist the tribunal, suggesting that this duty continues to be regarded as paramount and excessive partisanship should not be praetermitted.

[24] Including in judicial publications: see, eg, Federal Court of Australia, *Expert Evidence Practice Note*, 25 October 2016, para 3.1.

[25] See ibid, counselling terminological precision in referring not to 'opposing experts': at Annexure B, paras 3–4.

On the one hand, overt bias on the part of an expert may sway a tribunal to find in favour of that expert's appointing party; in which case the skewing of the evidence will have successfully misled the tribunal and led to an unjust result. On the other hand, such bias, when it is immediately conspicuous to the tribunal,[26] may have the opposite effect: namely, destroying the integrity of the expert evidence and encouraging the tribunal not to accept the findings of the expert. This is the view expressed through an anecdotal (and almost certainly apocryphal) tale concerning Socrates in Plato's *Apology* of the early 4th century BC:[27] When Socrates perambulates Athens, investigating (as he does) the nature and extent of human knowledge, he is struck by the superlative and quasi-divine wisdom and ability that he finds in the various 'experts' that he consults — poets, tragedians, dithyrambists, artisans. However, these experts invariably overstep the mark as soon as they begin commenting on their own works, believing them to be the best, and making claims that go beyond their professed expertise in their respective disciplines. This, in Socrates' eyes, undermines all credibility that these experts may have, and confirms his view that human knowledge is inferior to that of the gods communicated through oracles.[28] Likewise, when the valuable expertise exhibited in an expert report is obscured by a clumsy attempt to plead the party's case, the credibility of the entire report is undermined. In summary, whichever way the bias sways the tribunal, the integrity of the expert process will have been undermined, as the tribunal will have been persuaded by reasons other than the merits of the evidence itself.[29]

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[26] In this sense, even perceived (rather than actual) bias poses a problem.

[27] 'After the public men I went to the poets, those of tragedies, and those of dithyrambs, and the rest, thinking that there I should prove by actual test that I was less learned than they. So, taking up the poems of theirs that seemed to me to have been most carefully elaborated by them, I asked them what they meant, that I might at the same time learn something from them. Now I am ashamed to tell you the truth, gentlemen; but still it must be told. For there was hardly a man present, one might say, who would not speak better than they about the poems they themselves had composed. So again in the case of the poets also I presently recognised this, that what they composed they composed not by wisdom, but by nature and because they were inspired, like the prophets and givers of oracles; for these also say many fine things, but know none of the things they say; it was evident to me that the poets too had experienced something of this same sort. And, at the same time, I perceived that they, on account of their poetry, thought that they were the wisest of men in other things as well, in which they were not. So, I went away from them also thinking that I was superior to them in the same thing in which I excelled the public men. Finally, then, I went to the hand-workers. For I was conscious that I knew practically nothing, but I knew that I should find that they knew may fine things. And in this I was not deceived; they did know what I did not, and, in this way, they were wiser than I. But, men of Athens, the good artisans also seemed to me to have the same failing as the poets; because of practising his art well, each one thought he was very wise in the other most important matters, and this folly of theirs obscured that wisdom' — Plato, *Apology* 22a–22d. Translation adapted from Harold North Fowler (trans), *Plato:* Euthyphro*;* Apology*;* Crito*;* Phaedo*;* Phaedrus (Harvard University Press, 1914) 84–7 (emphasis added).

[28] See further Julia Kindt, *Revisiting Delphi: Religion and Storytelling in Ancient Greece* (Cambridge University Press, 2016) 89.

[29] A lack of expert credibility may also mar a party's trust in the evidentiary process, which can have consequences on the ability of the award to withstand challenge.

But the problem with party-appointed experts does not only manifest itself in the rare instances of explicit and conscious bias on the part of the expert; other consequences are far less sinister, though considerably more insidious. First, party-appointed experts, out of a misguided sense of loyalty to their own party, may refuse to consider or adopt methodologies proposed by the other party's expert. To do so may be seen, it is thought, as a concession to the legitimacy of the other party's expert evidence. Whereas it is, of course, valid for an expert to argue the merits of their preferred methodology as opposed to the other expert's, it is essential that an expert be able to opine on alternative factual and methodological scenarios, so as to give the tribunal a complete picture of what its decision entails. This is especially so where there are multiple conflicting but accepted methodologies, such as in the context of delay and disruption.[30]

Secondly, the list of questions, facts and data upon which a party-appointed expert bases their evidence may be different as between opposing parties. This is, to some extent, a natural and innocuous product of party appointment. However, when these factual assumptions diverge to any significant extent, a tribunal seeking to compare the parties' expert reports may struggle to find any meaningful differences in opinion. This issue is exacerbated by the widespread use of memorials (rather than, say, traditional common law pleadings) in international arbitration, in which parties often collate legal arguments, factual evidence and expert evidence all in the one round of submissions. This only worsens the psychological factors that link experts to their appointing parties and prevent them from acting or being seen as truly independent.

Finally, there is a perception, bred by an excessively adversarial approach to the expert evidence, that 'more is more' with regard to experts: that retaining more experts will confound an opposing party and lead to a more robust case. Likewise, a party may feel compelled to deploy expert evidence, even in an issue that it regards as insignificant to its case, merely because the other party has done so. This runs contrary to well-recognised best practice, which rightly sees the need for expert evidence as governed not by a party's views as to the overall strength of its case but by the actual issues in dispute.[31] Expert evidence is already a difficult procedural consideration in arbitrations: overinflating the quantity of the expert evidence is both unnecessary and unhelpful as regards the cost and efficiency of an arbitration.

[30] See ICC Commission on Arbitration and ADR, *Construction Industry Arbitrations* (2019) (n 22) 23 [18.7].
[31] See International Chamber of Commerce Commission on Arbitration and ADR, *ICC Arbitration Commission Report on Controlling Time and Costs in Arbitration* (Report, 2018) 13 [62].

IV *Modern Solutions*

As this paper's references to antiquity have sought to demonstrate, these problems are by no means unprecedented.[32] Government law reform bodies and arbitral institutions have been aware of and sought to respond to these issues. For instance, the 2010 update to the IBA Rules[33] incorporated measures to address some concerns about the use of expert witnesses, including provisions requiring the expert to include in their reports the instructions under which they provided their opinions,[34] as well as a statement of independence from the parties, counsel and tribunal,[35] and an affirmation of the expert's 'genuine belief in the opinions expressed in the Expert Report'.[36] Also noteworthy is the 2007 CIArb Protocol,[37] which goes further in codifying the duties and responsibilities of experts vis-à-vis the tribunal.[38] As regards government-led reform, the most notable step forward in England came in Lord Woolf's seminal 1996 report on 'access to justice',[39] in which expert evidence was cited as an area where a lack of robust procedure was leading to considerable costs to efficiency in judicial procedure. Lord Woolf's report notably led to practice directions for experts in litigation, with a view to decreasing excessive partisanship and improving efficiency of expert procedure, and inspired a host of comparable reforms in other common law jurisdictions.[40] However, these reforms have come slowly, and, though welcome, quite clearly are not capable of resolving the more basal problems with party-appointed experts.[41]

The use of tribunal-appointed experts might naturally appear to be a solution to the concerns over party-appointed experts.[42] Indeed, common law courts have had some success

[32] Although they are sometimes less familiar to arbitrators and counsel who hail from civil law jurisdictions, which can mean that they are ignored or not given due weight.
[33] International Bar Association, *Rules on the Taking of Evidence in International Arbitration* (adopted 29 May 2010).
[34] Ibid art 5.2(b). The provision remains unchanged in the 2020 update.
[35] Ibid art 5.2(c). This provision likewise remains unchanged in the 2020 update.
[36] Ibid art 5.2(g). This provision likewise remains unchanged in the 2020 update, and notably departs from the original 1999 Rules' requirement of an affirmation simply of the 'truth of the expert report': International Bar Association, *Rules on Evidence in International Arbitration* (adopted 1 June 1999) art 5.2(d).
[37] Chartered Institute of Arbitrators, *Protocol for the Use of Party-Appointed Expert Witnesses in International Arbitration* (September 2007) ('CIArb Protocol').
[38] See further below.
[39] Lord Woolf MR, *Access to Justice: Final Report to the Lord Chancellor of the Civil Justice System in England and Wales* (Final Report, 1996).
[40] See, eg, *Civil Procedure Rules 1998* (UK) r 35.2; *Practice Direction 35* (UK) para 3.3; *Guidance for the Instruction of Experts in Civil Claims 2014* (UK) para 2. See further Jones (2023) (n 18), discussing the English reforms: at 156–7; and comparable reforms in Australia, the United States and Singapore: at 157–60.
[41] Mark Kantor, 'A Code of Conduct for Party Appointed Experts in International Arbitration: Can One be Found?' (2010) 26(3) *Arbitration International* 323, 335.
[42] See generally Julian DM Lew, Loukas A Mistelis & Stefan Kröll, *Comparative International Commercial Arbitration* (Walters Kluwer, 2003) 553–83.

in the use of court-appointed advisers,[43] particularly with a view to assisting the judge in interpreting and comparing the otherwise 'impenetrable' submissions of each party's experts.[44] However, tribunal-appointed experts have their own associated problems, including the idea that the parties are usually (particularly in the early stages of the arbitration) better placed than the tribunal to choose experts appropriate to the issues in dispute,[45] the lack of multiple perspectives between which the tribunal may choose,[46] the awkward and problematic question of who is to pay for the expert,[47] and worries of a 'fourth arbitrator',[48] all of which relate to the overriding concern of party autonomy which is fundamental to international arbitration.[49] Relatedly, parties often opt not to cross-examine the tribunal-appointed expert, for fear of giving an impression that they are 'criticizing the judge's authority';[50] and seldom have much scope to deploy their own experts in a meaningful way.[51] While there have been some recent attempts at revitalising the use of tribunal-appointed experts in arbitration, such as the Sachs Protocol[52] and the Prague Rules,[53] it is unrealistic to think that parties and arbitrators will apostatise on their demonstrated preference for party-appointed experts.[54]

[43] Of which admiralty assessors and *amici curiae* are specific examples: see further Jones (2023) (n 18) 151–3.
[44] See, eg, *Re United States Tobacco Company v Minister of Consumer Affairs and the Trade Practices Commission* [1988] FCA 241, [68] (Enfield J); *White Constructions v PBS Holdings* [2019] NSWSC 1166, [22]–[24] (Hammerschlag J), discussing *Uniform Civil Procedure Rules 2005* (NSW) r 31.54(3); *Quoine Pte Ltd v B2C2 Ltd* [2020] SGCA(I) 02; *Re Al M Fact-finding* [2021] EWHC 1162 (Fam).
[45] Roman Khodykin & Carol Mulcahy, *A Guide to the IBA Rules on the Taking of Evidence in International Arbitration*, ed Nicholas Fletcher (Oxford University Press, 2019) 332. See also Burn, de Westgaver & Clark (2021) (n 17) 17.
[46] This is particularly relevant to construction disputes, in which technical questions may have multiple legitimate answers: ICC Commission on Arbitration and ADR, *Construction Industry Arbitrations* (2019) (n 22) 23 [18.7].
[47] Lisa Richman, 'Hearings, Witnesses and Experts' in Lisa M Richman, Maxi Scherer & Rémy Gerbay (eds) *Arbitrating under the 2020 LCIA Rules: A User's Guide* (Wolters Kluwer, 2021) 257, 275.
[48] Friedland & Brekoulakis (2012) (n 18) 14. See also Sven Timmerbeil, 'The Role of the Expert Witness in German and US Civil Litigation' (2003) 9(1) *Annual Survey of International & Comparative Law* 163, 175–6.
[49] Access to party-appointed experts was considered a fundamental corollary of 'party autonomy' by 84% of respondents in Burn, de Westgaver & Clark (2021) (n 17) 17.
[50] Timmerbeil (2003) (n 48) 175.
[51] Ibid 177–8.
[52] See Klaus Sachs & Nils Schmidt-Ahrendts, 'Protocol on Expert Teaming: A New Approach to Expert Evidence' in Albert Jan Van den Berg (ed), *Arbitration Advocacy in Changing Times* (ICCA Congress Series, Volume 15, 2011) 135, noting that reform to the system of tribunal appointment has otherwise been relatively non-existent: at 144.
[53] *Rules on the Efficient Conduct of Proceedings in International Arbitration (Prague Rules)* (adopted 14 December 2018). For a recent discussion of the Prague Rules, see Professor Janet Walker CM, 'The Prague Rules: Fresh Prospects for Designing a Bespoke Process' in Amy C Kläsener, Martin Magál & Joseph E Neuhaus (eds), *The Guide to Evidence in International Arbitration* (Global Arbitration Review, 2nd ed, 2023) 44.
[54] See further Kantor (2010) (n 41) 338–9.

As most arbitration laws and institutional rules leave the bulk of the procedural decision-making to the arbitrator's discretion (with consultation of the parties),[55] it is suggested that the best way of mitigating these issues is through a vigorous and proactive approach to the management of expert witnesses on the part of the tribunal.[56]

What follows is this author's proposal for a practical protocol that, when combined with proactive case management early in the lifecycle of an arbitration, has the potential to add (and, in the author's experience, has added) significant value to the contributions made by party-appointed experts in arbitral proceedings.[57] This 'Party Appointed Experts Case Management Protocol' proceeds in six stages:

1. *Identify the disciplines in need of expert evidence, and the identity of the experts.*
   Parties are in the best place to identify the experts and the disciplines in need of expert evidence, and should do so at an early stage of the proceedings in order to make an early start on the ensuing steps in the protocol, and in order to deal with any conflicts of interest or challenges that may arise in relation to the proposed experts. Doing so also responds to the concern raised above that expert evidence is occasionally raised for its own sake, without regard for the value that it actually has in the arbitration as a whole. Requiring the parties to give serious and formal contemplation to this question ensures that expert evidence is only produced where necessary.
2. *Establish within each discipline a common list of questions.*
   The tribunal should confer as early as possible with the parties and the experts, and facilitate their attempts to establish a common list of questions on which each discipline's experts are to opine.[58] While the parties will naturally have their own views,

[55] See, eg, International Chamber of Commerce, *ICC Rules of Arbitration* (adopted 1 January 2021) art 25; London Court of International Arbitration, *LCIA Arbitration Rules 2020* (adopted 1 October 2020) art 20; Hong Kong International Arbitration Centre, *HKIAC Administered Arbitration Rules* (adopted 1 November 2018) art 22.
[56] See, in relation to this suggestion, Mélida Hodgson & Melissa Stewart, 'Experts in Investor-State Arbitration: The Tribunal as Gatekeeper' (2018) 9(3) *Journal of International Dispute Settlement* 453, arguing that arbitration might beneficially adopt the approach of the United States in having the tribunal manage expert evidence with reference to its admissibility, rather than through excessive prescription in institutional rules: at 461–2.
[57] It should be noted that many of these suggestions find a reflection in the *Singapore International Commercial Court Rules 2021* (Singapore), which go further than most court rules in providing for robust procedures that reflect emerging and established best practice. These include: the requirement that permission be granted for the use of expert evidence (O 14 r 2); establishment in advance of a common list of questions and agreed or assumed facts (O 14 r 3); and provisions requiring experts to meet to narrow the issues in dispute (O 14 r 5). Additionally, in matters referred to the Court's Technology, Infrastructure and Construction List, the Court may direct opposing parties' experts to file a joint report establishing with reasons the issues agreed and disagreed (O 28 r 6) and may convene case management conferences with experts at any time (O 28 r 7).
[58] However, this list of questions should not be regarded as closed, as further issues may arise as the proceedings progress.

the tribunal should give particular attention to the experts' thoughts, as they will ultimately be asked to provide their answers to these questions. This common list of questions is essential to ensuring that both parties' experts are on the same page, and that their disagreements reflect genuine differences in opinion rather than different and incompatible lines of inquiry.

3. *Defer the production of expert reports until common factual evidence (documentary and witness) is available and ensure that the experts opine always on a common data set.*

   In addition to answering the same questions, it is imperative that the experts base their findings on a common body of factual evidence. This prevents an asymmetry in opinion that will need to be remedied (with difficulty) in subsequent disclosure and discovery, and prevents inequality by virtue of the parties' differing access to the relevant evidentiary material. For this reason, it is suggested that, while memorials should continue to be used in light of the considerable advantages that they have in consolidating a party's case for easy digestion by the tribunal, expert evidence should not be prepared concurrently with these memorials. Instead, the preparation of expert reports is best deferred until, as it were, all the cards have been laid on the table. That having been said, experts can (and should) be involved in issues of disclosure, by identifying the kinds of factual material that it will require in order for them to give their informed expert opinion.

4. *The experts within each discipline produce joint expert reports identifying areas of agreement and disagreement.*[59]

   The preparation of joint expert reports as the first substantive item of expert evidence is enormously helpful for narrowing the relevant issues: where there is agreement, there will be no further need to ventilate the issue; and where there is disagreement, the experts will be able further to elaborate on their respective views with a proper understanding of the contrary position that will be put against them. It might be objected that, in light of the issues of bias inherent in party-appointed experts, it is unrealistic to presume that areas of agreement will be identified. However, in the author's experience, this is not the case. When experts are encouraged to meet, ideally in camera without counsel present, discuss their analyses with one another in a professional and considered manner, and exchange 'without prejudice' draft opinions for one another's

[59] See similarly CIArb Protocol (2007) (n 37) art 6.1.

review, the experts are encouraged to be less unrealistic and adversarial, and tend to be more candid and receptive to one another's views.

5. *The experts within each discipline produce individual expert reports on areas of disagreement* only.

   The individual expert report is typically at the greatest risk of being commandeered by counsel or by partisan bias on the part of the expert, and, consequently, devolving into a set of legal submissions. However, by having experts prepare these reports after their joint reports, and by limiting them to areas of disagreement only, the opportunity to 'plead a case' through the expert report will be greatly reduced. This ultimately makes the individual expert report considerably more helpful to the tribunal.

6. *The experts within each discipline produce reply expert reports, containing views in the alternative showing what their conclusions would be if the other expert's assumptions and methodologies were accepted by the tribunal.*

   Finally, experts should have an opportunity to respond to the opposing expert's views as they are expressed more fully in the individual expert reports. However, these 'reply' expert reports should be strictly limited: (i) to existing issues already raised by the other party's expert (rather than novel points entirely); and (ii) to genuine differences of opinion, rather than simply differences in factual or methodological assumptions (which the tribunal will ultimately need to decide). This latter point means that experts should be explicitly directed to prepare this final report by adopting the other expert's assumptions and methodologies, rather than insisting pleonastically on their own preferred methodology. In this way, when the tribunal ultimately decides to opt for one expert's methodology over the other, it will continue to have the benefit of both party's experts as to how to proceed.

Only at this point will it be valuable to engage in pre-hearing expert witness conferencing, or 'hot tubbing', a practice that, though naturally of great benefit at enabling experts to hold one another to account and ventilating important areas of disagreement in a suitable forum, sometimes amounts to 'too little, too late' if not properly supported by robust expert procedures from the outset of the arbitration.[60] Expert witness conferencing is not a 'one and done' affair: it will usually be necessary to meet multiple times with the experts, to clarify the tribunal's expectations concerning expert evidence, and to provide feedback after joint expert reports so

[60] See Burn, de Westgaver & Clark (2021) (n 17), noting that the majority of those who support the use of 'hot tubbing' recommend that it be a tribunal-led process: at 20.

that the experts can incisively and efficiently focus their efforts on the most important questions still in dispute.

An example of a procedural order that reflects these principles and the protocol described above is provided in **Appendix A**.

Finally, the role of the expert witness may extend beyond the hearing into the final stages of the award. When, as is often the case in complex construction arbitrations, there remain complex calculations that must be completed to finalise an award, the calculations may demand greater technical expertise than the tribunal possesses. In such cases, though it may be possible to refer a draft version of the award to the parties and their experts for assistance in completing these calculations, it is often undesirable to give the parties an early glimpse into aspects of the award, for reasons such as asset preservation. Therefore, this author proposes the use of a Post-Hearing Expert Access Protocol, a tripartite agreement between the tribunal, the parties and the experts, permitting the tribunal to communicate directly with the experts (and not the parties) for assistance in completing calculations. Notably, the tribunal's communications should be strictly limited to written instructions (and not in-person or virtual meetings), and the experts should be directed only to provide the requisite mathematical calculations (and not any further opinions); otherwise, there would be issues of procedural impropriety in unilaterally consulting the experts. In summary, this procedure is an example of how innovative expert procedure can be employed in order to finalise the award in an effective and accurate manner. An example of this protocol is provided in **Appendix B**.

A proactive approach to expert evidence has the potential to save considerable time and costs in an arbitration. This was the case in a recent dispute in which the author served as an arbitrator, with value exceeding USD 1 billion, concerning a nuclear power plant, in which the parties' disruption experts were able to reach complete agreement on both methodology and quantification three weeks before the hearing. Though the experts' findings were different to those originally proposed by the parties, neither party objected, meaning that the hearing was shortened and the issue was effectively resolved. While the extent to which the experts were able to come to agreement in this case was exceptional, it nonetheless provides an example of what expert procedure can do to mitigate the more disastrous consequences of excessive partiality on the part of experts.

V *Conclusion*

It is beside the point to criticise 'partisanship' on the part of experts. Partisanship is not, in itself, problematic; indeed, it is the very essence and principal advantage of the adversarial legal tradition to have each party advocate its respective position, with the full panoply of procedural and evidentiary tools that should be open to it.[61] Nor is it helpful to lambast experts or counsel who may fall short of what this paper describes as best practice and who are, to some extent, victims of well-entrenched procedures on expert evidence. However, where expert partisanship tends towards what Lord Woolf described as the 'full, "red-blooded" adversarial approach',[62] any benefits gained or party rights vindicated will be overshadowed by costs to efficiency and economy of proceedings. It is the responsibility of an arbitral tribunal that has in mind its duties to establish an efficient procedure for the parties to follow to take steps to mitigate such problems as are likely to arise. It is hoped that the procedures advocated by this paper will contribute to the increasing awareness and reform in this important area of procedure.

See below for **Appendix A** and **Appendix B**.

[61] See Kantor (2010) (n 41) 327.
[62] Woolf (1996) (n 39) [13.6].

Appendix A

Example Expert Witness Procedural Order

1. Experts

1.1 Dealings with any Party-appointed experts shall be carried out with the IBA Rules on the Taking of Evidence in International Arbitration and CIArb Protocol for the Use of Party-Appointed Expert Witnesses in International Arbitration serving as guidelines, subject to any applicable law.

1.2 On or before **[insert date]**, each Party shall provide the Tribunal and the other Parties with details of the expert disciplines and the identity of the experts within those disciplines whom it proposes to call, together with an identification of the topics upon which the experts in each discipline will be asked to opine.

1.3 In response to the advice in paragraph 1.2 above each Party shall provide the Tribunal and the other Parties with details of any further expert disciplines and the identity of the experts within those disciplines whom it proposes to call, together with an identification of the topics upon which the experts in each such additional discipline will be asked to opine on or before **[insert date]**.

1.4 The Parties shall confer and try to come to an agreement as to the principal topics and issues that the experts are to address by reference to the Parties' respective cases on or before **[insert date]**, advising the Tribunal of any agreement reached, by that date. In the case of any disagreement, the Parties shall revert to the Tribunal for the resolution of any disagreement by that date, setting out the areas of disagreement with brief reasons for disagreement.

1.5 No later than **[insert date]**, the Parties shall file and exchange a preliminary list of the precise questions upon which each expert will opine.

1.6 Any expert report shall:

(a) be prepared in accordance with the CIArb Protocol and the IBA Rules on the Taking of Evidence in International Arbitration;

(b) set out the name and business address of the expert, his or her relationship with any of the Parties, if any, and a description of his or her qualifications, including his or her competence to give evidence;

(c) commence with a summary of matters intended to be established by the expert;

(d) be signed and dated by the expert;

(e) take the form of a declaration under oath or affirmation; and

(f) contain numbered paragraphs and page numbers.

1.7 The Parties shall arrange for meetings and communications between their respective Experts to be scheduled in **[insert month]**.

1.8 On or before **[insert date]**, the Parties' experts, on each respective discipline, shall produce a Joint Expert Report of matters agreed and disagreed.

1.9 On or before **[insert date]**, the Parties may file and simultaneously exchange between themselves individual expert report dealing with areas of disagreement identified in the Joint Expert Reports.

1.10 Following such exchange, each expert shall be entitled to produce a report in reply, which shall be limited to responding to the matters raised in the report of the other expert. Such replies shall be exchanged simultaneously on **[insert date]**.

1.11 The Tribunal may, upon notice to the Parties and with the Parties' consent, hold meetings with any expert at any reasonable time.

1.12 Meetings between the Parties' experts, and any draft reports prepared by those experts shall be without prejudice to the Parties' respective positions in this Arbitration and shall be privileged from production to the Tribunal.

1.13 Although the Parties shall arrange for the meetings referred to in this section to be scheduled, it is expected that experts of like disciplines are to be otherwise unaccompanied at such meetings.

1.14 Any Expert Reports are to contain the following declaration:

'*I declare that:*

- *I understand that my duty in giving evidence in this arbitration is to assist the arbitral tribunal to decide the issues in respect of which expert evidence is adduced. I have complied with, and will continue to comply with, that duty.*
- *I confirm that this is my own, impartial, objective, unbiased opinion which has not been influenced by the pressures of the dispute resolution process or by any party to the arbitration.*
- *I confirm that all matters upon which I have expressed an opinion are within my area of expertise.*
- *I confirm that I have referred to all matters which I regard as relevant to the opinions I have expressed and have drawn to the attention of the arbitral tribunal all matters, of which I am aware, which might adversely affect my opinion.*
- *I confirm that, at the time of providing this written opinion, I consider it to be complete and accurate and constitute my true, professional opinion.*
- *I confirm that if, subsequently, I consider this opinion requires any correction, modification or qualification I will notify the parties to this arbitration and the arbitral tribunal forthwith.*'

1.15 Any expert who has filed an expert report shall make him or herself available to be cross-examined at the Main Evidentiary Hearing. Notice should be given requiring his or her cross-examination by the other Party **[insert date within 2 weeks of the exchange of the last expert reports]**. The Party relying on such evidence shall secure that witness' presence and availability at the Main Evidentiary Hearing in advance. Any Expert who gives evidence at the Main Evidentiary Hearing will do so after having given an oath or affirmation.

1.16 In the event that a Party does not make an expert available, the requesting Party may apply for any additional ruling from the Tribunal, including the setting aside of the prior testimony of that expert, or the drawing of an adverse inference.

1.17 The admissibility, relevance, weight and materiality of the evidence offered by an expert shall be determined by the Tribunal in accordance with the IBA Rules.

Appendix B

Example Expert Access Protocol (Quantum Experts)

1. Assistance to be Provided

1.1 The Parties agree that the Arbitral Tribunal will be given access to two of the Parties' experts, **[insert]** and **[insert]** (the 'Quantum Experts'), on a confidential basis, for the purpose of performing calculations on the basis of existing material contained in their expert reports forming part of the evidentiary record, adopting assumptions to be provided to them by the Arbitral Tribunal (the 'Calculations'). For the avoidance of doubt, the Arbitral Tribunal will not engage in confidential communications with the Quantum Experts about matters that require the provision of expert opinion, rather than the performance of calculations.

2. Confidential Information

2.1 In this Agreement, Confidential Information means: (i) all information supplied or made available to the Quantum Experts by the Arbitral Tribunal, (ii) all information supplied or made available to the Arbitral Tribunal by the Quantum Experts, (iii) all correspondence, discussions or queries raised between the Arbitral Tribunal and the Quantum Experts, (iv) all correspondence and discussions between the Quantum Experts, and (v) all material and working papers and spreadsheets prepared by, amended by or examined by the Quantum Experts in that context, all from the date of this agreement forward, for the purpose of the Quantum Experts assisting the Arbitral Tribunal with any and all Calculations.

3. Undertakings Regarding Confidential Information

3.1 Disclosure and Use: The Quantum Experts will keep all Confidential Information confidential and will not, except as permitted by this agreement, disclose or distribute Confidential Information, or permit it to be disclosed or distributed, or disclose its substance, to any person including the Parties to the arbitration or their legal representatives.

3.2 Security of Information: The Quantum Experts will at all times effect and maintain adequate security measures to preserve the confidential nature of the Confidential Information, at least equivalent to the measures they would prudently effect and maintain for their own valuable and sensitive confidential information.

3.3 Exceptions: The following disclosures only are permitted by this agreement:

3.3.1 Arbitral Tribunal's Agreement: Confidential Information may be disclosed to the extent that the Arbitral Tribunal has expressly directed in writing that the Quantum Experts need not keep it confidential or may disclose it.

3.3.2 Required by law: Confidential Information may be disclosed to the extent required by law.

3.3.3 Quantum Experts' Staff: Confidential Information may be disclosed to members of the staff working for each of the Experts only to the extent necessary to assist the Experts in their interactions with the Arbitral Tribunal and each other and on the basis that such members of staff provide an equivalent undertaking to the relevant Quantum Expert.

3.3.4 Final Calculations: The final calculations performed by the Quantum Experts which are relied upon by the Arbitral Tribunal for determining the quantum awarded shall either be attached to, or provided at the same time as, the Tribunal's Award. Thereafter any calculation errors that may be identified by any of the Parties shall be dealt with in accordance with **[the applicable rules governing Award correction]**.

4. Costs

4.1 The Party who engaged each of the Quantum Experts for the arbitration will remain responsible for each of their costs, including staff costs and other direct costs, and the Arbitral Tribunal will have no responsibility for any costs of the Quantum Experts. The Quantum Experts will submit all applicable invoices to the Arbitral Tribunal for approval and the Arbitral Tribunal will confirm within 15 days that the sums invoiced have been properly incurred.

4.2 The Arbitral Tribunal may allocate as costs of the arbitration the costs of the Quantum Experts arising from their assistance to the Arbitral Tribunal.

5. Disputes

5.1 All disputes arising out of or in connection with the present agreement shall be finally settled under the Rules of Arbitration of the London Court of International Arbitration by one or more arbitrators appointed in accordance with the said Rules. The seat of the arbitration shall be London and the language of the arbitration shall be English.