COMPLEX CONSTRUCTION DISPUTES: PROGRESSION AND REGRESSION IN ARBITRAL PROCEDURE[1]

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INTRODUCTION

To mention construction arbitration is to immediately invoke the complexity which comes with construction disputes. They come in many forms, from claims for additional payment by contractors on varying bases, to claims by owners and others in respect of defective performance by contractors and consultants of construction and design work. Such construction disputes by their nature involve a degree of documentary evidence and issues requiring technical expertise that is seldom seen in other kinds of disputes. Exacerbating this is the advent of the "megaproject", referring to large-scale, costly, and complex infrastructure projects, involving multiple private and public stakeholders.[3]

Against the background of this *factual* complexity arises the *legal* complexity that so often attends construction disputes. Seeing construction projects through to their completion is a behemoth task, which often demands the international cooperation of multiple parties. Gone are the days of simple, two-party construction contracts and a single master builder: the modern construction project involves a complex entanglement of contracts and subcontracts, often with insurers and external financiers required to mitigate against volatile economic, political and climatic conditions.[4] Indeed, the ICC estimates that close to 50 per cent of new cases involve three or more parties, with over 20 per cent involving over five parties, ranging from sub-contractors, financiers and insurers to suppliers,

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[3] Flyvbjerg, B, "What You Should Know about Megaprojects and Why: An Overview", (2014) 45(2) *Project Management Journal* 6–19.

[4] Nadar, A, "The Contract: The Foundation of Construction Projects", in Brekoulakis, S and Brynmor, D (eds), *Global Arbitration Review: The Guide to Construction Arbitration* (Law Business Research, 2017) 7–8.

architects, and engineers, alongside the employer and contractor.[5] Should such projects give rise to disputes, this international, multi-party element presents obvious challenges to the resolution by law of those disputes. When one adds to those challenges the necessity of dealing with competing interjurisdictional procedural practices, the complexity of resolving these disputes is only exacerbated.

This article explores the intersection between these two species of complexity: factual and legal. In particular, this article evaluates the efficacy of arbitration, for many parties the preferred means of resolving international construction disputes, as a flexible tool for managing the issues residing in this intersection. It is suggested that arbitration is capable of bringing to bear a suite of international legal and procedural innovations in order to respond to the factual complexity of disputes, at various procedural phrases, including document disclosure, witness statements, expert evidence, pleadings, and evidentiary hearings. These examples are used as springboards to explore the distinctions that underpin common law and civil law practice and their instantiation in international arbitration. However, essential as this flexibility is, this article highlights the importance of tribunal proactivity as a necessary means of providing form and structure to arbitration proceedings, and concludes with a brief case study of the role of international commercial courts in this context.

DOCUMENT DISCLOSURE

Effective document management is an essential component of the adjudication of construction disputes. Construction and infrastructure disputes are commonly faced with the key issue of navigating technically complex facts of considerable volume. The sheer magnitude of construction disputes, coupled with the inherently intricate and specialised factual matrices, distinguish construction disputes from other matters. In short, they involve mountains (now terabytes) of material, especially when large-scale projects span across years from their conception to completion.

Consequently, document disclosure, an essential early procedural step in construction arbitrations, can be substantially difficult and costly for parties who must wade through data relevant to the dispute, often consisting of material accumulated across the entire life span of a project. In an arbitration over which the author presided, involving the construction of an oil and gas platform, the claimant filed 126 document requests, with the majority

[5] "Full 2016 ICC Dispute Resolution Statistics Published in Court Bulletin", International Chamber of Commerce (31 August 2017) https://iccwbo.org/media-wall/news-speeches/full-2016-icc-dispute-resolution-statistics-published-court-bulletin (last accessed 19 May 2023).

of documents sought exceeding 1,000 pages in length. This experience in dealing with this volume of documents is not unique, as arbitral tribunals may commonly receive "thousands, hundreds of thousands and sometimes millions of pages of documents".[6] The quantity and technical nature of these documents usually necessitates the assistance of expert evidence, something which (if mismanaged) has the potential to bring considerable delay and additional cost to the parties.[7] Nonetheless, this process of disclosing and understanding documentary evidence is of course unavoidable, as fully understanding the relevant facts of a construction dispute is always the central task of an arbitral tribunal.

Whilst disclosure is practically limited in domestic civil law systems, the common law pre-trial process places importance on disclosure (with North American domestic arbitrations typically including depositions, uncommon in international construction arbitration). In response, the international arbitral community has created a balance between civil law and common law domestic disclosure traditions in the IBA Rules, a standard source of reference for guidance in document disclosure and other procedural processes.[8]

The common law notion of disclosure has been openly and proactively embraced by civil lawyers in international commercial arbitration. However, this uniformity of approach does little to provide guidance as to how to efficiently manage the disclosure process. Redfern Schedules are considered useful in refining disputes over disclosure, as they compel parties to clarify what they are seeking and why. However, multiple arbitrators and junior lawyers previously unfamiliar with this approach to dealing with disputed disclosure issues consider it a nightmare. Tribunals frequently have inadequate information to make informed rulings when requests are made. At the early stages of arbitral proceedings, the tribunal's knowledge is usually confined to contentions raised in the parties' statements or in the Redfern Schedule, though these may be more formulaic than practically useful. Often this does not assist in understanding a disputed disclosure's materiality and relevance, which are paramount to the IBA Rules' means of dealing with disputed documents.[9]

Short, focused hearings or teleconferences can be of assistance, where counsel may explain key issues of principle underlying their disputed requests. Lead counsel may further elaborate upon these requests, including

[6] Schneider, M, "The Paper Tsunami in International Arbitration Problems, Risks for the Arbitrators' Decision Making and Possible Solutions", in *Written Evidence and Discovery in International Arbitration, ed.* Giovannini, T and Mourre, A, *ICC Institute of World Business Law* 6 (2009).

[7] See further below.

[8] International Bar Association, *IBA Rules on the Taking of Evidence in International Arbitration* (adopted 17 December 2020) ("IBA Rules").

[9] See e.g., IBA Rules article 2(3), especially article 2(3)(b), requiring parties to produce "a statement as to how the Documents requested are *relevant* to the case and *material* to its outcome" (emphasis added).

the reasons underpinning the parties' dispute as to their production. This assists in clarifying issues, eliminating irrelevant requests and highlights methods to address concerns relating to production. This allows the tribunal to rule on issues of principle, subsequently minimising large areas of disputed requests. The presence of experts during this hearing may assist further, as many requests for disclosure are driven by them; experts can explain their needs for production in a more proportionate and focused manner than would otherwise be the case.

Therefore, the tribunal must actively engage with document production, particularly in complex construction arbitrations, and parties must be responsible in limiting document requests to necessary information, objectives which may only be effectively reached through procedural clarity and proactive case management.

WITNESS STATEMENTS

Complex construction arbitrations typically incorporate witness statements as a fundamental procedural component; broadly speaking, witness statements form a cornerstone of international commercial arbitration. Previously used by common law practitioners in domestic commercial courts, these statements have become common procedure. Sadly, they have (d)evolved from a brief recount of a factual witness' memory of the events into a combination of legal submissions, unhelpful comments upon documents that speak for themselves (including those not previously seen by the witness prior to arbitral proceedings), and speculation, including as to the overarching merits of a dispute.

A "witness" is an individual providing evidence to an arbitral tribunal to assist the tribunal in finding the necessary information to render an award. Ordinarily, witnesses of fact are differentiated from expert witnesses. Under common law doctrines, this distinction is based upon the rule against opinion evidence, or evidence of an opinion that is inadmissible unless provided by one qualified by experience or training to give that opinion, considered an expert witness.[10] Conversely, lay witnesses traditionally provide evidence on what they perceived, either through sight, hearing or touch. This form of evidence may extend further to describe events or circumstances based upon what has been told by others. The comments which follow focus upon lay witnesses (hereinafter, "witness").

A witness statement, prepared by a witness with counsel's assistance, should be an account of a witness' recollection of events, as the witness remembers them. The statement should be written primarily in the

[10] See e.g., Civil Evidence Act 1972 (UK) section 3; Evidence Act 1995 (NSW) sections 76(1), 79.

witness' own words, albeit with some assistance from the lawyers who are preparing the statement. Next, the witness statements must fill gaps in factual evidence created by the documents. In the context of modern disputes, this will mainly be documentary evidence, covering a substantial amount of the facts in dispute. Whilst this may be cumbersome given the sheer scale of documentary evidence, the facts in contention are often required to be the subject of witness evidence. This may occur as additional commentary is needed to supplement the contents of the document, which are insufficient in conveying the entire story on its own. It may be due to no document addressing a specific issue, thereby necessitating witness evidence to resolve the issue. It may also reflect part of a case focusing upon a conversation which was not the subject of documentary record. To reiterate, however, a witness statement should be restricted in scope to what was *perceived* by the witness.

A witness statement is the document used as a vehicle for the witness' provision of evidence-in-chief regarding the factual issues disputed in an arbitration. The possibility of circumventing *oral* examination-in-chief has the potential to decrease the length of a hearing.[11] The time-consuming nature of evidence-in-chief can be attributed to non-leading (i.e., open) questions generally being asked. Witness statements assist in reducing costs incurred by parties by reducing the time spent at a hearing. This further benefits the tribunal in preparing the award, by establishing the evidence-in-chief in a coherent narrative, as opposed to relying upon a transcript containing questioning, the structure and content of which may be difficult to comprehend. This also helps to avoid debate and objection regarding leading questions in examination-in-chief.

Opposing parties may (but need not necessarily) cross-examine witnesses called by the other party. The cross-examination does not need to be restricted to the matters outlined in the witness statement. Instead, other concerns in the arbitration not addressed in the witness statement may be opened up during cross-examination. If cross-examination occurs, the party calling the witness may re-examine the witness. However, where cross-examination does not transpire, the whole evidence of the witness will be contained in the witness statement alongside any responsive witness statement. That clarity prior to the hearing enables cross-examining counsel to be more focused and direct in their questions, as they are aware in advance of the witness' views. The managing of witness evidence in complex construction arbitrations predominantly through written witness statements therefore has the potential greatly to improve the efficiency of costly evidentiary hearings.

[11] Angoura, S, "Written Witness Statements in International Commercial Arbitration: Have the Witnesses been Substituted by Their Statements?", (2017) 20(3) *International Arbitration Law Review* 106, 107.

In addition, a witness statement is an effective means through which a party may convey their side of the story. A relatively senior director or employee will typically be chosen by the party to provide an account to the tribunal of how the party views the circumstances, being the subject matter of the dispute, along with the issues encountered creating the need for arbitration. This assists the tribunal in understanding the entirety of the surrounding circumstances, including why the parties believe the dispute has occurred. However, this purpose must not be overstated. A witness statement should avoid becoming a vehicle aiding the repetition of legal submissions, or a method for lawyers to construct the story in a manner they deem fit. Instead, it must represent the witness' own words, enabling the witness to explain, on the party's behalf, their perspective of the factual background and the consequent dispute.

Although witness statements should not be prepared with a view to making legal arguments, they bear obvious relevance to the parties' preparation of arguments and submissions. Witness statements provide parties with fair and advance notice of evidence upon which the other sides shall rely at the hearing and in the delivery of submissions to the tribunal. Generally, this means that the written submissions in memorials, or those made immediately prior to the hearing commencing (often referred to as "opening submissions"), can account for that evidence. It follows that the parties' arguments can be more directed and focused, which benefits the tribunal in preparing for the hearing.[12] Furthermore, these statements may advance the settlement of a dispute prior to the hearing, as parties have a more developed understanding of the evidence opposing their case. This typically involves the legal representatives reviewing the witness statements to ascertain their impact upon their prospects of success, and subsequently advising their clients accordingly. From the perspective of the parties, this provides the principal actors with insight into how the other side may view the dispute, and their motivations behind the case, information which may have been previously unknown. These fresh perspectives may compel parties to settle in circumstances where that outcome previously seemed unlikely. However, it remains prudent not to overstate the function of witness statements in achieving a settlement where one was previously unreachable, though there are at least some cases where this has transpired.

Finally, witness statements can give a useful framework for expert witnesses to provide their opinions and prepare reports accordingly. The absence of a factual background from the witnesses of each party means experts may struggle in providing an opinion which facilitates the tribunal's resolution of the dispute. Without these factual foundations, the expert opinions may be characterised as general or unspecific, thereby being rendered unhelpful.

[12] Born, G, *International Commercial Arbitration* (3rd Edition, Wolters Kluwer, 2020) 2425.

Drawbacks of Witness Statements

Despite the important functions of witness statements, they have been characterised by features rendering them less useful for the witness, the parties, counsel and the tribunal. In counsel's possession, witness statements often transition from a written account of the evidence that would be given by a witness, in their own words, under oral questioning before a tribunal, to an unhappy combination of legal submission, documentary commentary and quotation, and speculation, with some direct experiential evidence included (but not always).[13] A prototypical witness statement in a contemporary international arbitration bears little resemblance to what a witness would realistically say if providing evidence to the tribunal, despite this being the primary intended purpose.[14] Witness statements have thereby become mechanisms for lawyers to make legal submissions, despite there being sufficient opportunity to do so through pleadings, written submissions and oral arguments before the tribunal.[15]
There are several issues with this transition.

The most critical issue lies in the capacity of witness statements eventually to cease bearing resemblance to the witness' own words. These statements have grown into a manifestation of lawyers' minds, as they mould the evidence to fit the case being advanced for their clients, rather than informing the tribunal of facts relevant to the resolution of the dispute.[16] Consequently, witness statements have become less useful as the tribunal places less emphasis and weight on them, due to the substantial input from lawyers which detracts from the statement representing the witness' own evidence.[17] Therefore, the significant amount of time, effort and expense dedicated towards creating these documents are ultimately of diminished utility to the tribunal and the parties. Indeed, in this form, witness statements may threaten the party's case where such minimal weight being placed on them results in parties having little, if any, witness evidence of substance conveying their story before the tribunal.

In addition, the tendency to quote from, and comment upon, contemporaneous documents has minimal benefits for the advancement of

[13] For a recent criticism of witness statements along similar lines, see *Mansion Place Ltd v Fox Industrial Services Ltd* (QBD (TCC)) [2021] EWHC 2747 (TCC); 199 Con LR 124, paragraph 37 (O'Farrell J).

[14] Veeder, V V, "Introduction" in Lévy, L and Veeder, V V (eds), *Arbitration and Oral Evidence* (ICC, 2004) 7–9; Sanders, P, *Quo Vadis Arbitration? Sixty Years of Arbitration Practice: A Comparative Study* (Wolters Kluwer, 1999) 262.

[15] Hirsch, L and Reece, R, "Witnesses in International Arbitration", [2017] (4) *International Business Law Journal* 315, 324; Hunter, M, "The Procedural Powers of Arbitrators under the English 1996 Act", (1997) 13(4) *Arbitration International* 345, 353.

[16] *Dukeries Healthcare Ltd v Bay Trust International Ltd* (Ch D) [2021] EWHC 2086 (Ch), paragraph 133 (Deputy Master Marsh); Justice Andrew Barker, *Factual Witness Evidence in Trials before the Business & Property Courts: Implementation Report of the Witness Evidence Working Group* (HM Courts & Tribunals Service, 31 July 2020) paragraph 10.

[17] See *Exportadora De Sal SA De CV v Corretaje Maritimo Sud-Americano Inc* (QBD (Comm)) [2018] EWHC 224 (Comm), paragraph 24 (Baker J).

a party's case. Documents can usually be viewed independently, such that witness documentary is unlikely to facilitate the tribunal's understanding of the document's content. Furthermore, the tribunal, alongside any witness or lawyer, may read and interpret the contents of the contemporaneous documents. A party's legal representatives may be expected to advance a document's interpretation in favour of that party through written and oral submissions. A witness' commentary on those documents, either in the words of the lawyer or witness, seldom lends additional weight to a party's preferred interpretation of a document.

Thirdly, the difficulties established above are intensified through a witness commenting upon a document initially seen when preparing their witness statement several months or years past the arbitration's commencement, and well after the date the document came into being. A witness' commentary on an email they never received, or a document unseen prior to the dispute, is likely to have little probative value or relevance in assisting the tribunal or parties in understanding the document's content and effect.[18]

Finally, witness statements are now regarded as an additional means of presenting legal submissions.[19] Opportunities for legal representatives to advance submissions are sufficiently woven through arbitral procedure itself. Depending on the procedure adopted, this includes pleadings, opening written submissions, further submissions at the beginning, during and at the end of a hearing, and post-hearing written submissions. Therefore, replicating these submissions through the words of a lay witness is highly unnecessary, and indicative of the witness' evident lack of preparation of their own statement to the tribunal, contributing towards wasted time and costs and, most significantly, diluting the value and credibility of the witness' overall evidence.

These limitations have watered down the utility of witness statements in determining international commercial disputes, substantially due to the fault of lawyers. The witness statement has devolved into another document to be drafted, read and digested by lawyers across all sides, necessitating the preparation of responses and further consideration of the tribunal. This has actively impeded the arbitral process, obstructing the efficient disposition of cases submitted to arbitral tribunals. As a result, the tribunal must allocate time assessing witness evidence during the process of forming the award. This cumulatively heightens the effects of wasted time and costs, rendering the arbitral process as a slower and costlier framework than initially intended. This emphasises the need for witness statements to be

[18] See *JD Wetherspoon plc v Harris* (Ch D) [2013] EWHC 1088 (Ch); [2013] 1 WLR 3296, paragraph 39 (Etherton C).

[19] Hunter, M, "The Procedural Powers of Arbitrators under the English 1996 Act", (1997) 13(4) *Arbitration International* 345, 353.

prepared appropriately to ensure they facilitate, rather than impede, the resolution of arbitral disputes.[20]

EXPERT EVIDENCE IN COMPLEX CONSTRUCTION ARBITRATION

The importance of expert evidence in resolving complex construction disputes cannot be understated. In respect of infrastructural megaprojects which span multiple countries and involve multiple industry actors, each with their own contracts, it is not difficult to imagine that experts might be a valuable, indeed necessary, tool to make sense of the vast amount of financial and logistical resources that go into these projects, let alone the complex consequences of any deficiencies in the project's delivery.

However, the use of expert witnesses, and the reliance on expert evidence, can be a double-edged sword: when used and managed properly, the benefits to the course of an arbitration can be substantial; but when mismanaged, there is a very real potential for wastage of time and resources.

Kinds of Experts

It is important to be clear as to what is meant by expert evidence. Obviously, different experts are relied upon by parties in different matters in different ways, dependent upon the needs of the matter and the parties in question.

Expert Disciplines

One can generally divide the kinds of areas of expertise on which expert opinion is required into three categories: technical expertise, legal expertise, and experts brought on to analyse issues such as quantum, delay and disruption.[21]

The first category, technical expertise, is a straightforward category, in that technical experts are brought on to explain to the tribunal a particular area where technical knowledge is essential. This is not to say that the work

[20] Courts are familiar also with these challenges and the need for a course correction in the procedures pertaining to witness statements. For a procedure recently adopted in the Business and Property Courts of England and Wales, see Civil Procedure Rules 1998 (England), Practice Direction 57AC. For a more detailed discussion of the adaptation of similar such procedural innovations to international arbitration, see Jones AO, D and Turnbull, R, "Witness Statements and Memorials: Reforms to Serve Parties, Arbitrators and Arbitrations", in Peterson, P and Cremades, B M (eds), *Dossier XX: Rethinking the Paradigms of International Arbitration* (ICC, forthcoming); Jones AO, D and Turnbull, R D, "Memorials and Witness Statements: The Need for Reform", (2022) 88(3) *Arbitration* 339–355.

[21] Blackaby, N and Wilbraham, A, "Practical Issues Relating to the Use of Expert Evidence in Investment Treaty Arbitration", (2016) 31(3) *ICSID Review* 655, 660.

or the calculations that such experts carry out are simple –far from it, the nature of their role is such that this work is usually extremely complicated. However, the benefit that they bring to the tribunal is quite immediate and easily understood.

Legal expert witnesses are also a fairly straightforward category, in that there is called for simply an expert opinion on a particularly contentious and important aspect of the law.[22] Areas in need of legal expertise may especially be found in international disputes, where a tribunal is required to consider legal propositions and consequences from multiple systems of law.[23] There is an obvious tension involved in posing legal questions not to the parties or to counsel, but to a separate expert, whose opinion is then obviously subject to any cross-examination or counter-opinion from the parties.[24] For this reason, this category of expert is seldom the first choice of parties or tribunals in international arbitration. It must be said, however, that this class of expert has ancient precedent, stemming back to Roman law principles,[25] and resembles the office that is perhaps more familiar to the modern lawyer of the *amicus curiae*, which still sees use in common law jurisdictions today.[26]

The final category is certainly a somewhat looser category, and contemplates all such experts as are required not to carry out a calculation or provide a legal proposition, but to sort, analyse and evaluate what are usually vast amounts of data and evidence. Issues such as delay or quantum in construction projects require an in-depth understanding of the multiplicity of issues in construction projects – legal and otherwise – and call upon not only technical expertise, but analytical and evaluative skills on the part of the expert.[27]

[22] See generally, Daly, B W and Poon, F, "Technical and Legal Experts in International Investment Disputes", in Giorgetti, C (ed), *Litigating International Investment Disputes: A Practitioner's Guide* (Brill, 2014) 323, 337.

[23] Donovan, D F, "Re-examining the Legal Expert in International Arbitration", in Hong Kong International Arbitration Centre (HKIAC) (ed), *International Arbitration: Issues, Perspectives and Practice: Liber Amicorum Neil Kaplan* (Wolters Kluwer, 2018) 247, 253–255.

[24] Cf Blackaby, N, Partasides, C and Redfern, A, *Redfern and Hunter on International Arbitration* (7th Edition, Wolters Kluwer, 2023) paragraphs 6.151–6.152.

[25] See Chandra Mohan, S, "The Amicus Curiae: Friends No More?", [2010] (December) *Singapore Journal of Legal Studies* 352, 363; Ruffin Beckwith, E and Sobernheim, R, "Amicus Curiae: Ministers of Justice", (1948) 17(1) *Fordham Law Review* 38, 40.

[26] See e.g., *United States Tobacco Co v Minister for Consumer Affairs* [1988] FCA 241, paragraph 68 (Einfeld J).

[27] See Trenor, J A, "Strategic Issues in Employing and Deploying Damages Experts", in Trenor, J A (ed), *Global Arbitration Review: The Guide to Damages in International Arbitration* (2nd Edition, Law Business Research, 2017) 136, 136; Sussman, E, "Arbitrator Decision Making: Unconscious Psychological Influences and What You Can Do about Them", (2013) 24(3) *American Review of International Arbitration* 487, 497.

Advisors vs Witnesses

Another important way of characterising experts stems from the way in which they are deployed by the parties. Often experts are called upon in the capacity of advisors or consultants to the parties, in which case they typically assist in the articulation of a party's claims, where they may be central to the formulation of a party's case.[28] Such experts, also known as "shadow experts", are intimately and inextricably connected to the party by whom they are employed, and whose strategies and cases they have helped shape.[29]

By contrast, one has the traditional independent (or supposedly independent) expert witness. Such an expert witness may be, depending upon the set of procedural rules adopted, appointed by the parties or by the tribunal itself. In either case, this expert's primary duty is to the tribunal, which they are to assist through the impartial analysis of the facts of the case. These experts may provide their opinions in written format, such as in independent or joint expert reports, or may be called to give evidence orally in hearings. Typically, they are called upon to do both.

Party and Tribunal Appointment

The author has alluded to the distinction between party-appointed and tribunal-appointed experts. This is a fundamental distinction which has serious consequences for the treatment of expert evidence and the management of expert witnesses in disputes, especially in complex and technical construction disputes which rely so heavily on experts. This distinction derives, of course, from the different practices of common law and civil law system. Common law jurisdictions rely on an adversarial model, whereby the emphasis is on party choice and party-led submissions; all before a judge who is impartial and, historically, passive to a certain extent. Parties are therefore relied upon to call their own witnesses, factual witnesses and expert witnesses, to establish the points that they wish to establish, and rebut those of their adversary.[30] By contrast, the inquisitorial role of judges in civil law jurisdictions requires them to take the initiative in fact-finding. As such, court-appointed experts are the standard in those jurisdictions.[31]

[28] See London Court of International Arbitration, "Experts in International Arbitration", *LCIA: Arbitration and ADR Worldwide* (webpage, 17 January 2018) https://www.lcia.org/News/experts-in-international-arbitration.aspx (last accessed 19 May 2023).

[29] Haslam-Jones, J, "Are Shadow Experts Having a Positive Impact on Disputes", (2021) 22 *Driver Trett Digest* 22–23.

[30] See Sir Woolf, H K, *Access to Justice: Final Report to the Lord Chancellor on the Civil Justice System in England and Wales* (HMSO, 1996) paragraph 13.6.

[31] Johansen, C, "The Civil Law Approach: Court-Appointed Experts", (2019) 13(4) *Construction Law International* 18, 18. See also Lew, J D M, Mistelis, L A and Kröll, S M, *Comparative International Commercial Arbitration* (Wolters Kluwer, 2003) 555–557.

In the time before the signing of the New York Convention,[32] when international arbitration was conducted primarily in European, civil law jurisdictions, the practices of those traditions naturally prevailed. However, following the New York Convention, and the bursting onto the scene of the UK and the US, the tide turned;[33] and although international arbitration is flexible, and indeed at its core reflects a hybrid, multijurisdictional system of dispute resolution,[34] party-appointed experts reflect by far the most common form of collecting expert evidence today, with surveys over the past decade indicating that party-appointed experts are used in over 90 per cent of disputes.[35] The reason for this lies in the importance placed on party autonomy, viewed by many as among the most fundamental attractive features of international arbitration.[36] As part of this autonomy, the ability to choose experts and deploy their expertise in the way most suitable to the case of the party in question is fundamental.

Party-appointed Expert

A number of persistent issues plague the role of the party-appointed expert, and serve often to reduce their utility even in complex construction disputes.

Bias

Foremost amongst these issues is the concern that party-appointed experts are *essentially* partisan, and act rather in the capacity of "hired guns" in the interest of the parties than as neutral providers of expert opinions to the tribunal. There need not be anything sinister – simply having a closer personal and professional relationship with the counsel and clients of one side as opposed to those of the other side may be enough to sway the expert's mindset, or motivate the expert to be more favourable and less antagonistic

[32] *Convention on the Recognition and Enforcement of International Arbitral Awards*, opened for signature 10 June 1958, 330 UNTS 3 (entered into force 7 June 1959) ("New York Convention").

[33] Rubenstein, J, "International Commercial Arbitration: Reflections at the Crossroads of the Common Law and Civil Law Traditions", (2004) 5 *Chicago Journal of International Law* 303, 303.

[34] See generally, Trittmann, R and Kasolowsky, B, "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.

[35] *Ibid*, 335; Burn, G, Morel de Westgaver, C and Clark, V, "Expert Evidence in International Arbitration: Saving the Party-Appointed Expert", (Survey, Bryan Cave Leighton Paisner, 2021) 9; Queen Mary University of London, "2012 International Arbitration Survey: Current and Preferred Practices in the Arbitral Process", (Survey, 2012) 29; Queen Mary University of London, "2021 International Arbitration Survey: Adapting Arbitration to a Changing World", (Survey, 2021) 13. See also International Bar Association, *IBA Rules on the Taking of Evidence in International Arbitration* (adopted 17 December 2020) articles 5–6, making the use of party-appointed experts the default, whereas the use of tribunal-appointed experts requires first consultation with the parties.

[36] Queen Mary University of London, "2019 International Arbitration Survey: Driving Efficiency in International Construction Disputes", (Survey, 2019) 23. Burn, G, Morel de Westgaver, C and Clark, V, "Expert Evidence in International Arbitration: Saving the Party-Appointed Expert", (Survey, Bryan Cave Leighton Paisner, 2021) 16.

to one side during, for example, direct and cross-examination. Such bias may be conscious or subconscious – for example, the fact that experts are remunerated by the party that appoints them may create a subconscious desire in the expert's mind to tailor their findings to the needs of that party, or may incentivise the expert actively to do so in the interests of repeat business.[37] Repeat business is itself a large and recurrent issue for experts, just as it is for arbitrators.[38] Obviously, repeat appointments of experts by the same party in respect of complex, technical disputes may simply be due to the small pool of specialised individuals available. However, serious concerns may arise insofar as the expert begins to view their livelihood as tied with keeping one particular party satisfied and financially afloat. Experts in such situations may also struggle to confine their analysis or findings to the matter before them, and may instead allow themselves to be influenced by what other knowledge they have of the party or its dealings based on previous appointments.

As stated, there is a distinction between expert advisors, who are used by parties in a very partisan way to formulate their case, and independent experts, who are required to be impartial. Naturally, this issue of bias, conscious or unconscious, rears its head when an expert acts *both* in an advisory capacity to a party, and in the role of expert witness who advises the tribunal.[39]

These biases need not manifest themselves consciously in the mind of an expert – subconscious biases are just as problematic, and indeed more insidious. These biases need not even manifest themselves at all. Even the perception that such biases exist in an expert or their work can jeopardise the confidence of the parties in the arbitral procedure. This can lead to a lack of engagement and, in extreme cases, a final award being subject to challenges. It can also lead to inefficiency, in that concerns over the accuracy of expert evidence can complicate and delay proceedings, and even, ironically, require the tribunal to appoint its own expert to sort through the evidence provided by both parties. Clearly, that outcome, which is not unheard of in common law litigation,[40] would waste the time and resources of the parties. For a tribunal to be this suspicious of an expert's evidence is also an example of expert evidence undermining a party's case, rather than enhancing it.

[37] See *Abinger v Ashton* (1873) LR 17 Eq 358, 374 (Jessel MR).

[38] Queen Mary University of London, "2018 International Arbitration Survey: The Evolution of International Arbitration", (Survey, 2018) 32–33.

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

[40] See e.g., *White Constructions Pty Ltd v PBS Holdings Pty Ltd* [2019] NSWSC 1166, paragraph 22 (Hammerschlag J).

This is, in many ways, the foremost concern regarding part-appointed experts. However, as it involves subconscious biases, it is difficult to regulate against. Institutional rules typically provide only for basic powers of the tribunal, such as requiring expert witnesses to appear in evidentiary hearings, and are usually designed to promote party autonomy, rather than prescribe rigid guidelines.[41] Important efforts have been made to impose prescriptions (and proscriptions) on the activities of experts, such as by mandating open and transparent communication by experts with the tribunal and all parties. Common also are legal declarations by experts, for example in their expert reports, that they are acting independently and primarily for the benefit of the tribunal.[42] However, the extent to which these words are effective and not simply hollow and therefore incapable of addressing the primary problems is of course debatable.[43]

Any radical changes to the status quo seem unlikely, and would in any case bring problems of their own, as will be discussed below. What is ultimately proposed (again) is that an active, indeed proactive, tribunal is the only way for these issues, among others, to be managed, recognising that they cannot ever be "solved" in an entirely satisfying manner.

Use of Evidence

Whereas 'bias' is the more immediate concern when one thinks of party-appointed experts, in practice the more pressing concern is the risk that the experts will fail to cooperate or engage properly with their peers appointed by the opposing party.[44] It is an unfortunate but common phenomenon where experts from opposing sides do not consider various alternative operating methodologies, including that favoured by the opposing expert, to enable the tribunal to compare the outcomes under all of these methodologies and factual assumptions. Too often, experts rely only on those facts which they personally, or the party which appointed them, believe to be true. This is especially problematic in fields such as disruption and delay, where there are multiple, equally valid and accepted methodologies.

[41] Sachs, K and Schmidt-Ahrendts, N, "Protocol on Expert Teaming: A New Approach to Expert Evidence", in Jan van den Berg, A (ed), *Arbitration Advocacy in Changing Times* (Wolters Kluwer, ICCA Congress Series No 15, 2011) 135, 137. See e.g., International Chamber of Commerce, *ICC Arbitration Rules* (adopted 1 January 2021) article 25; London Court of International Arbitration, *LCIA Arbitration Rules* (adopted 1 October 2020) articles 20–21.

[42] See International Bar Association, *IBA Rules on the Taking of Evidence in International Arbitration* (adopted 17 December 2020) article 5(2)(c); Chartered Institute of Arbitrators, *CIArb Protocol for the Use of Party-Appointed Expert Witnesses in International Arbitration* (September 2007) articles 4.5(n), 8.1.

[43] See Kantor, M, "A Code of Conduct for Party-Appointed Experts in International Arbitration: Can One be Found?", (2013) 26(3) *Arbitration International* 323, 329; See generally, Daly, B W and Poon, F, "Technical and Legal Experts in International Investment Disputes", in Giorgetti, C (ed), *Litigating International Investment Disputes: A Practitioner's Guide* (Brill, 2014) 323, 350.

[44] Queen Mary University of London, "2018 International Arbitration Survey: The Evolution of International Arbitration", (Survey, 2018) 33.

An ironic, practical problem is the overuse of expert evidence.[45] Parties often presume that more experts will lead to a stronger argument, even in issues which are clearly not worth the wasted time or expenditure. The inefficiency this causes is especially obvious when there is an asymmetry in the reliance on expert evidence between the two parties, with one party effectively running its case and making legal propositions by puppeteering its experts, and the other simply glossing over those issues.

Expert witness conferencing, or "hot-tubbing", is a common way of responding to these issues.[46] This involves convening all experts in an in-person or virtual conference and encouraging an open, forum-like discussion on the most important issues of contention, well prior to the hearing. Placing all experts together is valuable. It sorts out at least some of the confusion created by a linear string of expert reports, often months apart and which often do not respond properly to one another.[47] This forum also makes experts accountable; they are less likely to use flawed methodologies or raise peripheral issues if they can be challenged on the spot by their peers. Pre-hearing CMCs and hot-tubbing as part of the evidentiary hearing can yield benefits, such as the narrowing of issues for treatment in the main hearing, or even the resolution and settlement of those disputes. These discussions are best led by the tribunal; even though surveys indicate mixed feelings for the utility of hot-tubbing in general,[48] respondents to such surveys almost universally favour such conferences when they are led proactively by the tribunal.[49] The tribunal should encourage open communication on the part of the experts. Notably, the parties and counsel take a back seat, by contrast to in cross-examination.

Tribunal-appointed Experts

Clearly, many of these problems stem from the nature of party-appointed experts. One might therefore consider tribunal-appointed experts to be the obvious means of countering these difficulties. Naturally, allowing experts to be appointed by the tribunal effectively neuters most concerns

[45] See Daly, B W and Poon, F, "Technical and Legal Experts in International Investment Disputes", in Giorgetti, C (ed), *Litigating International Investment Disputes: A Practitioner's Guide* (Brill, 2014) 323, 338.

[46] The practice was pioneered by Australian courts: Yarnall, M A, "Dueling Scientific Experts: Is Australia's Hot Tub Method a Viable Solution for the American Judiciary?", (2009) 88 *Oregon Law Review* 311, 312.

[47] See Justice S Rares, "Using the 'Hot Tub': How Concurrent Expert Evidence Aids Understanding Issues", [2010–2011] (Summer) *Bar News* 64.

[48] See generally, Queen Mary University of London, "2012 International Arbitration Survey: Current and Preferred Practices in the Arbitral Process", (Survey, 2012) 28.

[49] Burn, G, Morel de Westgaver, C and Clark, V, "Expert Evidence in International Arbitration: Saving the Party-Appointed Expert", (Survey, Bryan Cave Leighton Paisner, 2021) 20. See also Institute of Chartered Accountants in England and Wales, "Concurrent Expert Evidence: Hot Tubbing", (Practical Guidance, 2021) 2.

regarding bias. Whereas some models, such as the Sachs Protocol, named for Dr Klaus Sachs, do involve a certain level of party-participation in the nomination of potential experts, having experts be appointed by the tribunal removes most sources of potential bias, such as the source of remuneration.[50] However, the concerns of bias on the part of experts should not be overstated: recent surveys suggest that parties are generally satisfied with the ability of tribunals to curb the likelihood of expert bias through effective supervision and case management.[51]

Tribunal-appointed experts are practically easier to manage: as there is usually one per discipline, there is no risk of opposing parties' experts failing to collaborate or properly join issue. Further, just as party-appointed experts may be consciously or unconsciously predisposed to produce export reports that favour the party that appoint them, it is also generally in the expert's interest to produce reports that tribunals would prefer – in other words, succinct reports.[52]

There are, however, a number of problems associated with tribunal-appointed experts. Notably, the greatest strength of the adversarial system that is the norm in international construction arbitration is the ability of a tribunal to assess competing perspectives.[53] Difficult as that task may be, it is seldom worth abandoning. As stated above, the use of expert evidence is especially important in complex disputes, where cases may be won or lost based on the manner in which expert evidence is presented.[54] A party to such disputes may view it as fundamental to its right to present its case that it be able to present expert evidence in the manner that it wishes.[55] Of course, a party who is dissatisfied with a tribunal-appointed expert will need to expend further resources to refute that expert, leading to greater inefficiency.[56] Moreover, a tribunal is unlikely to be able to predict precisely what kind of expert evidence will be required at the early stage of proceedings.[57]

[50] See Sachs, K, "Experts: Neutrals or Advocates", (Conference Paper, ICCA Congress, 2010) 13–15.

[51] Burn, G, Morel de Westgaver, C and Clark, V, "Expert Evidence in International Arbitration: Saving the Party-Appointed Expert", (Survey, Bryan Cave Leighton Paisner, 2021) 14.

[52] Langbein, J H, "The German Advantage in Civil Procedure", (1985) 52(4) *University of Chicago Law Review* 823, 838.

[53] See Sir H K Woolf, *Access to Justice: Final Report to the Lord Chancellor on the Civil Justice System in England and Wales* (HMSO, 1996) paragraph 13.6.

[54] Sachs, K and Schmidt-Ahrendts, N, "Protocol on Expert Teaming: A New Approach to Expert Evidence", in Jan van den Berg, A (ed), *Arbitration Advocacy in Changing Times* (Wolters Kluwer, ICCA Congress Series No 15, 2011) 135, 141.

[55] 84 per cent of respondents to a recent survey held this opinion: Burn, G, Morel de Westgaver, C and Clark, V, "Expert Evidence in International Arbitration: Saving the Party-Appointed Expert", (Survey, Bryan Cave Leighton Paisner, 2021) 17.

[56] Timmerbeil, S, "The Role of the Expert Witness in German and US Civil Litigation", (2003) 9(1) *Annual Survey of International & Comparative Law* 163, 175, 177–178.

[57] See Daly, B W and Poon, F, "Technical and Legal Experts in International Investment Disputes", in Giorgetti, C (ed), *Litigating International Investment Disputes: A Practitioner's Guide* (Brill, 2014) 323, 339; Burn, G, Morel de Westgaver, C and Clark, V, "Expert Evidence in International Arbitration: Saving the Party-Appointed Expert", (Survey, Bryan Cave Leighton Paisner, 2021) 17.

Perhaps the greatest concern is that a tribunal will, without the ability to hear conflicting expert perspectives, simply accept the expert's opinion at face value, leading to the concern that experts become the "fourth arbitrator" and ultimately decide large portions of the dispute without the parties' approval.[58] That lack of party approval is especially problematic if one party does not think that an area of the dispute calls for expert evidence, but is nonetheless forced to pay the costs of that expert if it loses the dispute.[59] Indeed, in civil law courts, judges have been found rarely to disagree with experts that they have appointed, as it is difficult for legally-trained judicial officers to produce reasoned counterarguments themselves to expert opinions.[60]

In any case, regardless of what one concludes regarding the viability of tribunal-appointed experts as a counterpoint to party-appointed experts, no great change in the status quo seems likely; the trends in international arbitration lean almost universally towards improving party autonomy, and the relaxing of constraints imposed by state courts and arbitral tribunals.[61] While tribunal-appointed experts of course retain a place in international procedures and practice, they seem unlikely to *replace* the status quo as a feasible alternative.

Managing Expert Evidence Effectively

The flexibility of international arbitration is one of its most attractive features. However, in terms of managing expert evidence, the lack of rigid procedural guidelines can be a hindrance. Strong-willed parties may overshadow the tribunal's authority if given free rein to lead their expert evidence as they wish. As stated previously, the imposition of mandatory institutional or legal constraints will not solve the problem. Instead, it is necessary for arbitrators generally to ensure that expert evidence is handled in an appropriate manner, by confronting the potential challenges proactively.

Early-stage Proactivity

The author's proposal for the effective management of expert evidence relies on proactivity at the *early* stages of the arbitration, and the enshrining

[58] Queen Mary University of London, "2012 International Arbitration Survey: Current and Preferred Practices in the Arbitral Process", (Survey, 2012) 14.

[59] Richman, L M, "Hearings, Witnesses and Experts", in Richman, L M, Scherer, M and Gerbay, R (eds), *Arbitrating under the 2020 LCIA Rules: A User's Guide* (Wolters Kluwer, 2021) 257, 275.

[60] Timmerbeil, S, "The Role of the Expert Witness in German and US Civil Litigation", (2003) 9(1) *Annual Survey of International & Comparative Law* 163, 175–176.

[61] Cf Rombach, A and Shalbanava, H, "The Prague Rules: A New Era of Procedure in Arbitration or Much Ado about Nothing?", (2019) 17(2) *German Arbitration Journal* 53, 59–60.

of distinct expert-related procedural steps in early procedural orders.[62] Whereas expert witness conferencing is clearly in the spirit of this kind of tribunal proactivity, it often amounts to "too little too late" when it is left until just before an evidentiary hearing. An early step that is essential is the identification of experts and of the disciplines that are thought needing of expert opinion. Forcing the parties to make this identification requires them to consider critically whether the issue in question in fact requires expert evidence (which is a presumption that is often made too soon).[63] If this identification is made in a proper and considered manner, experts may be split into their appropriate disciplines and given directions at an early stage, and any conflict or competency challenges made early, before they have the opportunity seriously to disrupt the flow of proceedings. This is not an entirely unprecedented proposal, and has even been enshrined in certain institutional rules and guidelines, such as those of the Singapore International Commercial Court,[64] and in the commonly used IBA and CIArb Guidelines on expert evidence.[65]

Secondly, there should be prepared a draft list of questions which the experts in each discipline will seek, through their analysis and investigations, to answer. These questions should be formulated by the experts, with the tribunal's assistance as to which answers it will likely be interested in. Importantly, they should not be formulated primarily by the parties, who are more likely to pose antagonistic questions, which they perceive to aid their arguments, but which ultimately do little to benefit the tribunal. The involvement of the tribunal is important to ensure that no substantive issues have been missed: one cannot always rely entirely on the parties to hit upon every important issue. Obviously, such a list will not be final at the early stage of the proceedings, but will at least provide a starting point for the experts to proceed.

Thirdly, expert reports should be handled in a way that ensures that experts from opposing parties collaborate and either agree or meaningfully join issue. Rather than immediately drafting submission-like expert reports, which in practice advocate for the party that appointed them, experts should first be directed to draft *joint* expert reports, prepared by way of

[62] This article touches only on the most salient features of the author's previously-expressed views on expert evidence. For further reading on the author's proposed procedural guidelines for the management of expert evidence, see Jones AO, D, "Methods for Presenting Expert Evidence", in *Global Arbitration Review: The Guide to Evidence in International Arbitration* (1st Edition, Law Business Research, 2021) 154, 162–164.

[63] See further International Chamber of Commerce Commission on Arbitration and ADR, *ICC Arbitration Commission Report on Controlling Time and Costs in Arbitration* (Report, 2018) 13 paragraph 62.

[64] Singapore International Commercial Court, *Practice Directions* (adopted 1 April 2022) paragraphs 157–159.

[65] See International Bar Association, *IBA Rules on the Taking of Evidence in International Arbitration* (adopted 17 December 2020) article 2; Chartered Institute of Arbitrators, *CIArb Protocol for the Use of Party-Appointed Expert Witnesses in International Arbitration* (September 2007) articles 6–7. See also Chartered Institute of Arbitrators, *Guidelines for Witness Conferencing in International Arbitration* (April 2019) 16–23.

informal discussion with the opposing experts and the exchange of "without prejudice" drafts. At these preliminary stages, it is crucial that experts be given the opportunity to test methodologies on a preliminary basis, before diving into a methodology which, while it may appear to assist their party, is in practice unworkable. It is also crucial that experts' agreements and disagreements be put on record, so that the issues are narrowed and so that experts may be held accountable to their previous statements. The preparation of these reports should *only* occur after all factual evidence (factual exhibits and witness statements) is disclosed and on the record, so that all experts can work from a shared data set, rather than rely on the skewed perspective that looking only at one side's evidence may cause, or relying on the laborious process of disclosure in a drip-feed fashion.

Only at this stage should experts be directed to prepare individual expert reports, and then again only on those topics about which there was disagreement in the joint expert reports. Experts should also be able to reply to their counterparts' individual reports. These reply reports should be strictly confined to offering the expert's views on the outcome *if the other expert's methodologies and assumptions of fact are accepted.* The tribunal's task is often to choose between a set of factual scenarios; if it chooses one set of facts over the other, it will be greatly benefited by knowing what each expert has to say based on that set of facts. Naturally, one expects there to be areas of disagreement in complex disputes with multiple valid analytical methodologies. However, waiting until this stage to produce these reports requires experts to think critically about the topics on which they disagree, and removes some of the psychological barriers between experts on opposing sides.

A tribunal should be honest with the parties that the management of expert evidence is difficult; international arbitration involves many moving parts, and usually has relatively short hearings that need to be arranged well in advance. However, the above reflects a number of methods which demand persistence and proactivity from a tribunal and which may be useful in overcoming some of these variables.[66]

[66] The author's experience in a recent construction arbitration involving multiple expert disciplines provides an example of the benefits of this method. The parties to this arbitration had originally wished to bifurcate proceedings, such that issues of liability would first be heard and determined in full, before only then turning to issues of quantum, and beginning the inevitable compilation of expert evidence in respect of those issues. That is a proposal which risked causing substantial delay to the final resolution of the dispute. Instead, by implementing the method described in this section, and demanding collaboration from the party's quantum experts, the parties were able to come to an agreement on the majority of issues on quantum. They came to this agreement in the middle of the evidentiary hearing, which meant that the hearing was concluded days earlier than originally planned, saving all parties time and money. Had the management of the expert witnesses commenced any later than at the very beginning of the arbitration, it is doubtful whether this outcome would still have been possible.

Tribunal Access to Experts Post-Hearing

A relatively niche example of innovation in the use and management of expert evidence involves allowing the tribunal to receive the benefit of expert witness assistance in the *post*-hearing phase of proceedings.

Models which allow for this require the signing of an Expert Access Protocol: an agreement between the tribunal, parties and relevant experts (usually quantum experts) setting out how and when the tribunal is to make use of the experts. Typically, the tribunal will be permitted to communicate with the experts *without* involving the parties, but will only be able to do so for assistance in making calculations, rather than for receiving evaluative opinions. This is especially useful when there is a complex factual matrix which the tribunal will be called to decide, where particular factual findings may reverberate and impact on a number of complex quantitative calculations. Where these variables are complex and numerous, it is often not feasible to require experts to prepare models in advance, which anticipate every possible factual outcome. Rather, the experts will be best able to assist once they know precisely which factual scenario they should proceed from. This is also far preferable to giving the parties access to a draft final award and inviting their assistance to the making of final calculations, which may jeopardise the ability of the successful party effectively to enforce the award in future.

While this method appears, on its face, controversial, it has in practice caused almost no problems and received almost universal support. Although this method is clearly suited only to certain forms of expertise, it reflects the kind of innovation which prioritises the independence of the expert and the proactive role of the tribunal which it is necessary to bring to the entire process of managing expert evidence.

PLEADINGS AND MEMORIAL APPROACHES

A key point of ongoing discourse within the arbitral community is whether complex construction arbitral matters should use traditional common law pleadings, or should they alternatively adopt a memorial approach. The process of material preparation for a final hearing before an international arbitral tribunal is typically conducted through either the memorial or pleading approach. Whilst these are not diametrically opposing approaches, the innate flexibility of international arbitration enables the tribunal and parties to design a procedure incorporating elements of both to best resolve the specific dispute in an efficient and just manner.

The memorial approach originates from civil law tradition, where all documentary and witness evidence, alongside legal submissions, are presented to the tribunal and opponents in a single submission. The pleading approach is reflective of common law tradition, where parties

establish their factual standpoint in written pleadings, sequentially followed by discovery/disclosure, witness statements, expert reports (if necessary), and written opening submissions before the oral hearing.

As identified earlier, witness statements are fundamentally plagued by several limitations such as over-lawyering, extensive commentary and quotation from documents, legal submissions, and speculation. To some extent, these issues may be addressed through the adoption of a memorial approach, as each witness statement and legal submission to cross-reference the contemporaneous documents relied upon by the parties. This ensures witnesses can avoid quoting from the contemporaneous documentary record, allowing the tribunal thereby to examine the relevant documents in the round, as opposed to on a selective basis as chosen by the witnesses (or parties' lawyers). Therefore, a memorial approach better assists parties in achieving an efficient presentation of their cases and assists the tribunal in reviewing documents in preparation for a hearing, by contrast with the pleadings approach.[67] Consequently, a memorial approach will make witness statements more useful to the tribunal.

The memorial approach provides another benefit of compelling parties to focus on their case, and the issues in contention, at an early stage. A pleading approach assists parties in advancing factual cases, without comprehensively reviewing the documents or obtaining proofs of evidence from witnesses. Consequently, the case established in the pleadings may be altered to suit the contemporaneous documents or witness statements. A memorial approach also forces parties to construct their case based upon their own contemporaneous documents, which they possess, instead of hoping their case may be further developed through documents disclosed by the other side.

However, a limitation of the memorial approach lies in the potential for witness statements to engage with uncontested matters of fact. Under a memorial approach, factual issues in disputes remain ambiguous until the first memorial is filed by the respondent. As a result, the claimant's witnesses risk preparing long statements in support of allegations outlined in the legal submissions, only for certain allegations to be accepted by the respondent, leaving the claimant's witness statements unnecessarily lengthy.

Overall, tribunals and parties should adopt the memorial approach, or something that resembles it, where parties either simultaneously or sequentially exchange memorials containing lay witness statements, documents being relied upon, and any legal submissions. Those legal submissions may loosely resemble common law pleadings by setting out the factual and legal matters the party is alleging in the dispute, but extend further by advancing a legal argument with reference to cases and legal authorities, as well as facts extracted from the documents and

[67] Caron, D D and Caplan, L M, *The UNCITRAL Arbitration Rules: A Commentary* (2nd Edition, Oxford, 2013) 494.

witness statements. The exchange of responsive memorials should follow, containing the same types of documents. The nature of the dispute itself will determine whether a further reply round of memorials is required, although this third round may frequently be avoided.

It is also helpful to include a chronology (which can be cross-referenced to contemporaneous documents) and a *dramatis personae* in the memorial. A consolidated single version of each document should be produced by the parties in a cooperative manner, indicating, if required, any points of divergence between them. Provided these documents remain solely factual, as opposed to a mechanism for parties to further their respective cases, they can assist the tribunal and parties in understanding the factual matrix of the dispute.

A procedure for document disclosure, where parties identify relevant documents to the dispute and subsequently disclose those to the other parties (whether helpful or adverse to their case), may be incorporated. The disclosure of documents does not necessarily need to form part of the memorial or the documentary record, as the parties may deploy disclosed documents in support of their case. Expert evidence should be omitted from memorials. Prior to experts providing their opinion to assist the tribunal's resolution of the dispute, the factual substrate must be broadly stated. It is therefore suggested that, in the majority of circumstances, expert evidence be delayed until the first exchange of memorials have occurred, at the minimum, ensuring experts understand the factual issues in contention and can provide their opinion accordingly.

CHESS CLOCK PROCEDURE IN ARBITRAL HEARINGS

Construction lawyers are familiar with the complexity of construction disputes leading to increasingly long and expensive oral hearings, with much of the hearing dedicated to the cross-examination of witnesses and experts. This lies in tension with one of the key objectives of arbitration of ensuring efficiency in the proceedings, and it is therefore crucial that arbitrators make appropriate use of strategies to manage the efficiency of hearings. The 'chess clock' procedure is one such method that arbitrators use to ensure that the length of hearings remains in check, resulting in significant time and cost savings.

The "chess clock" procedure is a time management method involving the prior agreement of the parties and tribunal to allocate a specific amount of time to each party for the oral hearing.[68] The time is typically divided equally between the parties for them to use as they see fit, though in some cases the

[68] Appel, M E, "The Chess Clock: A Time Management Technique for Complex Cases", (2006) 61(2) *Dispute Resolution Journal* 82, 84.

tribunal may prescribe time limits for specific steps in the proceedings (e.g., for opening submissions, evidence-in-chief, cross-examination or closing submissions). Time is also allocated for the tribunal to question parties and witnesses, along with administrative matters. Once a party's time limit has elapsed, no further oral submissions or evidence is permitted except by agreement between the parties, and the consent of the tribunal. Such an extension may be required in exceptional circumstances, such as fraudulent concealment of a relevant matter by a party.[69]

The time allocations and rules should be discussed at a pre-hearing conference between the tribunal and the parties. The parties should also agree on when certain activities should be debited against their time allocations, for example, late arrivals, setting up of equipment, unjustified objections, or where a witness engages in time-wasting behaviour. The parties and tribunal should also decide on administrative matters such as the method of time-keeping throughout the proceedings (e.g., by the tribunal secretary, or by representatives of each party). Finally, it is critical in chess clock proceedings, especially those making use of extensive witness evidence, to include a procedural direction that a failure to cross-examine a witness on a particular matter does not constitute acceptance of their evidence,[70] given the time constraints on cross-examination.

There is no one-size-fits-all procedure, and the tribunal should develop a procedure which is tailored to the parties and the specific dispute. Relevant considerations include the number and type of witnesses, as well as the method of taking evidence (e.g., witness conferencing). Furthermore, though the division of time between parties is usually equal, the tribunal may assign different time limits, for example, where the parties must cross-examine different numbers of witnesses, or more extensive cross-examination of some witnesses is required.[71]

Benefits

The chess clock procedure is a powerful tool to manage the conduct of hearings which should be deployed more often in the resolution of construction disputes. Though it is not a perfect solution, for the most part, its benefits greatly outweigh the possible disadvantages of its use.

First, the chess clock procedure fundamentally changes the nature of proceedings, by directing the parties, including in their examination of witnesses and experts, to focus on the key issues in dispute in the limited

[69] Monichino, A A, "Stop Clock Hearing Procedures in Arbitration", (2009) 11(3) *Asian Dispute Review* 76, 81.

[70] Caher, C and McMillan, J, "The Evaluation of Witness Evidence in Time Limited Arbitral Proceedings: The Chess Clock and the Rule in *Browne v Dunn*", (2017) 24 *Young Arbitration Review* 32, 35.

[71] Kirsh, H J, "The Use of a Chess Clock in Construction Arbitration Proceedings", (2020) 36(5) *Construction Law Letter* 1, 3.

time available to them. Chess clock hearings require thorough prior preparation by the parties, both in terms of anticipating the time necessary for certain elements of the hearing, and in the lead-up to the hearing itself, in order to maximise the use of the allocated hearing time. This has the effect of reducing the length and costs of oral hearings, in addition to creating certainty for the arbitrators and parties, through an accurate and early estimate of the time required for the hearing.[72]

In addition to providing parties with greater control over the conduct of hearings, the chess clock procedure also shares the onus of efficiency more equally between the tribunal and the parties, as parties bear the burden of effective time allocation, both in terms of developing coherent arguments at the written phase, and persuading the tribunal through examination and cross-examination of their arguments on the most pertinent issues in dispute.[73] The parties place greater focus on comprehensive but concise written submissions which sets out the key issues and arguments prior to the hearing, which the arbitrators are expected to have read and synthesised prior to the hearing. Additionally, counsel must make calculated decisions as to the breakdown of time between factual and expert witnesses, which witnesses are to be or not to be cross-examined, the time allocated to cross-examining each witness, which issues the witness is to be cross-examined on, and the key documents to be presented to that witness. Rather than using the oral hearing as an opportunity to present all relevant evidence, it becomes an opportunity to test the credibility of opposing witnesses, and to highlight key arguments and flaws in the opposing side's case.[74] Counsel must also be extremely organised as time is usually deducted for delays in arrival and searching for relevant documents.

This, however, does not mean that tribunals allow the entire responsibility of time management to fall onto the parties. The tribunal plays an important role in controlling the evidence of witnesses and dismissing strategic or dilatory objections by counsel. For example, the tribunal should encourage efficient behaviour in counsel and witnesses (e.g., reminding rambling witnesses to answer questions directly) and by themselves avoiding unnecessary questions to stay within the allocated time for questioning.[75]

[72] Steele, K and Ratcliff, L, "Procedural Flexibility and Economic Efficiency: Litigation and Arbitration Compared", (2008) 119 *Australian Construction Law Newsletter* 7, 11.

[73] Paulsson, J, "The Timely Arbitrator: Reflections on the Böckstiegel Method", (2006) 22(1) *Arbitration International* 19, 22.

[74] Steele, K and Ratcliff, L, "Procedural Flexibility and Economic Efficiency: Litigation and Arbitration Compared", (2008) 119 *Australian Construction Law Newsletter* 7, 11.

[75] Appel, M E, "The Chess Clock: A Time Management Technique for Complex Cases", (2006) 61(2) *Dispute Resolution Journal* 82, 84–85.

Criticisms

The key criticism of the chess clock procedure is that it may undermine due process: one or both of the parties may be denied a sufficient opportunity to present their case, including the opportunity to present all relevant evidence to the tribunal; a party with a more complex case may be disadvantaged by being confined to the same time limit as the opposing side; or the respondent in the arbitration may be disadvantaged by not having had the same time as the claimant to consider the case before the notice of arbitration was issued.[76]

However, there is in every case a tension between the need to ensure due process, and the arbitrator's duty to ensure an efficient and expeditious proceeding, and the arbitrator retains a wide discretion as to the management of the proceedings. Where the chess clock procedure is used, the parties will have agreed in advance on the procedure and time allocations, and these risks can be managed by ensuring adequate opportunity for the parties to prepare for the hearing.[77]

Other criticisms which are more difficult to counter are the points that efficiency throughout the proceedings does not mean that preparation is efficient, as parties may expend exorbitant legal fees on comprehensive written submissions and trial preparation, and that parties should not be punished for the mismanagement of disorganised counsel.[78]

The tribunal should manage such criticism to the best of their ability, by cooperating with counsel and listening carefully to each party's time needs and guide the parties both to a suitable agreement and throughout the proceeding. Tribunals should remain full up to date as to the relevant issues and take a proactive approach to rambling witnesses to ensure the proceeding remains on track. Additionally, chess clock procedure need not be adopted in every case. Where the parties are staunchly opposed to the procedure, it should not be forced on them. Additionally, in some cases, parties may not be able to accurately estimate how much time will be required during the hearing, such as where one party is unfamiliar with the arbitration.[79]

[76] See Paulsson, J, "The Timely Arbitrator: Reflections on the Böckstiegel Method", (2006) 22(1) *Arbitration International* 19, 23–26.

[77] Steele, K and Ratcliff, L, "Procedural Flexibility and Economic Efficiency: Litigation and Arbitration Compared", (2008) 119 *Australian Construction Law Newsletter* 7, 12.

[78] Navaratnam, R, "Practical Guidelines on the Reception of Evidence in Arbitration", *Institution of Engineers Malaysia* (webpage) https://www.myiem.org.my/assets/download/Lec4_EngrRajendra_12Sept06.pdf (last accessed 19 May 2023).

[79] Steele, K and Ratcliff, L, "Procedural Flexibility and Economic Efficiency: Litigation and Arbitration Compared", (2008) 119 *Australian Construction Law Newsletter* 7, 12.

CONCLUSION

The effective resolution of complex construction disputes via arbitration requires also the acknowledgement and reconciliation of a series of tensions: between the interests of expeditiousness and the interests of fairness; between party flexibility and tribunal proactivity and control; between common law and civil law procedural practice. Perhaps the clearest modern innovation that reflects attempts to reconcile these tensions can be found in the advent of international commercial courts. These courts, a hybrid between litigation and arbitration, create an additional avenue for resolving cross-border infrastructure disputes, especially construction claims of a complex nature. This concept has been established across jurisdictions, evidenced through the English Commercial Court, Dubai International Financial Centre Courts ("DIFC"); Qatar International Court and the Singapore International Commercial Court ("SICC").

The function of these courts as either a companion or competitor to international commercial arbitration has been debated extensively.[80] Clearly, they can be seen as a natural progression from international commercial arbitration, designed to situate itself within existing dispute resolution frameworks. However, they also by nature purport to be more structured (possessing court rules and guidelines) and to have a centralised adjudicative body whose powers and rules are enshrined and prescribed in greater detail. As opposed to arbitration proceedings which, as this article has illustrated, risk becoming formless and unstructured without proactive case management, international courts are capable of providing a more rigid procedural framework in which to resolve disputes.

It may be argued international commercial courts are faced with innate limitations concerning enforceability. A party looking to enforce a court judgment in another nation may face difficulties where there are no reciprocal enforcement agreements established between the two countries. Contrastingly, arbitration offers parties unparalleled enforcement prospects under the New York Convention, with 172 nations being parties to the instrument as of 2023.[81] However, the judgements of international commercial courts are becoming increasingly enforceable, as the Hague Choice of Court Convention continues to be adopted by states.[82] The instrument facilitates enhanced enforcement and greater

[80] Chief Justice T Bathurst, "Benefits of Courts such as the Singapore International Commercial Court (SICC)", (Speech delivered at *Sydney Arbitration Week*, Sydney, 1 November 2016) 3.

[81] United Nations Commission on International Trade Law, "Status: Convention on the Recognition and Enforcement of Foreign Arbitral Awards (New York, 1958) (the 'New York Convention')", https://uncitral.un.org/en/texts/arbitration/conventions/foreign_arbitral_awards/status2 (last accessed 19 May 2023).

[82] *Convention of 30 June 2005 on Choice of Court Agreements*, signed 30 June 2005 (entered into force 1 October 2015).

certainty to international litigants, now ratified by the EU, Mexico and Singapore.[83]

The establishment of these courts emphasises the need for arbitration to remain agile and fulfil the expectations of parties. In the context of complex construction disputes, beset as they are by inherent factual and legal complexities, only the effective alliance between party autonomy and tribunal proactivity in procedure promises to remain a reliable means of ensuring their resolution.

[83] See e.g., Parliamentary Joint Standing Committee on Treaties, Parliament of Australia, *Choice of Court Agreements: Accession* (2016) 1.