Get on the Scene Like a Tax Machine

Winner of the Best in category, Justis International Writing Competition 2019 for the category The Future of Legal Technology, by Walter Myer of the University of Oxford.

For all his genius as a musician and performer, James Brown never got his head around taxes. His run-ins with the IRS were well documented, at one point leading to a jail sentence. Between recordings and countless live performances, he clearly struggled to keep abreast of his fiscal responsibilities, which begs the question: might a computational system of tax law have helped the Godfather of Soul stay in the IRS's good books?

Computational law concerns the 'mechanization of legal analysis',[1] as illustrated by Bob Kowalski's attempt to translate the British Nationality Act 1981 into predicate logic.[2] This is a form of 'commoditisation' of legal knowledge,[3] of which a core ambition is to provide individuals with cheap, efficient legal advice, thereby improving access to justice ('A2J'). A fully-worked logical representation of the 1981 Act could take user responses to questions (e.g. 'were you born in the UK?') and return legal advice on citizenship status.

But why stop at legal advice? If cost-minimisation and time-saving are A2J priorities, then a machine statement of advice ('You are likely to be a British citizen') is useful, but a definitive machine statement of law ('You are a British citizen') is better. Machine statements of advice ('MSAs') cut the time and costs of engaging a lawyer; machine statements of law ('MSLs') go further, cutting the time and costs of engaging a courtroom, making final legal conclusions free and instantaneous.

Of course, we might be uncomfortable with the idea of MSLs. If so, it's time we started articulating why; not only because A2J compels us to, but also because MSLs are closer than you might think.

In English law, a worker must ascertain whether she is an employee or self-employed for income tax purposes. A test has emerged piecemeal through the common law, and it includes considerations like the engager's control over the worker,[4] whether the contract is personal to the worker,[5] and whether the worker bears any financial risk,[6] among other things. These factors are not weighted,[7] making the law in this area 'uncertain in terms of administration and compliance'.[8]

HMRC responded to this uncertainty in 2016 by providing an online test, entitled 'Check employment status for tax' (CEST).[9] Users answer multiple choice questions, including, for instance, whether the engager can move the worker between different tasks. The design of the classifier has been criticised for failing to include a test known as 'mutuality of obligation',[10] though this test may be of limited relevance.[11] Strikingly, the CEST page indicates that, should a taxpayer use CEST to determine her employment status, 'HMRC will stand by the result given' (as long as the information supplied is correct, and the relevant arrangements are not 'contrived').

HMRC has thus effectively guaranteed the validity of determinations produced by a computational legal algorithm. Although it would take primary legislation to confer legally binding status on CEST classifications,[12] HMRC's guarantee has meant that CEST produces classifications of law binding on the only branch of government poised to litigate. Moreover, any court doubting the validity of a CEST determination might nonetheless find in favour of the taxpayer on the basis that the determination combined with the guarantee constitute a 'specific undertaking' by HMRC, protected under the legitimate expectations doctrine.[13]

CEST thus goes quite far beyond issuing MSAs; in fact, it's inches away from issuing fully-fledged MSLs. If it wished, Parliament could take the final step of making CEST rulings legally binding. Should it?

Consider three counterarguments. The first is that a system comprising a finite set of decision rules might 'run out of rules' without reaching the required confidence threshold to classify a worker's employment status.[14] This raises controversial questions of jurisprudence: Philip Leith argues that legal expert systems presuppose a Hartian view that 'most law is well agreed' and thus determinable, contrary to contemporary consensus for a 'dynamic' understanding of the law.[15] But computational legal models fit into dynamic jurisprudence also; in Dworkin's model for instance, Hercules as a 'judge of superhuman intellectual power and patience' (processing

all pre-interpretive materials and assessing 'fit' and 'justification') cannot be replicated by actual judges,[16] but appears almost synonymous with machine learning.[17] In cases of real interpretive indeterminacy, Dworkin invokes decision-making on the basis of 'substantive political convictions'; a residual judicial (or indeed legislative) competence behind the algorithm would be necessary and desirable for such rarities, but for all other cases MSLs could be available.[18]

The second argument concerns the open texture of the law.[19] Hart illustrates this semantic challenge with reference to the word 'vehicle';[20] the concept of a 'vehicle' has fuzzy boundaries (e.g. does it include bicycles?), such that computational systems may have difficulty using it. In response, note that open texture troubles human judges also, who are unlikely to agree on whether a bicycle is a 'vehicle'. Furthermore, computational systems can leverage comprehensive ontologies for use in extensional (i.e. enumerative) definitions, or lexicographic resources for intensional (i.e. feature-based) definitions, supplemented by 'common sense' knowledge bases like Cyc.

Thirdly, MSLs might raise transparency concerns. CEST currently fails this test badly, withholding from the user the reasoning behind decision-making (it could easily publish this). A greater concern is Benjamin Alarie's claim that complete legal certainty will come at the price of vast complexity – think thousands of factual features each having minute impacts on the final case decision, obscuring why the case was decided that way.[21] This is unappealing; opacity of legal principles would entail stagnation of the law or worse. To prevent this, the classification task could be made more coarse-grained, sacrificing some certainty for greater transparency.

There are no apparent slam-dunk arguments against adoption of legislation giving effect to MSLs, particularly in the tax context, where interpretation is largely literalist, statute-based, and complicated for human judges to apply. The A2J imperative therefore compels the elevation of CEST classifications to MSLs (subject to legislative competence to amend the algorithm). If there are other counterarguments, say them loud: otherwise, it's time for this tax machine to get on the scene.

Footnotes

[1] Michael Genesereth, 'Computational Law: The Cop in the Backseat' (29 Mar 2015) <http://complaw.stanford.edu/>

[2] M. J. Sergot, F. Sadri, R.A. Kowalski, F. Kriwaczek, P. Hammond and H.T. Cory, 'The British Nationality Act as a logic program', *Communications of the ACM*, vol. 29, no. 5, pp. 370–386, May 1986

[3] Richard Susskind, Tomorrow's Lawyers: An Introduction to your Future (OUP 2013) Chp 3

[4] Ready Mixed Concrete Ltd v Minister of Pensions [1968] 2 QB 497, 515 (MacKenna J)

[5] *Autoclenz Ltd v Belcher and others* [2011] UKSC 41 [19] (Lord Clarke)

[6] *McManus v Griffiths* [1997] STC 1089, 1100-01 (Lightman J)

[7] Benjamin Alarie, 'The Path of the Law: Toward Legal Singularity' (2016) <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2767835> Part 2

[8] Claire Crawford and Judith Freedman, 'Small Business Taxation', in *Dimensions of Tax Design: The Mirrlees Review* (2010) 1044

[9] Available at < https://www.gov.uk/guidance/check-employment-status-for-tax>

[10] Martyn Valentine, 'CEST tool has no legal authority on employment status', in ContractorCalculator, *CEST – Not fit for purpose*, 7

[11] 'HM Revenue and Customs Paper on Mutuality of Obligation', available at <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/722316/HMRC_paper_on_Mutuality_of_Obligation.pdf>; see also Glen Loutzenhiser, 'Finance Act 2017 Note', B.T.R. 2017, 5, 518, 523 fn 44

[12] Martyn Valentine, op. cit., 7

[13] In analogy with, for instance, R. v. North and East Devon Health Authority, ex parte Coughlan [2001] Q.B. 213

[14] Genesereth, op. cit., Part 3

[15] Philip Leith, "The rise and fall of the legal expert system", in *European Journal of Law and Technology*, Vol 1, Issue 1, 2010, Part 3.4

[16] Ronald Dworkin, *Law's Empire* (Hart Publishing 1986) 245

[17] Ibid, 239

[18] Ibid, 248

[19] Genesereth, op. cit., Part 3

[20] H.L.A. Hart, *The Concept of Law* (3rd edn, OUP 2012) 126

[21] Alarie, op. cit., Part 3