

Andrew Lang

New Legal Realism, empiricism, and scientism: the relative objectivity of law and social science

**Article (Accepted version)
(Refereed)**

Original citation:

Lang, Andrew (2015) New Legal Realism, empiricism, and scientism: the relative objectivity of law and social science. *Leiden Journal of International Law*, 28 (02). pp. 231-254. ISSN 0922-1565

DOI: [10.1017/S0922156515000059](https://doi.org/10.1017/S0922156515000059)

© 2015 [Foundation of the Leiden Journal of International Law](#)

This version available at: <http://eprints.lse.ac.uk/62022/>

Available in LSE Research Online: May 2015

LSE has developed LSE Research Online so that users may access research output of the School. Copyright © and Moral Rights for the papers on this site are retained by the individual authors and/or other copyright owners. Users may download and/or print one copy of any article(s) in LSE Research Online to facilitate their private study or for non-commercial research. You may not engage in further distribution of the material or use it for any profit-making activities or any commercial gain. You may freely distribute the URL (<http://eprints.lse.ac.uk>) of the LSE Research Online website.

This document is the author's final accepted version of the journal article. There may be differences between this version and the published version. You are advised to consult the publisher's version if you wish to cite from it.

New Legal Realism, empiricism and scientism: the relative objectivity of law and social science

I. Introduction

In his introductory essay to this special issue, Greg Shaffer emphasizes two essential commitments which the new legal realists have inherited from the original legal realists of the early 20th century.¹ The first is their commitment to empiricism, which in this context refers primarily to the use of social scientific methods to help us understand the law's operation in the real world, as well as to guide the legal reform.² The second is the legacy of Deweyan philosophical pragmatism, which Shaffer suggests is foundational to much scholarship in the mode of new legal realism.

Taking this characterization of New Legal Realism as my starting point, I want to suggest that one of its central characteristics is the productive tension which lies at its core, between empiricist and pragmatist theories of knowledge. On one side, new realist work in its empiricist posture posits 'a tangible, determinate world of facts or objective social functions whose operation [can] be seen at work upon, behind, or beneath the [law]', and seeks to use empirical knowledge of this world as the basis on which to design, interpret, apply and criticize the law.³ In this posture, new realist work proceeds on the basis of a relatively traditional – though, as we shall see, never naïve – distinction between the subject and object of knowledge, and evinces a relatively robust belief in the ability of empirical methods to give us reliable access to the objective world (even if only ever progressively, provisionally, or partially). On the other side, the heavy influence of the pragmatist tradition pushes in another direction. The central figures of pragmatist thought famously stressed the intimate connections between knowledge and action: for pragmatists, the truth of a statement is not entirely independent of the context in which, and the purposes for which, it is used.⁴ In contrast to the empirical tradition, pragmatism seeks to problematise the distinctions between facts and value, subject and object, and thought and action. To the extent that it draws on the pragmatist tradition, then, new realist work tends to emphasise the social and political contingency of empirical knowledge claims, including its own.

One of the most distinctive – and in many ways attractive – characteristics of scholarship in the new legal realist vein is its continued attempts to enact

¹ Shaffer, 'The New Legal Realist Approach to International Law' [this issue, xx]; Shaffer, 'New Legal Realism and International Law' in Klug and Merry (eds), (forthcoming).

² Nourse and Shaffer, 'Varieties of New Legal Realism: Can a New World Order Prompt a New Legal Theory' (2009) 95 *Cornell Law Review* 61-137, 112.

³ Trubek & Esser, 'Critical Empiricism in American Legal Studies: Paradox, Program or Pandora's Box?' (1988) 14(1) *Law & Social Inquiry* 3-52, 9.

⁴ See also Shaffer, 'The New Legal Realist Approach to International Law' [this issue, xx].

creative syntheses of these different philosophies of truth, to be in Shaffer's words, 'a positivist, an interpretivist, and legal realist all at once'.⁵ Most of the strategies used to do this involve at their heart a reflexive move – by which I mean simply that they seek to use the process of empirical enquiry to recursively destabilise the positionality, frames of reference and conceptual tools of the researcher herself. Knowledge production in the reflexive mode, in other words, is understood to be a dynamic process of constituting *both* the subject *and* the object of knowledge, and introducing reflexivity is understood as the appropriate methodological response to the necessarily situated nature of all knowledge. But not all strategies adopt reflexivity as their core move, and the main aim of this paper is to draw attention to one which does not – one which we might want to call governing 'as if'.⁶ Importantly, this strategy has arisen not so much in the context of scholarship (ie, the study of the law), but in the practical context of governance itself (ie, the operation of the law).

The first part of this paper briefly introduces the issue, drawing on existing historical accounts of legal realism to trace the problematic and ambiguous place of scientism in the legal realist tradition. The legal realists were not as naïve in their championing of empiricism as sometimes appears, and the integration of law and social science which they inaugurated was more complicated and two-sided than is often acknowledged. New Legal Realism's ambivalence about the integration of law with social science, then, is less a departure from the old legal realist tradition than its most important inheritance. In the second and more important part of the paper, I argue that the ambivalence of the legal realists' vision has left us, in certain contexts, with a complicated form of mixed legal-scientific governance which has proved remarkably and surprisingly resilient in the face of late 20th century critiques of scientific objectivity. The illustrations I offer of this both come from the operation of the World Trade Organisation's dispute settlement system, though the phenomenon I describe is more general.

II. Empiricism and scientism

A good place to start my argument is with Christopher Tomlins' justly influential account of the encounter between law and the social sciences during the half century or so from the 1870s through to the heyday of legal realism in the 1930s.⁷ In the story that he tells, Tomlins narrates legal realism's turn to empirical social science as a response to two connected events, both of which had resonance far beyond the confines of legal scholarship. The first event was the decline of a prevailing 19th century conception of science and scholarly endeavour, which Tomlins (following Schweber) calls 'Protestant Baconianism'. Protestant Baconianism entailed a number of core commitments. One was the belief that the truths of the world (and, indeed, of religion) 'could be revealed

⁵ Shaffer, 'The New Legal Realist Approach to International Law' [this issue, xx].

⁶ See Lang, 'Governing 'as if': Global subsidies regulation and the benchmark problem' (2014) 67(1) *Current Legal Problems* 135-168; Knop, Michaels and Riles, 'From Multiculturalism to Technique: Feminism, Culture and the Conflict of Laws Style' (2012) 64 *Stanford Law Review* 589.

⁷ Tomlins, 'Framing the Field of Law's Disciplinary Encounters: A Historical Narrative' (2000) 34 *Law and Society Review* 911-972.

through the study of nature)'. Another was a commitment to inductive methods of reasoning, and a vision of science as taxonomy: 'at the root of Protestant Baconianism lay the rejection of deductive reasoning, from given axioms to particular outcomes, in favor of the adoption of systematic discovery and classification.' A third was a tendency to use and to valorize 'systematic analogical reasoning', with a view to 'binding all forms of knowledge together in one grand synthesis'.⁸ Protestant Baconianism, in this telling, represented a very broad intellectual movement, one which affected the legal science of the 19th century just as much as any other field of intellectual endeavour. In the legal context, then, Protestant Baconianism entailed above all close observation of cases, in the belief that such close observation would reveal the underlying principles 'that gave organization and structure to the law'.⁹ It characteristically saw legal knowledge as 'the product of a gradual, incremental process of discovering and perfecting natural laws embedded in human nature and reflected in the constitutional order'.¹⁰ This, of course, is something very close to what we now think of as old-style classical formalism.

The second, related, event central to Tomlins' story was the professionalization of scientific enquiry towards the end of the 19th century, and the concomitant emergence of the social scientific disciplines as institutionally and conceptually distinct domains of knowledge. In contrast to the genteel amateurism of Protestant Baconianism, the new disciplines were 'modes of specialized academic inquiry and professional self-identification'. Their core site of production the university, rather than merely 'public discourse and commonsense beliefs of the competent'.¹¹ This constituted a major threat to the authority of the law, not just in the academy, but in the practice of statecraft itself:

[i]n public policy formation and state action, legal discourse – at the beginning of the 1870s "the most authoritative American policy language" – was increasingly challenged by the newer "social vocabularies" of the disciplines.

Legislators, he notes, were advised to study society itself, rather than the traditional learning associated with the law, as the most useful guide to the political choices they had to make.¹²

It was in the midst of these two epochal events that key figures in the legal realist movement – and indeed a number of their precursors in the late 19th century – famously articulated a strong case for the integration of law with the social sciences.¹³ Realists such as Llewellyn, Underhill Moore, Brandeis, Douglas and others championed the use of social science to inform jurisprudence, and

⁸ Tomlins, 'Framing the Field', 914.

⁹ Tomlins, 'Framing the Field', 917.

¹⁰ Tomlins, 'Framing the Field', 925, references omitted.

¹¹ Tomlins, 'Framing the Field', 922.

¹² Tomlins, 'Framing the Field', 925.

¹³ See generally Schlegel, *American Legal Realism and Empirical Social Science* (Chapel Hill: Univ. of North Carolina Press, 1995).

scholarly thinking about the law more generally. Furthermore, and importantly, the project to integrate the law and social sciences occurred within the state just as much as it did the academy. Legal realism represented not just a new approach to the study of law, but also an alternative vision of how law should operate in practice, and how governance should work. Tomlins refers to the work of Lester Frank Ward as an illustration of what this meant:

Ward sought [the] establishment of "a new system of governance" expressed in new laws and regulatory conventions premised "on the existence of reliable ways of publicly monitoring the actual effects of incentives in achieving social purposes" ... Law should hence become the product of legislatures re-imagined as sites for the inculcation and application of the new social knowledges ... the product of legislative mechanics informed by expert study of society[.]¹⁴

This vision of governance was of course to prove massively influence over the course of the 20th century, giving rise to a huge variety of new forms of administrative and judicial practice.

Crucially, in the story which Tomlins tells, this attempt to integrate the law with social scientific disciplines worked in two directions at the same time. On one side, the turn to social science helped the legal realists to re-ground the authority of the law, just as the authority provided by classical formalism was being radically eroded. Thus, to borrow now from Trubek and Esser's account, where the realists' critique of formalism 'posed a disintegrating threat to mainstream legal culture ... empiricism offered a possible mode of reintegration.'¹⁵ Having lost faith in the ability of tradition and doctrine to rationally guide the development of the law, and armed with a vision of law as an instrument of social engineering, the legal realists argued that the law ought to be guided by reliable knowledge of its consequences on the social world – the sort of knowledge that the new social sciences promised to provide. Empirical social science, on this view, offered access to the determinate reality of the real world behind the law, on the basis of which a more secure and authoritative legal science could be established. The legal realists sought, in McEvoy's words, 'to bring facts to bear on the management of social life', and the expert judgment of the new social sciences was to act as the source of those facts.¹⁶ In this sense, through the integration of law and social sciences, the law cloaked itself in the apparent objectivity and authority of the social sciences themselves.

But, on the other side, Tomlins also suggests that the call to integrate law with social science also served to *resist* the threat which the social sciences themselves posed to the authority of law as the primary discourse of politics and public power. The history of the actual interactions between lawyers and social

¹⁴ Tomlins, 'Framing the Field', 925-6, footnote omitted.

¹⁵ Trubek & Esser, 'Critical Empiricism in American Legal Studies: Paradox, Program or Pandora's Box?' (2011) 12(1) *German Law Journal* 115-158, 120. See also Macauley, "The New Versus the Old Legal Realism: 'Things Ain't What They Used To Be'" [2005] 2 *Wisconsin Law Review* 365-403, 367.

¹⁶ McEvoy, 'A New Realism for Legal Studies' [2005] 2 *Wisconsin Law Review* 433-454, 443.

scientists in the context of the construction of the New Deal regulatory state, he argues, shows the resilience of law in the face of the policy sciences. Lawyers were good at talking about the use of social scientific knowledge, he suggests, but when push came to shove were just as likely to reassert the primacy and higher relevance of their own distinctive legal expertise, while appropriating just enough of the social science to shore up their own authority. As a result, he notes, the actual encounters between lawyers and social scientists in the practical operation of governance were by no means always harmonious, and very often it was the lawyers who prevailed. The overall effect, in his view, was to re-assert law's capacity to police the entry of new forms of social knowledge into the state.¹⁷

The key point that I want to take from Tomlins account, then, is that the legal realist's turn to social science was in some important respects an ambivalent and ambiguous move from the very beginning. Certainly, it represented a moderately deferential attempt to borrow the objectivity and authority of the social sciences for the purposes of law – an attempt to 'bring the facts to bear' on the study of law, in order to displace and discipline the perceived amateurism and disciplinary conservatism of classical formalism. But it *also* represented a way of countering the threat that the disciplines posed to law, a way of re-asserting the authority of the law as against that of the social sciences, and thus maintaining the place of law and legal expertise at the heart of political and public life. The project to bring together the legal and the social scientific imagination was, in other words, just as much an exercise in boundary-marking as an exercise in inter-disciplinary integration.

I will return to some of these points later on, but for the moment let me jump forward in time, past the demise of legal realism, to the re-emergence of empirical legal scholarship some decades after the end of World War 2, primarily in the context of the law and society movement. As Shaffer notes in his introductory essay, while the return to empiricism at this time reflected the continuing legacy of legal realism, it also differed from its legal realists predecessors in a number of important respects.¹⁸ One of the most important differences was that, now, towards the end of the 20th century, it was accompanied by a deeper awareness of the limits of empirical methods, and a more profound skepticism of some of the stronger claims made about the ability of both natural and social scientific disciplines to produce objective truths about the world. This was the result of a number of developments, from the Kuhnian revolution in the philosophy of science, to the erosion of public faith in science as a rule of its high profile failures to predict or manage catastrophic risks. But whatever its source, this new skepticism brought with it a number of searching critiques of attempts to integrate law and the social sciences. And, importantly, these critiques in many respects closely mirrored the criticisms which the legal realists themselves had made of classical formalism more than half a century earlier.

¹⁷ Tomlins, 'Framing the Field', eg 936, 944, 963.

¹⁸ Shaffer, 'The New Legal Realist Approach to International Law', [xx].

Trubek and Esser's 1989 essay on 'Critical Empiricism' is the best illustration for my purposes (though there are many others¹⁹), and one which is worth recalling in some detail.²⁰ In this paper, the two authors began by looking back at the previous two decades of law and society scholarship. The founders of the law and society movement, they argued, tacitly accepted three fundamental epistemological and political commitments, which they inherited from the legal realists: 'determinism', 'universal scientism' and 'untroubled reformism'. *Determinism*, in their account, is the belief that 'social action is governed by laws, much like the laws which govern the rotation of the planets'.²¹ This belief leads to a form of scholarship which seeks to 'develop models of the laws of social action which pertain to legal phenomena'.²² *Universal scientism*, they go on, is a theory of knowledge which 'presupposes a radical distinction between an external world of objects ... and an internal world of consciousness'. It is the external world of objects, in this theory, which is the 'ultimate arbiter[]' of the truth claims we make about it, and 'methods of empirical inquiry allow us to determine if the scientific knowledge we hypothesize adequately describes the external world we can apprehend'.²³ *Untroubled reformism*, finally, 'presumes that the products, procedures, and projects of social science should be used as instruments in the service of the legal system'.²⁴

One strand of law and society scholarship, they argued, had begun to usefully destabilize two of these three political-epistemological commitments: determinism and untroubled reformism. At the core of this new strand, they argue, is a critique of, and departure from, an 'instrumental' theory of law and social action. This instrumental theory (which, it should be noted, remains to this day influential across all forms of legal scholarship) is, in their account, made up of a set of apparently commonsense claims about the nature of social action, and the ways in which law affects behaviour. The first claim is that that a clear distinction must be drawn between the subjectivity of actors (their values, knowledge and evaluative criteria) and the objective world in which they act. Our beliefs about the world, and the world itself, are, to speak simply, perfectly distinct domains. The second claim is that individual social action, in its idealized form, involves the choice of a value, and the selection of a behaviour which is most likely to fulfil that value, based on subjective knowledge of the likely consequences of that behaviour. The third is that the law and legal institutions are in essence instruments: that is to say, means to achieve certain publicly defined ends. And the fourth is that the legal system furthers these ends by imposing constraints on individual behaviour, seeking to channel individual conduct according to prescribed rules which, if followed, will tend to achieve the law's underlying purposes.

¹⁹ See, eg, Sarat and Silbey, 'The Pull of the Policy Audience' (1988) *Law and Policy* 97-166.

²⁰ See generally, Trubek and Esser, *Law and Social Inquiry*. See also Trubek and Esser, *German Law Journal*.

²¹ Trubek and Esser, *Law and Social Inquiry*, 11.

²² Trubek and Esser, *German Law Journal*, 122.

²³ Trubek and Esser, *Law and Social Inquiry*, 11.

²⁴ Trubek and Esser, *Law and Social Inquiry*, 11.

Against this instrumental theory, the new strand of scholarship posited an *interpretive* theory of action. One key element of the interpretive theory is that, instead of taking the individual with her value choices as given for the purposes of analysis, it enquires into the social origins of actors' subjectivities. In Trubek and Esser's words:

For an interpretivist, the values, knowledge, and evaluative criteria embodied in the subjectivity of the actor are not individually held units of meaning but rather are the threads or traces of a collectively held fabric of social relations. Further, in the interpretivist perspective the individual does not appropriate this fabric through the conscious selection of values or learning of existing knowledge. Rather, in some sense this fabric "appropriates" the individual so that without self-conscious reflection the actor comes to desire the ends, utilize the perspectives, and apply the rationality which constitute the social fabric.²⁵

From this perspective, then, it is never just a question of whether the law is rationally designed to fulfil given individual and social purposes – it is also necessary to enquire whether and how those purposes are themselves the product of an engagement with the law (or more generally with a legally constituted social environment).

A second distinguishing element of interpretive theories of action, according to Trubek and Esser is that they reject the instrumentalists' clear separation of actors' subjectivities and their actions:

The interpretive theory rejects the ideas/behavior distinction and conceives action as a synthesis of behavior and social meaning. It sees social action as practices that combine interests in the world and perceptions of the world to create implicit schemes of response, dispositions, or habit.²⁶

Trubek and Esser go on to note how the adoption of an interpretive theory of action had led some to criticize and reject both the determinism, and the untroubled reformism, of prior law and society scholarship, and to attempt to craft a new, critical law and sociology on that foundation. But – and this is the core point of their paper – they go on to argue that this new strand *still* adheres to a rather uncritical scientism. Even this new strand of scholarship, they argued, seems 'to retain and share a belief that social science can provide authoritative descriptions of the world'. This is unusual, they rightly suggest, precisely because unqualified scientism is inconsistent with elements of interpretive theories of action.²⁷

As Erlanger and his co-authors have observed, the critique of scientism – and more generally the assertion that all scientific knowledge was in some important sense a product of its social, political and historical context – resulted in

²⁵ Trubek and Esser, *Law and Social Inquiry*, 17.

²⁶ Trubek and Esser, *Law and Social Inquiry*, 17-18.

²⁷ Trubek and Esser, *Law and Social Inquiry*, 35.

something of a split in law and society scholarship between what they term 'standpoint scholarship and more positivist approaches'.²⁸ It is not my intention in this paper to trace the nature or consequences of this split. But I do want to note, however, how it reflects, in some important ways, a latent ambivalence which was already present in legal realism, and which has become one of its most important legacies.²⁹

Many accounts of the legal realists – including of course Trubek and Esser's – see legal realist scholarship as allied fundamentally to an instrumental theory of both law and action. Certainly it is true that, for many of the argument which realists sought to make, instrumentalist theories of action served their purposes well enough. Most obviously, the realists were keen to showcase law's function as an instrument of economic coercion by the dominant classes. But it is also true that the streams of social thought on which legal realism drew most profoundly were decisively allied to *non*-instrumental theories of action. The alliance which the legal realists made with institutional economists, for example, certainly brought them in contact with non-instrumental theories of action. Indeed, one of the major criticisms which the institutionalists had of the neoclassical school of economists had to do with the latter's adherence to what they saw as an unrealistic and overly simple rational-instrumental theory of action in the economic realm.³⁰ Furthermore, legal realism's philosophical allegiances were of course largely to philosophical pragmatism of the James/Deweyan stripe, and pragmatism's theory of action is clearly interpretive in orientation. Pragmatism famously rejects, for example, the separation of means and ends so central to instrumentalism, noting how often we come to know our own interest, values and preferences by reference to, and through engagement with, the means made available to realize them.³¹

It is equally common to criticize the legal realists for their naïve empiricism, and their adherence to an apparently fully objectivist theory of knowledge. Again, however, it is worth recalling that pragmatism adheres to a theory of knowledge which at heart seeks to *dereify* and *denaturalize* our categories of knowledge. Furthermore, in some aspects of their work, the realists demonstrated a profound awareness of the recursive relationship between the world and our knowledge of it. This is probably most apparent in their work on markets. It is, after all, the realists who first showed us that law constitutes markets just as much as it regulates them – that law was in fact productive of the economic order, even before it acted on economic life in the form of a constraint.³² This had immediate implications for the realists' call to integrate empirical economic

²⁸ Erlanger et al., 'Is it time for a New Legal Realism?' [2005] 2 *Wisconsin Law Review* 335-363, 343.

²⁹ See also Nourse and Shaffer, 'Varieties of New Legal Realism', 95.

³⁰ For perhaps the most famous example, see Veblen, 'Why is Economics not an Evolutionary Science' (1898) 12 *The Quarterly Journal of Economics* 373-397.

³¹ Shaffer makes the same point in his framing paper in this issue, see [xx].

³² See Robert L. Hale, "Coercion and Distribution in a Supposedly Non-Coercive State," *Political Science Quarterly* 38, no. 3 (1923): 470-494; Robert L. Hale, "Bargaining, Duress, and Economic Liberty," *Columbia Law Review* 43, no. 5 (1943): 603-628; Robert L. Hale, "Force and the State: A Comparison of 'Political' and 'Economic' Compulsion," *Columbia Law Review* 35, no. 2 (1935): 149-201.

analysis into the life of the law. On one hand, as we have seen above, they sought to bring the 'facts' of economic life to bear on the law, in the context of their rejection of the methods of classical formalism. On the other, by denaturalizing markets, and showing their legally constituted nature, they also implicitly demonstrated the extent to which the 'facts' of economic life were themselves in significant part the product of legal rules and legal choices. In that sense, the realists sought to bring law to bear on facts, just as much as bringing facts to bear on law.³³ Indeed, in my view it is the realists who provided much of the foundation of contemporary thinking about the recursive relationship between markets and our knowledge of them.³⁴

A latent tension existed, then, in legal realist scholarship between empiricist and pragmatist theories of action and of knowledge. From empiricism, the realists borrowed their commitment to objectivity, their belief in a foundational truth of the world which lay beneath and behind law's ideological function. From pragmatism, they took the insight that all knowledge is in some sense bound up in action, is always adopted for a purpose, and in that sense is context-contingent in fundamental ways. It is the tension between these two positions which the 'new' legal realism has fundamentally inherited from the 'old', rather than an apparently one-sided emphasis on empiricism.

I do not mean to press this point too far. Shaffer has persuasively argued that a key point of difference between the 'old' and 'new' legal realism is precisely that the latter takes much more explicitly into account 'critical, epistemological challenges to factual and legal constructions ... [and are] more scrutinizing of objective presentations of 'law' and 'fact'.³⁵ 'What is particularly "new" in new legal realism', he suggests, 'is ... that it engages in critical self-reflection of its empirical endeavors'. McEvoy, too, sees the distinctive character of New Legal Realism in its close attentiveness to the recursive qualities of the social world.³⁶ If the tension in the old legal realism largely remained latent, in new legal realist scholarship it has become both cliché and truism in the field to note that all knowledge is situated, that all truths are produced from a particular standpoint, and that the categories we use to apprehend the world are not natural but in part politically and socially constructed.³⁷ Indeed, it is one of the most significant and interesting aspects of new legal realist work that it continues to throw up new and creative ways of reconciling this tension.

³³ That is to say, they did not just ask how the law might be more responsive to existing dynamics of markets, but in addition also sought to show the role that law played in producing such dynamics.

³⁴ See, eg, Callon, "Introduction: The Embeddedness of Economic Markets in Economics," in *The Laws of Markets*, ed. Michel Callon (Oxford: Blackwell, 1998), 1-57; Mackenzie, *Do Economists Make Markets? On the performativity of economics* (Princeton NJ, Princeton UP, 2008); MacKenzie, *Material Markets: How Economic Agents Are Constructed* (Oxford: Oxford University Press, 2008); Donald Mackenzie, *An Engine, Not a Camera: How Financial Models Shape Markets* (Cambridge, MA: MIT Press, 2006); Lang, 'The legal construction of economic rationalities' (2013) 40(1) *Journal of Law & Society* 155-171.

³⁵ Shaffer, 'The New Legal Realist Approach to International Law', [xx].

³⁶ McEvoy, 'A New Realism for Legal Studies', generally.

³⁷ Erlanger et al., 'Is it time for a New Legal Realism?', 342-43.

By what techniques has it done so? How, in other words, has empirical legal scholarship in the new realist tradition responded to the increased awareness of the political and social foundations of scientific knowledge? For many, the central response has been to incorporate an element of reflexivity into their scholarly practice. As a first step, this involves developing a heightened awareness of one's own positionality, and of the extent to which one's research is a product of its social context. More significantly, it involves using the process of research actively to foreground, destabilize and reconstruct the frame of reference with which one begins. Shaffer and Nourse's 'emergent analytics' is one illustration. 'Emergent' research, for these authors, is 'research that uses categories that develop out of qualitative empirical engagement',³⁸ or, in an alternative formulation, research which is able to 'uncover biases within [itself]'.³⁹ Sarat and Silbey's famous call for a critical empirical practice is another illustration, in which they argue that the purpose of empirical procedures is to provide a 'method through which the constitutive assumptions of the dominant paradigm can be identified and changed to construct a new perspective'.⁴⁰

But it is not just legal scholarship which has had to adjust to post-structuralist theories of knowledge. Institutions and regimes of practical governance have also had to respond, since at least the 1970s, to the erosion of public confidence in the truth claims of science. A large part of new legal realist work, then, has been directed also towards instilling reflexivity in the practice of governance itself – reflexivity, that is to say, between the institutions of the law, and the social world on which they operate. In this context, reflexivity includes the recursive process of monitoring the effects of the law, and continually calling into question the law itself in light of these observations – not just to increase its effectiveness, but much more importantly to constantly rethink the law's underlying objectives, values, techniques and institutional architecture. The literature on 'new governance' approaches is probably the best and most developed illustration of this, though the notions of 'complex learning' and 'adaptive governance' represent roughly cognate developments.⁴¹ All this is well understood.

In this paper, my focus is on the practice of governance rather than on legal scholarship. But I want to shift the focus away from practices of reflexivity, and instead argue that there is a different strategy for responding to critiques of scientific objectivity which has emerged primarily in practical contexts of governance, and which is quite important, even if it is so mundane as to be rarely remarked upon. And I want to suggest, perhaps surprisingly, that it reflects not much more than a continuation in practice of the form of governance imagined and to some extent realized by the legal realists of early the twentieth century.

³⁸ Nourse and Shaffer, 'Varieties of New Legal Realism', 119, also nn230, 231.

³⁹ Shaffer, 'The New Legal Realist Approach to International Law', [xx].

⁴⁰ Trubek and Esser, *Law and Social Inquiry*, 43, referring to Sarat and Silbey, 'The Pull of the Policy Audience'.

⁴¹ Sabel & Simon, 'Destabilization Rights: How Public Law Litigation Succeeds' (2004) 117 *Harvard Law Review* 1016, Haas and Haas, 'Learning to Learn: Improving International Governance', (1995) 1 *Global Governance* 255; Cooney and Lang, 'Taking uncertainty seriously: adaptive governance, alien invasive species and the WTO' (2007) 18(3) *European Journal of International Law* 523-551.

Recall where I began, with Tomlins' insight that the legal realists' turn to social science represented an ambivalent double movement. It allowed the law to cloak itself in the objectivity of social science, even as it kept crucially intact law's formal autonomy, the better to re-assert its authority over precisely the social sciences on which it lent. It turns out that the mode of mixed legal-scientific techno-governance which this ambivalent turn produced provided a number of practical tools for dealing pragmatically with the challenges to scientific authority thrown up in the second half of the 20th century – without the need to turn to reflexivity. In a world in which *both* legal formalism *and* scientific empiricism had been fundamentally undermined as sources of objectivity, this mode of governance has been able to continue to satisfy the practical demand for objective decision-making in particular sites of governance, with only a relatively minor and sometimes barely perceptible shift in the meaning of objectivity. This is best explained by example, and in the next two sections I offer two illustrations, both drawn from the jurisprudence of the World Trade Organisation.

III. Economic expertise in the application of the Subsidies Agreement

The first illustration comes from the jurisprudence under the World Trade Organisation's Agreement on Subsidies and Countervailing Measures (SCM Agreement). The SCM agreement is a relatively recent one, having come into effect in 1995 after the conclusion of the Uruguay Round of trade negotiations. It is a somewhat complicated agreement, but my purpose here is simply to show how the jurisprudence under this agreement displays precisely the sort of the ambivalent integration of law and social sciences which the legal realists have bequeathed to us, sometimes drawing heavily on economic expertise to interpret key legal terms, sometimes doing precisely the opposite.

One illustration of the former can be found in the definition of the term 'subsidy' itself. Under Article 1.1 of the SCM agreement, a subsidy is deemed to exist, where (a) there is either a 'financial contribution' by a government or public body, or any form of 'income or price support'; and (b) a 'benefit is thereby conferred' on the recipient. A central question in the application of the agreement, then, is whether a 'benefit' exists, because it is only once a 'benefit' is found do the substantive obligations of the agreement have application. And it is in the interpretation of the term 'benefit', I want to argue, that we see precisely the sort of the ambivalent integration of law and social sciences which the legal realists have bequeathed to us.

In many of the cases on this point, panels and the Appellate Body have used techniques and concepts drawn from economics to help them to interpret the meaning of 'benefit'. To start with, the Appellate Body has made clear that the market is the yardstick by which a 'benefit' is to be identified and measured.⁴² As a result, the Appellate Body has found itself on some occasions required to define

⁴² Appellate Body Report, *Canada – Measures Affecting the Export of Civilian Aircraft* (adopted 20 Aug 1999), WT/DS70/AB/R (*Canada – Aircraft (AB)*), para 157.

the relevant market for the purposes of a benefit analysis. Since certain strands of economics offer a well developed set of tools, concepts and techniques for the purpose of market definition, it is no surprise that we see the Appellate Body turn to economic expertise in its jurisprudence on this question. For instance, in the 2013 decision in *Canada – Feed-in-Tariffs*, the Appellate Body used the concepts of demand-side substitutability and supply-side substitutability to help it decide that the wholesale market for renewable energy in Ontario was distinct from that of wholesale electricity more generally.⁴³ Certain parts of its judgment are, in their form, very similar to standard economic analyses of market competition:

... supply-side factors suggest that windpower and solar PV producers of electricity cannot compete with other electricity producers because of differences in cost structures and operating costs and characteristics. Windpower and solar PV technologies have very high capital costs (as compared to other generation technologies), very low operating costs, and fewer, if any, economies of scale. Windpower and solar PV technologies produce electricity intermittently (depending on the availability of wind and sun) and cannot be relied on for base-load and peak-load electricity. Differences in cost structures and operating costs and characteristics between windpower and solar PV technologies, on the one hand, and other technologies, on the other hand, make it very unlikely, if not impossible, that the former may exercise any form of price constraint on the latter. In contrast, conventional generators produce an identical commodity that can be used for base-load and peak-load electricity. They have larger economies of scale and exercise price constraints on windpower and solar PV generators ...⁴⁴

In subsequent paragraphs, the Appellate Body also deployed the traditional economic notions of positive and negative externalities to support its argument that electricity from different sources ought to be treated differently.⁴⁵

Another illustration can be taken from 2008 Appellate Body decision in *US – Cotton (21.5)*, in which Brazil challenged a variety of different measures taken by the US government to support the domestic production and export of cotton. Here the relevant question was not the existence of a 'benefit', but rather whether the subsidies given to US cotton farmers caused 'significant price suppression' in markets for cotton, as required under Article 6.3(c) of the SCM Agreement. In considering this question, the Appellate Body made it clear that techniques borrowed from economics would, unsurprisingly, in some cases be helpful in determining causation:

Given the focus on production and price effects, an analysis of price suppression would normally include a quantitative component. There is some inherent difficulty in quantifying the effects of subsidies, because, as we have indicated, the increase in prices, absent the subsidies, cannot be directly observed. One way to undertake the analysis is to use economic modelling or other quantitative

⁴³ Appellate Body Report, *Canada – Certain Measures Affecting the Renewable Energy Sector; Canada—Measures Relating to the Feed-in Tariff (FIT) Program*, (adopted 24 May 2013), WT/DS412, 426/AB/R, ('*Canada – FIT (AB)*').

⁴⁴ *Canada – FIT (AB)* para 5.174.

⁴⁵ *Canada – FIT (AB)* para 5.189.

techniques ...[which] provide a framework to analyze the relationship between subsidies, other factors, and price movements.⁴⁶

The role of the Panel, the Appellate Body has noted, is to assess the evidentiary value of the models in question, and to the extent that they are considered convincing to a Panel, they are often in practice sufficient to dispose of the legal question of price suppression under Article 6.3(c).⁴⁷ A similar attitude was adopted in *US – Large Civil Aircraft* in which the Appellate Body suggested that the counterfactual analysis necessitated by Article 6.3 ‘requires the adjudicator to undertake a modelling exercise as to what the market would look like in the absence of subsidies’.⁴⁸ As a result of such comments, it is now not uncommon for parties to engage in considerable technical argument concerning the appropriate economic models to use, the validity of the assumptions on which they are based, their applicability and application to the case at hand, and so on.⁴⁹

The Appellate Body decision in *EC – Aircraft*, for example, is also noteworthy in this context for the way in which it interprets the legal concept of ‘export contingency’ by reference to certain distinctions drawn from the economic notion of a market distortion. The standard of ‘export contingency’ is not met, the Appellate Body suggests, ‘merely because the granting of the subsidy is designed to increase a recipient’s production, even if the increased production is exported in whole’. It is also not met simply because ‘the granting of the subsidy may, in addition to increasing exports, *also* increase the recipient’s domestic sales.’ Rather,

we consider that the standard for *de facto* export contingency under Article 3.1(a) and footnote 4 of the *SCM Agreement* would be met when the subsidy is granted so as to provide an incentive to the recipient to export in a way that is not simply reflective of the conditions of supply and demand in the domestic and export markets undistorted by the granting of the subsidy.⁵⁰

In order to prove its case, then, a complainant may provide evidence of historical sales, or if historical sales data are not available, ‘the comparison could be made with the performance that a profit-maximizing firm would hypothetically be expected to achieve in the export and domestic markets in the absence of the subsidy’.⁵¹

It is true that, in all of these examples, the Appellate Body applied certain economic concepts in ways that some economists might object to. All of the

⁴⁶ *US – Subsidies on Upland Cotton Recourse to Article 21.5 by Brazil* (adopted 20 Jun 2008), WT/DS267/AB/RW, (*US-Cotton (21.5)*), para 356 (citations omitted).

⁴⁷ *US – Cotton (21.5)*, Appellate Body Report, para 357.

⁴⁸ *EC – Large Civil Aircraft*, para 1110.

⁴⁹ The EU advanced a calibrated model in the Panel proceedings in that case: Appendix VII.F.2, para 61; see also Dominic Coppens, *WTO Disciplines on Subsidies and Countervailing Measures: Balancing Policy Space and Legal Constraints* (Cambridge: Cambridge University Press, 2014).

⁵⁰ *EC – Large Civil Aircraft*, para 1045.

⁵¹ *EC – Large Civil Aircraft*, para 1047.

decisions referred to above have been criticised on that basis.⁵² But the point I wish to make is simply that, in these illustrations, the Appellate Body is interpreting the law so that, to speak loosely, it becomes something of a vehicle for economic forms of expertise and analysis. Economic concepts are used to give meaning and colour to legal concepts. And the application of a legal provision is in practical terms largely governed by the determination of certain facts through economic analysis – whether it be product scope of the market, the causal impact of the measure in question, the magnitude of price effects, or something else – and gives to the tools of economic expertise the primary role in the determination of such facts. This is not too far from the sort of jurisprudence informed by social science which the realists so often advocated.

At the same time, however, there is also an apparently contradictory mode of argumentation in the jurisprudence, which pushes in exactly the opposite direction. This mode begins with the opposite claim that the incorporation of economic concepts into law transforms their nature. Precisely by virtue of being written into treaties, they become *legal* concepts, the defining feature of which is precisely their (potential) divergence from their economic counterparts. In this mode, the questions of market definition and causation are not primarily factual matters, but legal questions, for which economic expertise may be helpful, but very far from determinative. When arguing in this mode, judges and interpreters foreground their departures from economic expertise and perceptions, and indeed see their function as in part to cut short, or circumvent, potentially endless debates between and among economic experts about the adequacy and accuracy of any particular analysis, by reference to an alternative set of self-consciously legal techniques, including the deliberate production of legal fictions.

Examples of this mode of reasoning can be found in precisely the same cases as those referred to above. I noted above, for example, that the Appellate Body had recourse to economic techniques to define the product scope of the relevant market in the *Canada – FIT* case. But in a subsequent step of the argument, the Appellate Body performed precisely the opposite move, reframing the argument so as to highlight the differences between the economic and legal concepts of ‘the market’. One of the claims made by the complainants in that case was that the prices paid to such suppliers of renewable energy under long-term contractual arrangements were higher than they would have received under market conditions, and thus constituted a subsidy. A benchmark market price was needed, therefore, to determine whether or not the price did indeed constitute a subsidy. But here a difficult question arose: should the benchmark price be calculated taking the government-mandated energy-supply mix as given, or should it be calculated without such a constraint? If the government-mandated supply mix were ignored, there was clearly a subsidy – there was no argument that a market for renewables simply would not exist in the absence of such a government mandate.

⁵² See, e.g., Luca Rubini, ‘What Does the Recent WTO Litigation on Renewable Energy Subsidies Tell Us about Methodology in Legal Analysis? The Good, the Bad and the Ugly’ (2014) EUI Working Paper 2014/05.

The Appellate Body found that it had to take the supply mix as given. The reasons given had to do with the idiosyncracies of electricity markets, the Canadian experience with electricity liberalisation, and especially the sovereign right of WTO Members to organise their electricity markets:

Although [a government defined supply mix] has an effect on market prices, as opposed to a situation where prices are determined by unconstrained forces of supply and demand, it does not exclude *per se* treating the resulting prices as market prices for the purposes of a benefit analysis under Article 1.1(b) of the SCM Agreement. Thus, where the government has defined an energy supply-mix that includes windpower and solar PV electricity generation technologies, as in the present disputes, a benchmark comparison for purposes of a benefit analysis for windpower and solar PV electricity generation should be with the terms and conditions that would be available under market-based conditions for each of these technologies, taking the supply-mix as a given.⁵³

It is true that much of the economic evidence tendered by the parties related to markets which did not contain such a government-defined supply mix, and which more closely approximated a textbook 'free market' in electricity. But, based in significant part on its understanding of the limitations of its mandate and institutional role, the Appellate Body did not see itself as having the freedom to adopt the textbook free market as its benchmark, nor even real-life markets which approximated it. Instead, then, the Appellate Body draws a clear line between legal notion of the 'market' in a benchmark analysis under the SCM Agreement, and that which is deployed in economic analysis. The Appellate Body emphasises that they are, in the final analysis, distinct and mutually irreducible concepts.

Another example of a similar move comes from the *Brazil-Aircraft* case. One of the questions in that case was whether certain elements of Brazil's export financing programme were protected by the wording of Item (k) of the Illustrative List of Export Subsidies, which defined certain measures as export subsidies, but only where they are 'used to secure a material advantage in the field of export credit terms'. Brazil argued that the payments in question were not in fact used to secure an advantage, but instead merely to offset Canada's subsidies to its own aircraft industry, as well as to reduce an artificial disadvantage which Brazilian companies faced given the 'Brazil risk' that the market priced into credit terms for such companies (in part on account of economic policies of the Brazilian government itself).⁵⁴ This argument potentially raised complex problems of economic analysis. Was the relevant market distorted, by the practices in question? If so, how might a more accurate market price be constructed from existing economic evidence? But the panel avoided such problems easily, simply noting the absence of any *express* textual

⁵³ Appellate Body Report, *Canada – Certain Measures Affecting the Renewable Energy General Sector* (adopted 24 May 2013), WT/DS412/AB/R, para 5.190 (emphasis added). See also Panel Report, *Canada – Certain Measures Affecting the Renewable Energy General Sector* (adopted 24 May 2013), WT/DS412/R, para 7.308-313

⁵⁴ Panel Report, *Brazil – Export Financing Programme for Aircraft ('Brazil-Aircraft (Panel)')*, (adopted 20 Aug 1999), WT/DS46/R, paras 7.21-22.

support for Brazil's position in the SCM Agreement, and thereby short-circuiting potentially complicated economic analysis:

In no case is it suggested that whether or not a benefit exists would depend upon a comparison with advantages available to a competing product from another Member [...] Nor can we find any suggestion in either Article 3.1(a) of the SCM Agreement or the Illustrative List of Export Subsidies that whether a measure is a prohibited export subsidy should depend upon whether the measure merely offsets advantages bestowed on competing products from another Member.⁵⁵

For good measure, the Panel went on to note in addition that 'there is no hint that a tax advantage would not constitute an export subsidy simply because it reduced the exporter's tax burden to a level comparable to that of foreign competitors'.⁵⁶ This was so, even though such questions would matter tremendously if one were to assess the competitive effects of the subsidy from an orthodox economic perspective, with a view to correcting market distortions or levelling the competitive playing field. Again, it seems that the legal notion of a subsidy self-consciously and explicitly is distinguished from its economic counterpart, with barely any need for explanation.

Brazil subsequently amended its measure, so that the interest rate payments in question were tied to a market benchmark related to the prevailing US Treasury Bond 10 year rate, plus an additional spread of 20 basis points. The problem here was whether this rate represented a reasonable approximation of what a commercial actor in the market might ask. But again the need to assess complicated economic evidence on this question was avoided through the use of a fictional benchmark referred to in the text of the agreement. Given the express reference in item (k) of the Illustrative List to 'international undertaking[s] on official export credits', the Panel (following an earlier Appellate Body ruling⁵⁷) determined that one appropriate benchmark would be the relevant OECD Commercial Interest Reference Rate, as calculated according to the methodology set out in Article 16 of the OECD Arrangement.⁵⁸ Aware that this reference rate may or may not correspond to a 'true' market rate, the Panel made it clear that it was open in principle for Brazil to prove that lower rates were actually commercially available on the market – even if in practice the prevalence of government involvement in this sector made finding appropriate commercial comparators almost impossible.⁵⁹

The same self-conscious adoption of a fictional or partial benchmark can be seen in some of the Panel decisions in the *Softwood Lumber* litigation. One issue which

⁵⁵ *Brazil-Aircraft (Panel)*, paras 7.24-25.

⁵⁶ *Brazil-Aircraft (Panel)*, para 7.25.

⁵⁷ Appellate Body Report, *Brazil – Export Financing Programme for Aircraft ('Brazil-Aircraft (AB)')*, (adopted 20 Aug 1999), WT/DS46/AB/R, para 182.

⁵⁸ Panel Report, *Brazil – Export Financing Programme for Aircraft Recourse to Article 21.5 of the DSU by Canada ('Brazil-Aircraft (21.5, Panel)')*, (adopted, 4 Aug 2000), WT/DS46/RW, para 6.84 and surrounding.

⁵⁹ Appellate Body Report, *Brazil – Export Financing Programme for Aircraft Recourse to Article 21.5 of the DSU by Canada ('Brazil-Aircraft (21.5, AB)')*, (adopted, 4 Aug 2000), WT/DS46/AB/RW, para 64.

famously arose in that litigation was whether the domestic Canadian market for stumpage provided an appropriate benchmark, given the thorough degree to which it was structured and affected by government action. In *US – Softwood Lumber III*, the Panel explicitly eschewed the economist’s preferred benchmark of a ‘hypothetical undistorted or perfectly competitive market’.⁶⁰ Without contesting the substantive claim that the domestic market was in some sense fundamentally distorted, the Panel noted that ‘if the drafters of the SCM Agreement had wanted to exclude the use of market prices in case of price suppression due to the government’s involvement, they would have explicitly provided so, but they have not’.⁶¹ A subsequent Panel noted, significantly, that ‘we do not believe that it would be appropriate for this Panel to substitute its economic judgment for that of the drafters’.⁶² It is true that this approach was subsequently revised by the Appellate Body, which found textual support for the rejection of such a distorted benchmark in certain circumstances. But the Appellate Body still drew a clear line between the legal benchmark defined in the text of the agreement, and the sort of perfect market benchmark used in economic analysis.⁶³

In all of these cited instances, then, the benchmarks used represented explicitly ‘distorted’ markets, or fictions which bore no necessary connection to any known market, as their basis to define, characterise, or determine the effects of, the measures in dispute. The ‘market’ is being used pragmatically in these instances as a ‘tool to think with’ rather as a representation of the world, and its contours are self-consciously defined by reference to the function that it is supposed to serve. This, then, is the pragmatist side the new legal realism. It uses, in crucial aspects, precisely the opposite of the mode of argumentation described above, in which law acts as a vehicle for economic concepts and techniques. Here, the incorporation of a concept such as the ‘market’ into law fundamentally changes its character: the act of encoding it in law is precisely what allows the adjudicators in the above disputes to depart from purely economic understandings of the concept, and to construct their own fictional markets which purport to have validity, utility and relevance only within the legal context in which they arise, and which derive their authority precisely from that utility. This is the second half of the double movement: the re-assertion of the law’s formal autonomy from economic science, and the performance of its objectivity precisely through its indifference to the economic ‘facts’ of the situation. In the first move, the ‘facts’ are brought to bear on the law, and the law justifies itself by reference to them. In the second, the law willfully blinds itself to the facts of the social world, and justifies itself by reference to its blindness.

⁶⁰ Panel Report, *United States – Preliminary Determinations with respect to Certain Softwood Lumber from Canada* (adopted 1 Nov 2002), WT/DS236/R, para 7.50.

⁶¹ *Ibid.*, para 7.52.

⁶² Panel Report, *United States – Final Countervailing Duty Determination with respect to Certain Softwood Lumber from Canada* (adopted 17 Feb 2004), WT/DS257/R, para 7.59.

⁶³ Appellate Body Report, *United States – Final Countervailing Duty Determination with respect to Certain Softwood Lumber from Canada (‘US – Lumber IV (AB)’)* (adopted 17 Feb 2004), WT/DS257/AB/R, paras 100-101.

It is worth concluding this section by briefly anticipating one possible response. Is what I am describing really a tension within the jurisprudence, or does it just reflect an understanding on the part of the interpreters that empirical methods are useful only to a point, and that they are necessarily employed within a framework of concepts (here, the law) which is not itself able to be produced by such methods? Along these lines, one perfectly serviceable explanation of this jurisprudence under the Subsidies Agreement may simply be that its two sides reflect nothing more than the different questions which Panels and the Appellate Body have been required to answer in the cases before them. There are certain questions – such as the product scope of the relevant market in *Canada – FIT* – which economic concepts and techniques can and do answer well. But there are certain other questions – such as the appropriate institutional foundations of the market used for benchmarking purposes – to which economics is just poorly suited, and therefore cannot be used.

This sort of account certainly accounts for much, but at the same time it also misses something important. To suggest that the differing uses of economic expertise in dispute settlement proceedings derives simply from the nature of the question at issue is to miss the fact that the framing of the ‘question at issue’ is itself not entirely given but rather emerges as part of the argumentative process. It is the result of choices made by Panels and the Appellate Body, not (just) a cause of them. It is, to put the point more bluntly, one way of dealing with the underlying tension that I am talking about: ‘empirical methods should be used, but only as far as they are useful to the questions which arise within a controlling framework of legal concepts’. It is certainly very common in both scholarship and governance to reconcile the tension between empiricism and pragmatism in this way. But it is the tension itself, not any particular way of dealing with it, that I am suggesting is at the core of both this mode of governance, and for that matter new legal realist scholarship.

IV. Scientific evidence in SPS disputes

Like the SCM Agreement, the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) was the product of the Uruguay Round of negotiations, and entered into force in 1995. At the time, it was considered by all accounts a relatively minor and highly technical agreement, addressing only a very specific set of issues raised by a relatively minor set of trade restrictive measures, namely sanitary and phytosanitary (SPS) measures. SPS measures are, speaking broadly, those food safety and quarantine measures which WTO Members use to protect their territories from pests and diseases and other health risks which enter through importation of foreign goods.

For the purposes of the present argument, the most important provisions of the agreement are those which require SPS measures to have a scientific basis. Article 2.2 provides that:

Members shall ensure that any sanitary or phytosanitary measure is applied only to the extent necessary to protect human, animal or plant life or health, is

based on scientific principles and is not maintained without sufficient scientific evidence, except as provided for in paragraph 7 of Article 5.

Article 5.1 elaborates further that Members ‘must ensure that their sanitary or phytosanitary measures are based on an assessment, as appropriate to the circumstances, of the risks to human, animal or plant life or health’ posed by the imports in question, with the following two paragraphs detailing the sorts of factors which ought to be taken into account in risk assessment. Article 5.7 provides for a limited and temporary carveout where relevant scientific evidence is ‘insufficient’ to perform an adequate risk assessment.

The relevance of these provisions for the present argument is clear: at least on the face of the text, there is an obvious sense in which the SPS Agreement provides pride of place to scientific expertise, using it as the primary measure by which to distinguish protectionist from legitimate SPS measures. In a move which for Jasanoff represents a globalisation of a particularly American culture of objectivity,⁶⁴ it appears to draw on the epistemic authority of science for an objective, external standpoint from which to resolve SPS disputes. As such, it has been described as the ‘most ambitious technocratic achievement of the Uruguay Round’,⁶⁵ and represents a good example of the close integration of law and science in international economic governance.

But this is by no means the complete picture. In a perceptive analysis of the 2006 Panel decision in *EC-Biotech* – a challenge brought by the United States, Argentina and Canada to the EU’s system for the approval of genetically modified crops and food – Bonneuil and Levidow describe what they call the ‘paradox’ of the jurisprudence under the SPS Agreement. On one hand, they note, the *Biotech* case was all about the nature and extent of scientific evidence of risks associated with GM products. More than 1000 pages of text – including submissions from parties, and the report itself with its annexes – was dedicated, they observe, to summarising and discussing the scientific evidence and expert opinions put forward by both parties. On the other, however:

the Panel hardly refers to scientific arguments in its findings, which instead emphasize the defendant’s procedural failures, and the Panel’s conclusions are strictly fashioned as a legal interpretation. Moreover, the Panel avoids any substantive judgement on whether or not the defendant’s procedures were based on scientific evidence of risk.⁶⁶

Thus, the Panel found against one aspect of the EU’s approval system on the basis that it led to an undue delay in decision-making procedures. It found further that EC Member State measures were non-compliant with Article 5.1 on the basis that the documents on which they were based did not meet the formal requirements of a ‘risk assessment’ as defined in Annex 1. And it found that Article 5.7 was inapplicable simply by referring to the fact that the EU itself had

⁶⁴ Jasanoff, ‘The Practices of Objectivity in Regulatory Science’ in Camic, Gross and Lamont, *Social Knowledge in the Making* (U Chicago Press, 2011), 307-336.

⁶⁵ Bonneuil and Levidow, ‘How does the World Trade Organization know? The mobilization and staging of scientific expertise in the GMO trade dispute,’ (2012) 42(1) *Social Studies of Science* 79.

⁶⁶ Bonneuil and Levidow, ‘How does the World Trade Organization know?’, 77.

carried out its own risk assessment to show that existing evidence was sufficient to perform a risk assessment. All of these grounds for decisions, Bonneuil and Levidow note, permitted the Panel to avoid taking a position on questions of disputed scientific knowledge, even as the legitimacy of the judgement rested in some real sense on its "science-based" imprimatur'.⁶⁷

This paradox represents an illustration of the double movement which in my view characterises the jurisprudence under the science provisions of the SPS Agreement as a whole. On one side, there are many occasions in the jurisprudence in which the line between scientific and legal judgments becomes blurred. The views of scientific experts on matters of risk are taken to be more or less determinative of the legal question of whether there is a violation of the relevant SPS provision. The legal burden of proof is not clearly distinguished from the scientific burden of substantive persuasion, and legal objectivity is effectively equated with scientific rigour and adherence to scientific standards of truth. On the other side, however, and sometimes even in the same cases, Panels and the Appellate Body are at pains to draw a clear line between legal and scientific issues, to emphasise that legal standards of sufficiency of scientific evidence are *different from* those pertaining in scientific communities, to note that a finding of a violation of the SPS Agreement is *not* the same thing as a determination about the nature and extent of risk, and to draw a clear distinction between the role of the adjudicator and that of the scientific expert. This second aspect is pragmatist in the sense that it is oriented towards the production of legal not scientific 'facts', and legal facts are precisely those which are produced – precisely as pragmatist philosophy would imagine – for a purpose, in action, and intimately tied to the institutional context of decision-making.

One of the best illustrations of this dynamic comes from the twists and turns of the jurisprudence on the standard of review applicable under Articles 2.2 and 5.1. of the SPS Agreement.⁶⁸ The first case to deal with this question was *EC – Hormones*, in which the Appellate Body hedged its bets somewhat. On one hand, the Appellate Body noted, the standard of review is not 'de novo review as such', which would place the Panel in the same position as the risk assessor, requiring it to form its own view as to the substantive merits of scientific dispute brought before it. On the other hand, however, nor was the appropriate standard that of 'total deference', which would of course undermine the operation and objectives of the Agreement as a whole. The appropriate standard, it opined, was found in Article 11 of the DSU, namely, an 'objective assessment of the facts'. In practice, this turned out in that case to be a relatively deferential standard. Thus, the Appellate Body famously made clear in its decision that WTO Members have the right to rely on minority scientific opinion without having that decision called into question in a WTO tribunal. What matters, the Appellate Body said, was merely that this minority opinion came from a 'qualified and respected source',

⁶⁷ Bonneuil and Levidow, 'How does the World Trade Organization know?', 97.

⁶⁸ See Schropp, 'Commentary on the Appellate Body Report in *Australia-Apples (DS367)*: judicial review in the face of uncertainty' (2012) 11 *World Trade Review* 171-221, Gruszczynski, *Regulating Health and Environmental Risks under WTO Law* (Oxford: Oxford UP, 2010), especially Chapter 4.

and that it reasonably supported the SPS measure in question.⁶⁹ Thus the technique of defining the standard of review was deployed to shift the terms of argument, from the scientific question of whether the evidence was persuasive or correct, to the legal question of whether it was sufficient for the purposes of the SPS Agreement, taking into account the *institutional* issue of ‘the balance established in [the *SPS Agreement*] between the jurisdictional competences conceded by the Members to the WTO and the jurisdictional competences retained by the Members for themselves.’⁷⁰

In a number of subsequent cases, however, legal and scientific judgments were not so clearly distinguished. Perhaps the best example is *Japan – Apples*, in which a core question was whether the importation of apples (especially mature, symptomless apples) was likely to lead to the introduction of fire blight into the Japanese ecosystem. The Panel found that it was not, primarily on the basis of the opinion of the independent experts called to give evidence before it:

we note, in light of the elements placed before us by the parties, as well as in light of the comments of the experts appointed by the Panel, that the scientific evidence suggests a negligible risk of possible transmission of fire blight through apple fruit ..

We further recall the opinion of the experts that due to the development of new scientific research tools, in particular DNA-based methods, they were more confident than ever before that there was only a negligible chance of fire blight being transmitted through apple fruit ...

Nonetheless, we note that even if the scientific evidence before us demonstrates that apple fruit is highly unlikely to be a pathway for the entry, establishment and spread of fire blight within Japan, it does suggest that some slight risk of contamination cannot be totally excluded. The experts all categorized this risk as "negligible" ...⁷¹

Importantly, the Panel appeared to think that it followed immediately from this conclusion that the measure was ‘maintained without sufficient scientific evidence’ for the purposes of Article 2.1. For a number of commentators, this decision came close to the *de novo* review prohibited by the Appellate Body in *EC-Hormones*.⁷² Whether or not that is true, at the very least we can say that the foundation of the decision was in the scientific determination of facts, and that in practice the Panel’s finding of a legal violation flowed almost automatically from the scientific opinions given before it.

In *US/Canada – Continued Suspension*, both sides of the double movement were clearly visible. Here, it played out as a disagreement over the appropriate standard of review between the Panel and the Appellate Body. The Panel, in a

⁶⁹ *EC – Hormones*, AB, para 194.

⁷⁰ *EC – Hormones*, AB, para 115.

⁷¹ *Japan – Apples*, Panel, paras 8.169- 8.181.

⁷² See Schropp, ‘Commentary on the Appellate Body Report in *Australia-Apples*’, Prévost, ‘What Role for the Precautionary Principle in WTO Law after *Japan-Apples*?’ (2005) 2(4) *Economic Policy and Law: Journal of Trade & Environment Studies* 1–14.

famous statement, set out a standard of review which on its face appears to place the legal adjudicator in a similar position to that of the scientific assessor:

Although the Panel is not carrying out its own risk assessment, its situation is similar in that it may benefit from hearing the full spectrum of experts' views and thus obtain a more complete picture both of the mainstream scientific opinion and of any divergent views ... [On some points], a larger number of experts expressed opinions and, sometimes, they expressed diverging opinions. While, on some occasions, we followed the majority of experts expressing concurrent views, in some others the divergence of views were such that we could not follow that approach and decided to accept the position(s) which appeared, in our view, to be the most specific in relation to the question at issue and to be best supported by arguments and evidence. As we have told the parties and the experts during these proceedings, this Panel is not composed of scientists.⁷³

In context, the claim that the 'Panel is not composed of scientists' at the end of the quotation should be understood not as a way of drawing a boundary between legal and scientific expertise, but rather as articulating an attitude of deference to scientific expertise on crucial determinations of fact. The Panel's statement, it seems to me, sets out a standard and process of review which to a very large extent locates the task of determining the legality of the measure in the determination of facts, in turn based heavily on opinions of scientific experts.

The Appellate Body in the same case, however, took a very different view.

It is the WTO Member's task to perform the risk assessment. The panel's task is to review that risk assessment. Where a panel goes beyond this limited mandate and acts as a risk assessor, it would be substituting its own scientific judgement for that of the risk assessor and making a *de novo* review and, consequently, would exceed its functions under Article 11 of the DSU. Therefore, the review power of a panel is not to determine whether the risk assessment undertaken by a WTO Member is correct, but rather to determine whether that risk assessment is supported by coherent reasoning and respectable scientific evidence and is, in this sense, objectively justifiable.⁷⁴

It reiterated its finding in the earlier *Hormones* case that WTO Members are permitted to base their measures on divergent or minority opinion, as long as this minority opinion has 'the necessary scientific and methodological rigour to be considered reputable science'.⁷⁵ Once this criterion is met, the Appellate Body said, a Panel's task is to 'assess whether the reasoning articulated on the basis of the scientific evidence is objective and coherent'.⁷⁶ While the precise meaning of this text has proved to be nebulous, what is crystal clear is the function that the Appellate Body's test is playing here. It is a way of drawing a clear line between legal and scientific processes of review, such that the preponderance of scientific evidence on any particular point of fact becomes less significant to the resolution of the legal questions at hand, and the application of independent legal expertise

⁷³ *Canada – Continued Suspension*, Panel, para 7.411.

⁷⁴ *EC – Hormones*, AB, para 590.

⁷⁵ *EC – Hormones*, AB, para 591.

⁷⁶ *EC – Hormones*, AB, para 591.

more significant. In a move reminiscent of Bonneuil and Levidow's analysis of the *Biotech Panel's* judicial avoidance techniques, the Appellate Body in *Continued Suspension* found ultimately that in light of the Panel's misunderstanding of the appropriate standard of review, and in light of the inadequacy of the relevant evidence before it, it was not able to make a decision on the legality of the European measure before it.

The pendulum appears to have swung again in the relatively recent SPS case of *Australia – Apples*. Here, the Appellate Body reiterated its statement of the appropriate standard of review from *Continued Suspension*, but this time gave heavy emphasis to the final stage of the articulated review process, namely the question 'whether the reasoning articulated on the basis of the scientific evidence is objective and coherent'. At this stage of the analysis, the Appellate Body joined the Panel in conducting what looked very similar in substance to the sort of review conducted years earlier by the Panel in *Japan – Apples*. Virtually every assumption in every model used by the risk assessor was tested for its veracity and realism, and intermediate conclusions inferred from indirect evidence were tested for their logic, such that one is left with the overwhelming impression that the basis of the decision was simply that neither the Panel nor the Appellate Body found Australia's risk assessment substantively persuasive.⁷⁷

V. Conclusion: relative objectivity

I began by suggesting that the old legal realists were somewhat more ambivalent in their theory of knowledge than is commonly noted. This reflects their attempts to marry empiricism and pragmatism, with their very different underlying theories of knowledge. I also suggested – following Tomlins – that their project to integrate law and the social sciences was also more ambivalent than it first appears. It was both an attempt to borrow the new authority of the social sciences, and a bid to re-assert law's independent authority over and above them. The modes of technocratic governance produced by this project therefore brought together legal and scientific expertises somewhat schizophrenically, simultaneously erasing and re-affirming the boundaries between the two, offering techniques of decision-making which pushed in two opposing directions at once.

But it turns out that this ambivalence has been the source and foundation of the law's pragmatic resilience in the face of late 20th century critiques of scientific objectivity. The legal realists lost faith in formalism as the foundation of the law's objectivity, and sought to recreate the law on the foundation of scientific empiricism. In doing so, they created a mode of governance which sat somewhere uneasily between the two, alternating between quasi-formalism and quasi-empiricism as its self-justifying discourse. One might imagine that this combination would inevitably fail once both of its apparently objective

⁷⁷ For a similar view, see Schropp, 'Commentary on the Appellate Body Report in Australia-Apples'; Peel, 'Of apples and oranges (and hormones in beef): Science and the standard review in WTO disputes under the SPS Agreement' (2012) 61 *International and Comparative Law Quarterly* 427-458.

foundations had been radically undermined, one after the other. In fact, however, the mixture has proved to be resilient, and to be able to satisfy, at least at an everyday, pragmatic level, the practical demand for reasonably objective decision-making in particular governance contexts. It has still maintained a capacity to ground law in 'facts', at least where scientific knowledge is provisionally settled. And where science is politicized and destabilized, it offers the possibility of performing objectivity as formal legal process – no longer understood as application of determinate rules, but rather as a mode of decision-making which is credibly distant from (impartial in respect of) scientific controversy. I do not mean this to be celebratory in tone – the point I am making is one about how this mode of governance works, and how it achieves its resilience, not about its desirability.

The trick, then, is that formalism and empiricism each have 'relative objectivity' - objectivity, that is to say, in relation to the other. Each provides a set of techniques for credibly distancing oneself from the controversies which beset the other, so that the artful combination of the two can achieve what neither can do on its own. And of course its operation is predicated upon a redefinition of what objectivity and objective decision-making is: no longer is there any aspiration in this sort of governance to the transcendent, which both the legal realists and the classical formalists appeared at times to desire. In its place, we have the more modest aim of produce choices which can credibly pass as objective in a particular context, for certain purposes, and only for now. In the end, perhaps, that may be one of the most enduring legacies of the 'old' legal realists for those today who work in the new legal realist vein.