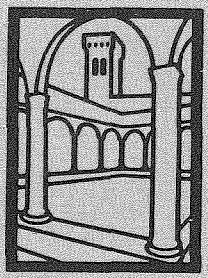

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The Truth about Law's Truth

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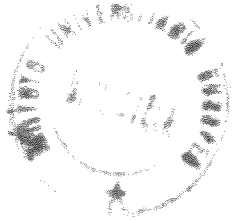

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The Truth about Law's Truth

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Outline of Contents

The Truth about Law's Truth [1]

"The normative question of how expert knowledge is best assessed, and how experts themselves are best evaluated and kept under a modicum of control, raises such intractable and viciously circular problems as to strangle speech". (Barnes and Edge, 1982, p.11).

Introduction

In this paper I want to discuss some issues arising from clashes or apparent clashes between legal and scientific conceptions of reality and methods of truth-finding.[2] The topics which will be considered include: Can there be different truths for law and science? How can we make sense of them? Is it possible to choose between them? I shall begin by providing some historical and intellectual background with reference to recent developments concerning the challenge of post-positivist arguments in the philosophy and sociology of law. I shall then analyse the different standpoints from which disputes between law and science may be examined and consider in detail efforts to develop a new approach to handling such clashes. I will conclude by illustrating the relevance of these theoretical considerations to two current controversies in criminal law and criminal procedure.

The questions touched on in this essay are philosophically highly difficult and complex. Nor can I pretend to have found an answer to such characteristically post-modern problems as the dilemmas of reflexivity and self-reference which are entailed in operating at a meta-theoretical level of discourse (Lawson, 1982). Indeed, much of the literature I shall review is precisely concerned with whether it is meaningful to look for an 'answer' to clashes between competing discourses. But my hope is that this progress report on current work will contribute to the emerging agenda of what may be called meta-legal theory and practice. The subject-matter of this agenda may be described as how to avoid unreflective importation into law of competing disciplines without thereby falling back into a revisionist and politically one-sided exaggeration of law's independence as a discipline. In a wider context, a study of the degree to which legal and scientific discourses reinforce or corrode each other's power to persuade also provides an example. of the difficulty of controlling expert knowledges without doing so on the basis of some new form of expertise.

I Disagreements between Law and Science

It is not difficult to find examples of present and past disagreements between law and science. To choose only the most well-known, there are long-running disputes between legal and psychiatric conceptions of insanity, and volumes of research in which psychologists and statisticians criticise legal methods of proof. More generally, many social scientists reject the use judges make of concepts such as 'market efficiency' or 'group interest'; they are baffled by judges' willingness to predict outcomes of their decisions on little scientific evidence and their disinclination to check whether the predictions are in fact sound.

The line between real clashes and only apparent ones is not always easy to draw.[3] Sometimes law and science are no more than superficially dealing with the same phenomenon. This could be said perhaps of legal and medical definitions of death.[4] In such cases different definitions reflect different purposes and concerns rather than a genuine dispute. Sometimes law is explicit about this, as in the distinction, internal to criminal and tort law, of 'factual' and 'legal' causation. At the other extreme, legal judgments do sometimes entertain scientific impossibilities, as in decisions which have allowed a presumption of paternity even where this involved believing that a pregnancy had lasted more than a year. To an extent law may use 'doublethink' to treat its 'legal fictions' as facts. In many of the most troublesome clashes between law and science, however, the real difficulty lies precisely in deciding whether the different conceptions in play represent genuine disagreement or not. As we will see, even where the law appears to be referring to empirically based notions such as 'provocation' or 'duress', the relevance of changing scientific findings remains uncertain and controversial.

It may be objected that there is a ready way to resolve such disputes. This is to recognise the authority of law in legal contexts such as the courtroom and the priority of science in scientific arguments made in other contexts. Certainly, if there is an answer to our problem it would seem to involve appreciating what it means to say that truth varies in different contexts. It requires little skill to discover that the outcome of disagreements between law and science is different in arguments put before judges, in legal commentaries, and in multi-disciplinary law reform enquiries. Once again, however, the problem at the heart of many current controversies is the difficulty of keeping the different contexts apart. What counts as a good argument in one context carries at least a specious plausibility outside its normal context. Both science and morality, for example, tend to assume the universal applicability of their arguments and both lay claim to law. At the same time law is often expected to adjudicate on the applicability of their enterprise.

In many pressing cases of legal and scientific rivalry a practical solution has apparently been reached. Expert witnesses are introduced into the courtroom, where they are expected to protect the integrity of their discipline whilst at the same time serving the ends of the law. But this is often no more than a compromise rather than a solution of underlying differences. This is regularly demonstrated by complaints about the workings of the adversarial trial, although

the source lies deeper than this. One experienced forensic expert recently complained that having to feed his scientific opinions through the adversarial process meant that truth emerged "bruised and mangled and possibly unrecognisable" (Gee, 1987). In his view, many recent 'miscarriages of justice', could have been avoided if it had been possible to use evidence available, but not drawn on, at the time of the trial. This lament has particular force coming, as it does, from a member of a profession which can be said to specialise in the task of mediating between law and science.

The changing background

A number of social and intellectual developments have given the problem of legal and scientific clashes a new prominence and unsettled previously accepted solutions. These have led to increased questioning of the desirability and even the relevance of scientific and technical models for law. Although there are various currents and counter-currents of opinion we are beginning to see reduced enthusiasm for employing law as a method of 'social engineering', and on the contrary, a turn toward using law as a bulwark against technocracy. This has been accompanied by important developments in the philosophical understanding of both law and science. One result of this is renewed respect for the integrity of law as a form of knowledge and practice in its own right, with potentially equal status to science. I will say something more about each of these changes.

In Britain and America for much of the post-war period there was a strong current running in favour of using law as a method of resolving social problems and pursuing social improvements. Scientific, and especially social scientific, approaches were considered highly valuable resources for such a project. Whilst there may have been some disagreement over whether it was better for social science to be 'on top' or on 'on tap' (Willock, 1974), its relevance was questioned by few other than traditionalists. Intellectual movements such as the "Law and Society Association" in the United States, or the 'law in context' approach to law teaching and research, in Britain, studied law's social consequences and its capacity to promote or retard social change. Yet it could be said that the 'law in context' movement failed to place itself in context. Its recommendation to see law as one amongst a variety of methods of pursuing social goals, and its treatment of law as an applied social science subject to the same requirements as other efforts at social intervention, tended to make it exaggerate the instrumental side of law. The more recent trend away from centralised intervention and regulation in Britain and America has provided fertile ground for the rediscovery that, criminal law, for example, is both more and less than an instrument for reducing the crime problem and that tort law is not merely a supposedly efficient means of responding to accidents. From our present vantage point it now seems as if the utility of social science perspectives on law is bound up with the advocacy of a particular role for law.

Even in the United States, where an instrumentalist approach to law is deeply engrained in the wider pragmatic culture, the applicability of the substantive findings of the social sciences is now much less taken for granted than in the euphoric period following **Brown v Board of Education**. For example, Martha Fineman, a feminist law professor at Wisconsin University, the original home of the 'Law and Society' Movement, has recently published articles in the Wisconsin and Harvard Law Reviews in which she calls into question the part played by social scientific expertise in custodial decision-making. Instead of welcoming the contribution that psychologists can make to this controversial area of law and social policy she sharply rejects the value of studies which purport to show that fathers can do a good job of bringing up children themselves. In her view, decision-makers in these cases should not be influenced by attempts, deliberate or not, to use science to resolve what are "essentially legal, moral and political questions" (Fineman and Opie 1987).

The same resistance to the hegemony of science in substantive matters also extends to differences between law and science over the best way to discover the truth of past events. There are now many scholars willing to defend the specifically legal rules and procedures of proof-taking even against the criticisms of psychologists or statisticians. Jonathan Cohen, for example, has developed a sophisticated defence of common-sense forms of inductive probability which, he says, underlie the trial process (Cohen, 1981). Zenon Bankowski argued that legal methods of truth-finding, including reliance on the jury system, cannot ever be undermined by psychologists because their discipline simply incorporates a different set of starting assumptions about how to reach truth which are as much normative as scientific (Bankowski, 1981).

At its boldest, this new approach actually celebrates law's capacity to resist the spread of technocratic tendency to transform moral and political problems into technical ones. Habermas, for example, in his critique of instrumental reason would prefer to see law serving the cause of 'practical' and 'critical' reason and stresses the dangers of allowing law to 'colonize the life-world' (Habermas, 1985). Sociologists of science, for their part, have shown interest in the way lawyers are able to puncture the claims of scientific expertise by revealing the frail platform of assumptions and conventional agreement which support scientific arguments (Wynne, 1989). Of course, there are probably few scientists who actually see themselves as technocractic warriors. When offering their findings, in or out of court, they expect them to be considered alongside moral, legal and political requirements, about which they claim no particular competence. One psychologist cited by Fineman, for example, responded to her attack by arguing that it was wrong to object to the accuracy of his studies of fathers' child-rearing capacities by pointing to the use others might make of his findings (Chambers, 1987). But the current challenge to this positivistic scientific approach is whether it really is possible to mark out a realm of facts and findings for policy makers to use as they will, without that research already incorporating moral and political choices.

These social and political changes can also be related to developments in post-positivist philosophies of science and of law. What is interesting here is the way such approaches are drawn on in order to undermine the older positivist concordat in which science was given the monopoly of producing factual truth, whilst law endorsed facts with normative significance. For purposes of illustration I shall mention just a few of the arguments which, in various ways, put in doubt the positivist distinction between theory-making and the factual objects of such theories. What they all share is the view that truth-claims take their sense from the interpretative schemes in which they are embedded rather than from independently ascertainable 'facts' to which they correspond.

A well-established argument in support of this point derives from claims about the limits of language according to which the meaning of theoretical terms cannot be specified in a context-free manner because their sense depends on the way they are used within particular language-games (Wittgenstein, 1963). Moreover, any attempt to specify the conditions of use of a concept within a language-game runs up against the difficulty that this itself can only be formulated within a further language-game. A similar conclusion can also be reached through historical investigation of the progress of science. As Kuhn (1970) demonstrated, the social organization of science is a critical factor in explaining the changing acceptability of theories as these are negotiated within and between communities of scholars. The social support for the paradigms of normal science or for the revolutions which transform them cannot be reduced to the quality of fit between theory and predicate.

An alternative critique of positivism derives from its old rival, philosophical idealism. Modern reformulations of this approach stand behind the constructivist as compared to the realist, position in the philosophy of science. Our categories of understanding precede and even produce the objects of our experience. Moreover these categories are social products formed in the course of social interaction and not simply psychological givens. A final, characteristically post-modern argument, has to do with the way theoretical insights are communicated and received. The meaning of any communication depends on selective interpretation by which its numerous potential meanings are reduced. Whilst it is going too far to say that the reader decides the meaning of the text, it is certainly the case that there is nothing outside the text (Derrida, 1977) other than some other supplementary text. Therefore attention must be given to the way a text achieves its persuasive force and the metaphors and tropes it uses. Once again this approach suggests that our theoretical conceptions are likely to reflect the conventions of our discourses rather than the structure of the world. Or, more carefully phrased, that this distinction only makes sense within distinct theoretical frameworks.

If the philosophy and sociology of science has come to place ever greater stress on the importance of interpretative frameworks there has been a not dissimilar development in the philosophy and sociology of law. In Anglo-American philosophy of law, instead of describing law as a 'type of command' (Austin, 1955) or even a 'set of rules' (Hart, 1961), legal theorists now present law as a method of interpreting a community's social practices. For Dworkin, the

meaning of law and the process of discovering that meaning cannot be distinguished (Dworkin, 1986). There have been parallel developments within the sociology of law (Nelken, 1986). Instead of explaining the interaction between 'law' and 'society'; or the 'correspondence' between types of law and social settings, attention has shifted to understanding law as a 'medium of tradition' (Krygier, 1986) or a species of discourse (Goodrich, 1986). Critical Legal Scholars likewise describe law as 'constitutive' of social relations (Gordon, 1984), as a way of seeing the world, not as a distinguishable aspect of it. From a different starting point, some continental sociologists of law have also emphasized the need to treat law as an epistemological subject in its own right, (Bourdieu 1986) with some calling for attention to be given to law's capacity to reproduce itself reflexively in the world of social communications (Luhmann 1988); Teubner, 1988; Nelken, 1988).

It would be unwise to exaggerate the influence of these new approaches which co-exist with many positions in the philosophy and sociology of law which have not (yet) been reconceptualized in post-positivist terms. But it is safe to conclude that there is now less certainty about the capacity of social science to understand law and more support for the idea that law has its own form of understanding the world. The implication for the problem of clashes between law and science is that post-positivist arguments appear to provide new grounds for resisting the force of scientific criticisms. Vittorio Villa, for example, has recently provided an extensive review of the way reigning conceptions of 'legal science' still rely on a positivisitic understanding of what counts as science and how scientific truths are established. Drawing on the alternative 'meta-theory' of science espoused by post-positivists he claims not only that 'legal science' is properly deserving of the name 'science', but also that philosophers of science have themselves seen the workings of law and legal reasoning as analogous to the processes by which scientific truth is accomplished (Villa 1984, 1988). For Gunther Teubner, on the other hand, the point to appreciate is that law is an 'epistemic subject' in its own right. As a result "there is no way to challenge the epistemic authority of law, neither by social realities themselves nor by common sense, nor by sociologically controlled observation" (Teubner, 1989 to p.35). But the conclusions which flow from post-positivist arguments are not univocal. Whilst Villa has shown the clear parallels between theory - construction in law and in science, it does not follow that law as a 'science' deals with the same questions which form the subject-matter of other sciences, with whose claims it sometimes appears to quarrel. Teubner, on the other hand, does see law as competing with other disciplines but offers a procedural solution to these conflicts. To clarify these points it will be necessary to provide a systematic account of the existing positions which are currently taken towards clashes between law and science and the new approaches which are now emerging.

II Three ways of looking at clashes between law and science

Disagreements between law and science may be considered from a scientific perspective, a legal perspective, or from some third position. These alternatives may be entitled: the attempt to find 'the truth about law'; 'law's truth'; or finally, 'the truth about law's truth'. My main

concern here is with the possibilities of developing the 'third position' and the meta-theoretical strategies this may involve. I shall therefore offer selective accounts of the other two perspectives geared mainly to showing how they lead us to the new set of questions involved in the search for a third position. For simplicity's sake I shall start from the assumption that both the legal and the scientific points of view rely on a positivist division of labour in which law is responsible for all normative tasks whilst science has authority over cognitive operations. I shall argue, in outline, that the differences in the points of view offered by law and science derive from the extent to which they understand their disagreements in cognitive or normative terms. Adopting a scientific perspective tends to lead to a scientific conception of law's role which favours scientific attempts at improvements. A legal interpretation, on the other hand, tends to 'make sense' of rules and practices with reference to an institutional normative framework which may often reveal scientific criticisms to be 'beside the point'. Given that both law and science, according to their 'concordat', recognize each other's authority outside their own jurisdiction, the usual solution to their disputes has depended on a marginal re-conceptualization or re-allocation of their mutual division of labour. The challenge posed by post-positivist arguments, however, lies in the way in which they have radically unsettled this division of labour, thereby opening up new sources of disagreement and, perhaps, also of solutions.

The truth about law

In keeping with the central influence of 'the idea of Science' since the Enlightenment, law increasingly came to be seen as one of those subjects to which the term could properly be applied. However, it has been during this century, especially in common-law jurisdictions, that scientific and social scientific criticisms of law have reached their height and this movement has certainly not lost all its force. It would be pointless to make reference to the vast range of studies devoted to proving how certain legal rules of practices rest on mistaken pictures of the world or pursue instrumental goals in a way which a given scientific perspective deems to be misguided or ineffective. The important point for our purpose is that many of these critiques rely on a positivist conception of science as a superior, universal route to knowledge about and manipulation of the world as compared to the outmoded or imprecise guesswork embodied in the law. This viewpoint is well represented by Richard Posner, doyen of the Chicago school of 'Law and Economics', and now a Federal Court judge, in a recent address aptly entitled 'The decline of law' (Posner, 1987). For Posner, American lawyers will increasingly resort to scientific arguments before the Courts "as an irreversible consequence of the rise of prestige and authority of scientific and other exact modes of enquiry" (id. p.772).

Generally speaking, from this point of view disagreements between law and science therefore serve mainly as opportunities to rationalize and update Law's factual presuppositions and regulative techniques. However, all this begs the fundamental question of how to tell whether a particular scientific perspective has succeeded in understanding the legal practice under

criticism or has only turned the law into a pale (and inferior) imitation of itself (Samek, 1974)[5]. The 'legal point of view' disappears because it is too easy to show that the ascribed goal or function which law is failing to serve would be better accomplished by the introduction of more scientific methods. To return to the controversy stirred by Posner's earlier work, it may perhaps be a more defensible position to argue that economics has something to contribute as a check on economic assumptions or predictions made by law instead of assuming that law is itself a form of economic reasoning (Veljanovski, 1985). But it is still a problem for economics to establish how far law is bound to adhere to economic methods. For it is hard for any scientific discipline to set limits to its own applicability. If we accept the appropriateness of psychological criticisms of the reliability of witness identifications in the criminal process, for example, why should we not accept other psychological studies whose arguments could bring us as far as replacing the accusatorial trial with a psychological tribunal? Yet this we are reluctant to do, even as we recognize the relevance of particular psychological criticisms.

There are also other hidden problems involved in the importation of scientific approaches into law. Given the rivalry between scientific disciplines, and the conflicts between perspectives within them, we would often face the difficulty of knowing which to adopt. These disagreements, on their face, often seem as serious as those between law and science and raise similar issue of commensurability. But law is potentially interested in the approaches of all these competing disciplines, even if it is incapable of choosing between them. In practice, of course, law tends to incorporate ideas and methods from disciplines with which it has shared values and methods, such as economics or ordinary-language philosophy, whilst dividing jurisdiction with less assimilable knowledges such as medicine or social work. But this does not reflect a theoretically coherent strategy for leaning about the world and it may reinforce law's 'blind spots' rather than compensate for them. For example, the 'methodological individualism' which is common to the 'juridicial subject' of law, ordinary-language philsophy, and neo-classical economics excludes alternative accounts of the structural sources of social behaviour found in other disciplines.

Law's truth

These problems strengthen the case for welcoming a point of view in which the sense and validity of legal rules and procedures is made independent of external scientific criteria. In this optic law's concern is with the "institutional facts" (McCormick 1974) of the creation, maintenance and termination of normative rules rather than the 'brute facts' of the social and physical world. The connection between 'facts' and consequences is seen to pass through legal implications rather than 'cause and effect' and law may stipulate presumptions which are not recognized by science (Scoditti 1988). Above all, legal materials are to be interpreted in prescribed ways which bear on the normative features of the facts, practices and conceptions

in question, rather than their physical characteristics or their relevance in terms of social engineering.

What more can be said about law's point of view? For obvious reasons it is hard for any scientific discipline to formulate this even though the social sciences for their part would claim to have much to say about the nature and achievement of law's normative functions as well as its instrumental ones. The nearest example of a self-limiting ordinance (which just stops short of incoherence) is perhaps to be found in the conclusion reached by Arthur Leff, one of the most original, if idiosyncratic, of American 'Law and Society' scholars. In a paper devoted to the relationship between law and external disciplines Leff wrote, "Ultimately law is not something that we know but something that we do" (Leff 1974 p.1011). In more positive terms, however, social scientists have also tried to describe the contours and constraints of law's point of view as compared to that of science. Law is seen as an institution which serves distinctive social functions as compared to science, and therefore develops in different ways. Law's ostensible functions of dispute-processing and legitimation of power-holders, for example, requires it to offer certainty and reinforce common-sense expectations whereas scientific progress depends on controversy and the undermining of common-sense. (Nelken 1987). The rationale of legal rules and principles under attack will therefore, in the first instance, be sought in considerations of authority, integrity, fairness, justice, acceptability, practicality and so forth which may have little or no application to science. Legal solutions will be deliberately geared to a particular time and place and to a specific community and its traditions.[6] Likewise law's methods of fact-gathering and fact-construction will be closely connected to the adjudicative process and to the problems of generating and maintaining the acceptance of those subject to legal rules.

On this view some disagreements between law and science are to be attributed to straightforward confusion between 'institutional facts' and 'brute facts' or the difference between events in the world and their legal recognition and redefinition. Others will be interpreted in terms of such considerations as finality of decisions, the problems and requirements of doing justice on a case by case basis, or the moral and political aspects of normative regulation. Law, unlike science, has to use arbitrary cut-off points to define birth and death, the age of sexual maturity or criminal responsibility. Often it chooses not to look behind its presumptions. It will ignore the grey areas between its classifications, or its all-or-nothing adjudicative decisions, insofar as these are irrelevant to, or inconsistent with its tasks.[7] At times functional considerations may even conflict with its usual normative principles, as in the way English criminal law deems those under the influence of drink or drugs to be nevertheless capable of 'mens rea'. But this will not always be readily admitted precisely because it represents a potential contradiction within the 'institutional fact' system itself.

The upshot of this functional account of law's specificity is that we should not expect law to parallel the internal workings or developments of science or be subject to the same tests of validity. When law calls upon science it does so in order to extend or defend its achievement of certainty, legitimacy and so on. Science can usefully serve as a source of expertise or experience which can attest to the reliability of certain classes of fact. When it suits law's purposes, science is treated as a yardstick of positivist certainties about the world. As Brian Wynne writes:

"Whatever it is that sustains the fact-value distinction at the heart of the legal metaphysics it is not a well-developed explicit theory of science as a special esoteric form of rational knowledge". (Wynne, 1989, p.31).

At other times, however, law or lawyers will have an interest in demonstrating the social contingencies of scientific claims to knowledge, such as the extent to which science treats value choices as technical problems.[8] Acting as a sort of sociology of science, it may attack the social consensus which is required to sustain the status of particular sciences or scientists (Smith 1989, Wynne 1989). In either case, law's conception of science tells us more about law than it does about science.

But does this approach to law's point of view count as a method for grasping law's truth or only qualify as another attempt at a scientific description of 'the truth about law'? We can certainly find a similar functional understanding of law in works of legal theory.[9] But this only raises the further question of how far these works should be included in the 'law-object' of our theorizing (and how far law should be considered a single or unified discourse). A functionalist approach to legal discourse would suggest that legal statements gain their validity, at least in part, from the status and authority of those who pronounce them rather than, as in the scientific ideal, deriving their authority from their presumed closeness to the truth. But, paradoxically, this means that authoritative legal claims about law's functions can successfully compete with those asserted by unauthorized external sources. For example, if legal actors begin to describe their role as one of truth-seeking (and if they act on this description) the phenomenon itself changes. Thus, in a recent English civil case, a judge refused a lawyer's attempt to withhold documents from the court, and denyed that the civil procedure should be seen as a regulated game of conflict in which the judge served as an umpire: He insisted instead that the court was committed to learning all the truth so as to do justice (Jolowicz 1988).[10] Whilst even the most authoritative legal statements can, of course, be shown to be legally mistaken, the issue here is whether a social scientific account of law's functions could be used to try to persuade the court that it really was involved in a game rather than the search for truth (in which case we might eventually see opposing lawyers employing their best accusatorial techniques in arguing whether legal procedures should be understood on the analogy of a game or of science!)

One of the most difficult tasks in grasping the legal point of view is to establish the character and degree of law's interest in what scientists mean by 'truth'. The self-understanding and development of a tradition, for example is by no means to be equated with the search for 'historical truth'. According to most leading writers on the philosophy of law it is actually mistaken to look for the 'original intent' of these who frame legal directives, which instead must be interpreted as living materials to be reconceptualized under changing conditions. But the problem is most acute in seeking to make sense of legal procedures. Thus Damaska (1986) argues that Anglo-American rules of criminal procedure give a lower priority to the attainment of truth than Continental Inquisitorial systems of fact-finding.[11] But it is unclear how far this should be seen as truth being deliberately compromised in favour of other values such as fairness or legitimacy or whether we should rather say that what truth means for law is the result of the application of its own processes. In other words, is law's yardstick of correctness and correctness and justice the result of a more or of a less demanding conception of truth than that used by science? To the extent that scientific conceptions of value-free facts and the methods of obtaining them are historically and culturally specific we should not be surprised to find law adopting distinctive forms of truth-finding in other times and places (Geertz, 1983). Establishing the truth of events may, for example, depend on finding people with the appropriate reputation and authority to bear witness concerning the character of the offender rather than on discovering witnesses to the event.

On the other hand, it would be wrong to contrast law's interest and standards of truth too greatly with those we now associate with science.[12] The weaknesses of such an approach to 'law's truth' are precisely the strong points of the previous perspective of the 'truth about law' discussed earlier. Thus Sorokin saw law as a form of proto-sociology, because its classifications of property and contract relations helped provide the impetus for Durkheim's two types of social solidarity. Likewise, the functionalist account of the way law's practical purposes condition its interest in truth should not blind us to the extent to which current legal argumentation does strive for adequacy also in terms of scientific criteria of truth. The distinctions supposedly constituting the legal point of view such as that between the 'cognitive' and the 'normative' (cf. Luhmann, 1988) or 'principle' and 'policy' (cf. Dworkin, 1986) are at most matters of emphasis rather than absolute contrasts. Ronald Dworkin, in his philosophy of law, or Niklas Luhmann, in his sociology of law, both warn of the dangers which flow from judges basing their decisions on policy-calculations and the risks of linking law's validity to the instrumental success of its decisions. But, insofar as these dangers are real, they testify to the incompleteness of their own accounts of legal phenomena.

The process which German scholars describe as 'the materialization of law' certainly means that if we restrict our attention to law's normative and symbolic aspects we would belittle the various ways it also takes an interest in predicting and manipulating social reality. The justification of legal judgements can better be read, as Robert Summers argues, as a mixture of 'rightness' reasons and 'goal-oriented' reasons. (Summers 1978) Max Weber's ideal-types of formal and substantive rationality were designed to allow us to examine just how far law

becomes implicated in schemes of social engineering or wealth redistribution, and the degree to which its reasoning processes reached out beyond itself. Legal discourse must therefore be seen as part and parcel of wider cultural movements and changing intellectual fashions. At least some of the conceptions and practices which may be criticized from the point of view of other disciplines will have found their way into law as a result of previously accepted but superseeded versions of those same sciences. And, in current practice, other disciplinary perspectives are introduced into law via law reform, expert evidence or 'judicial notice'. It is these points which provide the justification for those perspectives which seek to show the 'truth about law'. Moreover, the application of these perspectives is self-fulfilling insofar as they become part of legal argument. Yet, by the same token, if we move too far in this direction we risk obscuring or destroying what is special about 'law's truth'.

III The truth about law's truth

The approaches examined so far argue that law may sometimes be misinterpreted by science, and that science, in its turn, can be misinterpreted by law. Taken together they suggest that disagreements between law and science are largely a result of these mutual misunderstandings. If the legal and the scientific points of view were to be properly applied to their appropriate subject-matters then the reasons for dispute should be removed. This assumes that we are able to tell what belongs to the respective domain of law and of science. But it is confidence in this regard which is being undermined by attacks on positivist positions in law and science. This puts on the agenda the search for a 'third position' which could indicate when law's assumptions and methods should be defended even when apparently in genuine conflict with science. And behind this search there there often seems to lie the hope that law may be used in some way as a means to control the growing power of expertise.

The difficulties of finding a third position may be considered under three headings. These concern the possibility and desirability of producing a new division of labour between law and science, the question whether legal and scientific arguments are commensurable or should be made to be, and 'above all' the problem whether there is a meta-theory from which it could be possible to understand or adjudicate between law and science. In crude terms the issues are as follows. Is it still possible to draw a line between law and science? Where should the line be drawn? Who should draw it? As will readily be appreciated an answer to any one of these questions implies a position on the others. For example if, like Luhmann (1982), we consider it important to avoid 'functional de-differentiation' at all costs, we will try to reconstruct a new division of labour for post-modernity. We will then be obliged to justify the position which lies behind our choice. Conversly, if we are convinced that legal and scientific arguments are commensurable we will need to demonstrate why this is the case.

The new division of labour

Under the impact of post-positivist arguments it seems as if scientists can no longer go into battle with law as in the past carrying the banner of truth (Smith 1981). Some legal commentators have taken this as a warrant to remove any special obligation on law to accept scientific criticisms of the legal process. Peter Tillers, for example, spends some ninety closely argued pages considering the applicability of standard statistical techniques to legal methods of fact finding only to reach the following conclusion:

"Although we have good reason to worry about the accuracy of fact-finding procedures we should also recognize the great difficulty we have in deciding that one or other vision of the world is superior to opposing visions ... (therefore) we should look for types of justification and judicial processes which best reflect faithfully the vision of man and nature to which our society is committed". (Tillers, 1983 p.1094).

Similarly, Fineman and Opie in criticizing the use of psychological findings on child rearing argued that "no one can legitimately claim to deserve more credibility because his or her arguments are based on abstract truth" (Fineman and Opie 1987 p.156). Although we must be careful in interpreting these writers their argument appears to be that the rights and wrongs of particular procedures cannot be distinguished from assertions about their accuracy. What is less clear is whether their arguments are designed either to bolster law's mastery of its own normative domain or else to mark the collapse of clear jurisdictional boundaries inasmuch as law and science may now disagree on both cognitive and normative dimensions.[13] On balance, writers who are interested in finding a new division of labour can still find support in philosophical, sociological or semiotic theories of the distinctiveness of law. These may rely on or reformulate established distinctions between law making and law application, rule-interpretation and fact-finding the roles of lawyers and parties, of judges, experts and juries, or the procedures considered appropriate at different stages of the criminal or civil process. Paradoxically, law and science may help maintain a continuing division of labour insofar as it may suit each of them to treat the other as if they were still to be understood in positivist terms, whatever the extent of their changing post-positivist understanding of their own position. In this way the 'other' becomes the necessary but potentially dangerous "supplement" (Derrida 1977, Fitzpatrick, 1983) which helps maintain their distinctive identity. For the foreseeable future therefore we may expect law and science to continue to be distingished on the basis of some residual contrast between the cognitive and the normative realms, with this distinction being denied only under special conditions.

The problem of commensurability

As long as law and science do present themselves as different the problem of commensurability arises. This issue has a number of aspects. How far can claims in one discourse be translated without loss of meaning into another discourse? What is the difference between incommensurability and incompatibility? What similarities and dissimilarities are there between clashes within science and within law? At the practical level, how far should we try to make statements and discourses more compatible and how much should we cherish their plurality? (Twining 1983).

In the positivist scheme of things the impossibility of embracing legal and scientific claims in the same theoretical language represented both the problem and suggested its own solution, in the form of the conventional division of labour between facts and values.[14] But post-positivist arguments tend to see more similarity between law and science, to the extent that the positivist programme for the sciences comes to seem (paradoxically) little more than a normative set of prescriptions for science to follow. For Foucault for example, social science in particular has an interest in regulating the world not merely in understanding it. Indeed the disciplinary regimes it operates and inquisitorial procedures it follows are inseparable from the knowledge it produces. So there is less contrast between the projects of discovering "the truth about law" and interpreting "laws truth" than either is willing to acknowledge. Each achieves its "truth effects" within guiding paradigms, each depends on community support and imposes arbitrary 'closure' at a certain stage of discussion so as to move on to the next problem.

Recent efforts to tackle the question of commensurability tend to focus on the different types of claim that are made within and across discourses exposing the criteria for success which are linked to the audiences for which the communications are intended. We learn from speech-act theory, for example, that statements may be classified as assertive, evaluative, prescriptive, performative, etc. The problem of commensurability then becomes that of the relation between these types of statements. Many authors are willing to

characterise science as containing a preponderance of assertive statements whilst law specializes in evaluative and performative ones (Samek 1974, , Jackson 1988,Alexy 1989). But some social scientists would deny even this. In a recent review of the implications of post-positivist arguments for the social sciences, Theoder Gergen, a social psychologist, concluded: "Social science statements at least should also be seen as performative rather than descriptive, serving to express alternative visions desinged to bring about change" (Gergen, 1986, p.152). On this view the commensurability of law and science as performative visions of the world might open up new possibilities for competition inasmuch as each discourse held out different political and moral assessments of a plausible and worthwhile future. It could be said that the American Critical Legal Studies Movement is engaged in just such an exercise (Stanford Law Review 1984).

For most legal theorists however the problem of commensurability lies altogether elsewhere. The crucial contrast for them is that between the 'internal' and the 'external' point of view. Indeed this has often been taken to be the key to resolving all of the issues surrounding the actual and ideal relationship between law and other disciplines.[15] On the one hand, commentators worried about the narrowness of law's internal point of view have argued for a 'broadening of perspectives from within' in which law would become more aware of the other points of view bearing on its practices. Others, from Kelsen to Dworkin, have sought to protect what they see as the integrity of law's internal point of view.

It is worth spending some time on Dworkin's discussion of this question which he obviously considers central to his project. Focussing on the judicial role Dworkin attempts to use the distinction to explain the incommensurability of law and external disciplines. An external point of view , he argues, can explain "Why certain patterns of legal argument develop in some periods or circumstances rather than others, for example". But what they cannot do is help judicial decision-making as such. This is because judges, ".... do not want predictions of what claims they will make, but arguments about which of these claims is sound and why; they want theories not about how history and economics have shaped their consciousness but about the place of these disciplines in argument about what the law requires them to do or have". (Dworkin, 1986, p.13, my emphasis).[16]

There are a number of over-simplifications in Dworkin's account of the role of external disciplines in this passage. His assumptions that they are predictive rather than hermeneutic, or concerned with explanation rather than evaluation, seem designed only to sharpen the contrast with law 'as an interpretative discipline'. Whilst it may be convenient to define the social sciences in such positivist language even whilst attacking positivist conceptions of law, this takes no account of the arguments within social science between advocates of external explanation and internal understanding. Dworkin's approach to the 'internal point' of view is shared to some extent even by writers otherwise critical of the distinction, such as André Arnaud, who admits, in his vivid phraseology, that it is 'impossible to be in the scene and on the balcony' at the same time. On the other hand, other legal theorists, such as Sheldon Leader in his paper on 'The Limits of the Internal Point of View' (Leader, 1985), argue that this too is a non-issue. The judge, for Leader, "is not suspended between external and internal perspectives trying to decide how he should move and looking at predictions of how he should move" (Leader, id., p.177). Rather he has a reason to turn to such external perspectives where necessary so as to provide himself with the opportunity to reflect on what he is doing and learn to recognize the types of interest or argument he typically finds most persuasive. He can then reconsider whether he is right to grant them such importance. Even Dworkin appears to concede this point when he admits that external disciplines can provide judges with theories about how their consciousness has been shaped. What they cannot do, he insists, is help determine which legal arguments are sound. For that we need "a theory of the place of these disciplines in legal argument". But the point here is that Dworkin himself never provides us with such a theory. This could be because his approach is so close to the legal point of view that he only succeeds in echoing its reluctance to see the force of insights coming from other

disciplines except when they are couched as legal arguments, by which time they have lost their distinctiveness.[17]

What this suggests is that instead of seeing the internal - external distinction as the clue to the problem of commensurability we should rather see it as a contrast internal to the legal point of view itself. Social scientists have less trouble in accommodating the tasks of explanation and comprehension, for example by adopting the 'moderate external point of view designed to take account of the internal point of view of those following a given social practice (Ost and Van de Kerchove, 1987). The reason that some legal theorists reject this Weberian compromise is because such an approach would not serve law's purposes. The internal - external contrast for law is not a matter of harmonizing different perspectives but of expressing the existential situation and phenomenological attitude of actors within the legal system. It may be argued that law's hesitation about recommending the perspective of the 'virtual participant' has little to do with its incapacity to illuminate its practices and everything to do with the need to ensure that legal actors follow consensually agreed internal methods of interpretation so as to avoid unorthodox and unpredictable innovations in tradition. There is also another way of putting this point. From law's point of view it is science which represents the potentially threatening 'external' perspective. But for science itself the same could be said of law. In practice the internal-external distinction is less likely to be the framework science uses to understand its own boundary disputes since it is relatively less concerned than law with censoring innovation. But, strictly speaking, the relationship between law and other disciplines would have to be modelled as that between two internal points of view. If this is correct the problem that really confronts us is how to find a metatheoretical point of observation from which the relationship between these two internal points of view can be constructed.

IV The Search for a Meta-Theory

This brings us to the crux questions raised by this enquiry. Can there be a third point of view on disputes between law and science? What form would it take? Is it more a matter of searching for a new or synthetic perspective or is it rather a question of prescribing guidelines for good decision-making practice when such clashes arise? We have seen so far that not all questions about law are legal questions but that both law and science may compete in saying what is a legal question. [18] Can there be anything more to say on this matter which is not already couched either in terms of trying to reach a greater understanding of the nature of these disputes or developing a better method of deciding what to do about them? Is there any way in which such discussions (including this one) can actually stand outside the debate they attempt to transcend and avoid competing with the approaches they seek to understand or evaluate? The attempt to answer these questions involves the difficult search for a meta-theory of law, science and their relationship. [19]

There are certainly many excellent studies which offer an account of the rise and fall of particular types of knowledge and power and the conflicts between them (See e.g. works by Foucault (1977), Atiyah(1979), Smith (1981), Garland (1985). These can tell us a great deal about the reasons for the changing fortunes of different discourses but they are usually the first to admit the difficulty of deriving object lessons from these clashes (See e.g. Smith 1981). On the other hand more normative approaches tend to marginalize the question of truth, to the extent that some writers see legal decision-making as distinctively engaged in handling 'practical' choices to which no theoretical 'right answers' can be discovered, as compared to what can be achieved in the realm of 'speculative disagreements'. (McCormick 1978).

Both these approaches therefore avoid attempting to provide a meta-theory. But there are some writers who do try to tackle this problem directly. Three responses can be distinguished. The first, which I shall call the reconstructive approach, looks for meta-theoretical answers in realms beyond the institutionalized discourses of law and science. Its problem is how to maintain this view-point in the face of post-positivist challenges to transcendent truth-claims. The second approach, following post-modern movements such as 'the turn to deconstruction' rejects the possibility of discovering 'foundationalist' certainties.[20] But it has to confront the obvious dangers of self-contradiction in proving its case. The third approach, which I shall call the 'dialogic' response is the one with which I shall be particularly concerned. It reacts to the weaknesses of the other two approaches by determining to find the answer from science and law rather than elsewhere. It then has to grapple with the difficulties that are entailed in asking discourses to transcend themselves.

All three of these strategies draw on various strands of post-positivist arguments. They accept many of the critiques of 'correspondence' theories of truth but they differ in the implications they derive from consensus theory or coherence theory. Although some writers have tried to combine different elements of these strategies (See e.g. Hutchinson 1988) it will be more useful here to outline them in their ideal-typical forms so as to get a clearer picture of their strengths and weaknesses.

The reconstructive response makes of the search for a valid meta-theory almost an end in itself, a search which maintains its momentum by showing the impossibility of abandoning it. Thus we meet arguments about the need to be 'sceptical about scepticism', the impossibility of engaging in rational discussion without endorsing the value of truth, and the requirement of applying to our own arguments the criteria we apply to others. (Finnis, 1978; Brownsword and Beleveyld, 1986; Alexy, 1989). The goals of this search may be various. For some writers the aim is to interpret or recapture a transcendent source of truth and value (Finnis, 1978; Habermas, 1979). At the other extreme some thinkers recommend looking for a consensus at a more concrete and practical level (Waldron, 1987).[21]

The broader 'master' discourses to which law and science are usually referred by those following this approach include religion, morality, politics, philosophy, 'practical reason' and common sense. Such discourses often lie at the root of the "will to truth" within law and science, as Neitzche and Foucault have argued. It is therefore not surprising that they are again invoked when law and science find themselves facing ultimate questions or at least the difficulty of resolving questions ultimately. The form that any such meta-theory takes will then depend on the type of argumentation and practice characteristic of the master discourse chosen, whether it be, for example the analytical techniques of philosophy, the revealed or rational truths and value - judgements of religion or morality, or the pragmatic case by case appraisals of 'practical reason'.

The second, deconstructive strategy, on the other hand, focusses on the limits and interdiscursivities of all arguments and 'texts'. Certainty is corroded by the endless play of 'signifier' and 'signified' and truth itself becomes an "army of metaphors" at the command of "the will to power". This approach maintains its momentum in various ways. It undermines pretensions to 'totalizing' visions (Lyotard 1984); opens up attempts by legal and other texts to achieve 'closure' (Derrida,1977; Stanford Law Review 1984); anticipates criticisms by self criticism (Kramer forthcoming) and ironicises all claims to truth including its own (Kennedy 1985).

Some writers who follow this strategy justify their position by rejecting 'scientific' method in the name of hermeneutics. Law, history and even science are all seen to presuppose the internal grasping and application of a tradition. But the results obtained in this way are necessarily contingent to a given period and place. Gadamer, for example, rejects the possibility of a Habermasian "ideal-speech situation" because our conceptions of what would bring us closer to it are always necessarily formulated according to prevailing cultural assumptions within a given community. Rorty, in a series of attacks on what he terms 'foundationalism', counterposes the hermeneutic and epistemological projects, arging that the search for epistemological certainty must and should give way to a concern to appreciate the diversity of discourses (Rorty 1979). Rather than attempting to offer a superior, contextualised explanation of discourses (what I have categorized here as 'the truth about law' and which is explicity described in Britain as putting the 'law in context') the crucial task is to find ways of keeping the conversation between discourses going.

Those who argue for a deconstructive strategy tend to say that they are trying to get away from talking about truth, rather than showing its impossibility.[22] The nearest they come to asserting a strong thesis concerning the pointlessness of looking for a meta-theory comes in arguments derived from Kuhn and Wittgenstein on the limits to our ability to predict how discourses change. As Rorty puts it;

"The product of abnormal discourse can be anything from nonsense to intellectual revolution and there is no discipline which describes it" (Rorty 1979 p.320) Wittgenstein's notion of 'language games' and the 'forms of life' in which they are embodied has been particularly influential. As one of his leading commentators explains:

"The most common form of philosophical nonsense arises when [a word] is used in a language-game other than the one appropriate to it" (Kenny 1973, p.164-5).

Kenny goes straight on to show why Wittgenstein's ideas cannot be exploited in order to draw borderlines between different discourses in terms of 'appropriateness'.

"So it is clearly important to be able to know where one language game ends and another begins. How does one do this? Wittgenstein gives us little help here". (Kenny id. p.165) Whilst it would be helpful to be able to distinguish cases of illegitimate crossing between language games from cases of genuine overlap any effort to do so in a general manner becomes just another language-game. And this applies also to the use of the expression 'language-game' itself.

A somewhat neglected application of Wittgenstein's ideas by Robert Samek, designed to elucidate what he calls the 'legal point of view', provides a good illustration of their implications for meta-theory.(Samek 1974). According to him, points of view can only be correct or incorrect by virtue of their own criteria. Our meta-views on these points of view therefore are neither true nor false but are only evaluations of a given point of view from a particular standpoint. Samek claims that the functions of different discourses may cross-cut the point of view to which they belong and that it is our understanding of a point of view rather than the point of view itself which maps our field of interest. The upshot of this is the stringent limits on examining one language game from the vantage point of another. For example: "the distinction between the evaluative and the assertive function of discourse is fruitful when it is used as part of an outward-looking model; when it is turned inwards and used reflexively it loses its thrust and becomes paradoxical" (Samek ibid.p.324).

Both the reconstructive route map for finding a meta-theory and the deconstructivist warnings against even setting out on the journey have their special drawbacks. The difficulty the constructivists face is how to avoid their resort to master disciplines from needing to be again reformulated in the discourses of either law or science. If answers are sought in the discourses of morality or practical reason, for example, it soon transpires that asking these approaches to provide solutions on a case by case basis reproduces something very like the procedures and

principles of law and therefore cannot provide any purchase for disposing of scientific challenges. Should we, on the other hand, decide that the answer to a clash is ultimately political, for example, we will be hard put to explain what we mean without embarking on a scientific enquiry into the meanings and effects of different ways of defining the political. Are we talking of the political sphere or of political science? Is politics to be distinguished from law and science in terms of its institutions, its functions or its characteristic discourse? Is the key point that choices between law and science are inherently matters of policy rather than principle? Or is it the need to involve ordinary people, either through representative institutions or in participatory institutions such as the jury? Even this does not exhaust the possible meaning of describing these choices as political. For some writers, for example, this could be merely a coded way of saying that what we have here are the sort of problems which lies beyond the reach of theoretical argument and are necessarily a matter of subjective evaluation or brute struggles for power.

In the unlikely event that master-discourses could provide their own unequivocal self-descriptions and that these could be brought to bear on clashes between law and science a number of further questions arise. At what point is it appropriate to resort to other discourses and which discourse should be used to decide this? A large part of legal discourse (and not merely that entitled constitutional law), for example, is concerned with the question of the relationship between law and politics. Following this path would subordinate master-discourses to the decision rules of law. But there is no reason to assume that the political sphere or political discourse would define its relevance to law in the same way as law itself. Science and law may agree or disagree about the right point at which to turn to master discourses, or may have them imposed by fiat. In turn master discourses may speak without being asked or heard.

These unresolved problems of the reconstructive approach mark even the most subtle efforts to draw on broader discourses to clarify "the truth about law's truth". This can be seen in the classic study 'Causation in the Law', in which Hart and Honoré examined the relationship between legal and scientific conceptions of causation. (Hart and Honoré), 1959/1985). They argued that law's understanding of the term was and should be derived from ordinary, common-sense language. Illustrating their approach by a study of judicial case-law on the meaning of causation in the areas of tort and criminal law they insisted that this was not to be explained by reference to scientific criteria or the attempt to arrive at policy-based appropriate allocations of responsibility. Laws' view of causation, for instance its distinction between cause and 'mere condition' as depending on the intervention of a responsible human agent, was intended to reproduce the sense of the term in ordinary speech. Thus the yardstick by which law's solutions fell to be assessed in cases of scientific challenge was its fidelity to the morally laden common-sense use of language in the attribution of responsibility. Although the authors included an analysis of the approach to causation in continental jurisprudence, which they felt was not inconsistent with their argument, it is clear that their remarks have most plausibility when applied to Anglo-American judgements which do tend to place store on alleged links to common-sense.[23] But there are important criticisms to be made even in the latter context. Many would argue, for instance, that their theory is descriptively inaccurate. Judges do not conduct a careful analysis of the way words are used, and, more importantly, the authors own claims regarding normal usage can often be faulted (Martin 1987) Common-sense in the courts and in ordinary language philosophy is easily mistaken for much more local usage amongst professors. In addition, whatever law and common sense have in common may owe as much to the influence of legal ideas of responsibility in shaping common sense as vice-versa. (Lloyd-Bostock 1978; 1979)

The critical issue for our purposes, however, concerns the reasons why Hart and Honoré think law must and should follow common sense. Although this meta-level question was somewhat neglected in their original work, in response to criticisms of their first edition the preface to the second edition attempted to deal with this point. It offered a political argument asserting the advantages to be gained if law reinforced everyday beliefs in personal responsibility, whatever their current scientific status, because this would help encourage responsible behaviour. But this is a claim which would need to be tested scientifically. Nor does it exclude the possibility that for other purposes closer adherence to scientific conceptions would be more appropriate. As Martin puts it:

"There would be no reason, a priori, that a legal expert ought not to use scientific notions of cause in certain contexts. It would depend on whether certain policy considerations were furthered by the use of such notions "(Martin 1987 p.113). Without necessarily endorsing the claim that, pace Hart and Honoré, policy must always provide the ultimate level or meta-theory by which law must be guided, Martin's criticisms do sow doubts over the success of their attempt to present law as a form of common sense beyond the reach of scientific or policy considerations.

A more recent study which tries to place law within the bounds of a larger discourse is that by Robert Alexy who offers a systematic case for law as a specialized part of 'practical reason' [Alexy 1989]. Drawing on the ideas of Perelman, Habermas and the Erlangen school, Alexy claims that law can be rational to the extent that it adopts the rules and canons of his ideal version of practical argumentation. Describing his work as a 'meta-discourse' on the criteria for rationality in legal argument, he carefully spells out the implications of his belief that both factual assertions and value-judgements must each be tested against the criterion of the relevant 'best informed opinion'.

But this approach does not really take us very far in resolving our problem of potential clashes between law and science. Alexy has some sympathy with J.L. Austin's definition of truth as "the right and proper thing to say in these circumstances, to this audience, for these purposes, with these intentions" (Alexy id. p.56-57). He concedes that law includes a variety of types of statement and that "at any time [law] can make a transition into theoretical (empirical) discourse". (Alexy id. p.233) Whilst accepting that normative statements cannot be tested by the methods of the empirical sciences he leaves it "for further investigation whether normative arguments are true in exactly the same way as empirical ones".(id.p.178). Alexy does not deny the importance of our problem given that "the relevance of introducing empirical knowledge of legal reasoning can hardly be overstated" (id p.233). But the task of specifying the rules for assessing such relevance in cases of uncertainty was too great:

"A thoroughgoing theory of empirical reasoning relevant to legal justification would have to deal with almost all the problems of gaining empirical knowledge. Added to this are the problems of incorporating empirical knowledge into legal reasoning". In the meantime "this problem is only to be resolved by way of interdisciplinary co-operation" (Alexy id,p.233) As we have seen, however, the question of the terms on which such co-operation should proceed is exactly the issue which needs to be solved.

If the constructivist is tempted to travel hopefully rather than arrive, the deconstructivist, for his part, finds it hard to insist that he is not going anywhere. Rorty insists that there can be no 'philosophical Archimedian point' but even he writes of the possibility that the conversation amongst discourses may lead them to somehow transcend their limitations. Attempts to be consistently ironic also have difficulty in keeping this up. As Frankenburg puts it in his summary of a recent piece in this vein by David Kennedy:

"However much Kennedy wishes to get away from truth-claims, he is still constantly and implicitly asserting the truthfulness of his narrative and the authenticity of the narrator" (Frankenburg 1989 p.396). Even with a reverse momentum,"the postmodern skeptic, guarded by irony and advancing with all nondeliberate speed, seems unable to outrun modernity". (Frankenburg id.p.397).

Both the reconstructive and deconstructive approaches will continue to find adherents (corresponding very roughly to those drawn to the modern and postmodern strands in contemporary culture). But their difficulties provide an incentive to those struggling with the prospect of a third approach. This third strategy, which I have termed 'dialogic', takes some points from each of the previous strategies, despite their apparent irreconcilability, and therefore ends up resembling neither. Like the reconstructive approach it continues the search for a positive way forward. But in common with the deconstructive approach it rejects the possibility of finding any master discourse capable of putting law and science in their proper places. Any progress that is to be made has to come from within law and science themselves. The dialogic strategy therefore seeks to juxtapose different perspectives as a spur to their self-transformation and its momentum is maintained by the dialectic of mutual interrogation. In ways which resemble calls to religious inter-faith dialogue it calls for reciprocal understanding amongst different perspectives on the presupposition that none can or should relinquish their special viewpoints. The test of success is the degree to which each approach can recognize itself in the image of it held by the other. As this outline makes clear, however, the problem which confronts this approach is built into its starting premise. If perspectives must remain true to themselves how can they also hope to understand the other?

The difficulties of the third approach are well set out by Alberto Febbrajo in the course of a review of the recent revival of the application of 'systems theories' to law, which have been very influential in stimulating discussion of these problems. Febbrajo poses the basic problem in a way which will by now be familiar. How, he asks, can we "establish the degree of cognition and reflection that law can from time to time allow itself, without betraying its identity and turning itself into a different instrument of social control" (Febbrajo 1988 p.7). Assuming that the answer must involve a search for a meta-system[24] he wonders:

"What meta-system could guarantee a mutual understanding (intersubjectivity) of the different criteria for attention, interpretation and manipulation applied by each system?"(id.p.13). For Febbrajo the way the forward in understanding the relationship between 'internal' and 'external' legal culture requires "a mutual translation of the symbolic universes of both cultures". But in the light of post-positivist claims concerning the mutual embeddedness of cognitive and normative arguments, any such undertaking faces "the impossibility of establishing where one communicative channel ends, where another begins, and which of the two is tributary"(id.p.13) Despite all these obstacles, however, Febbrajo remains committed to finding a way to ensure "the successful reproduction of the normative-cognitive flow of information between law and society"(id.) although he does not specify how this should be done. To see what others have said about the manner in which this could be achieved, and their criterion of success, I shall now consider in some detail recent attempts to pursue the third strategy and overcome its difficulties.

V The Loneliness of Law's Meta-theory

In order to make sense of the various efforts to find 'the truth about law's truth' which draw exclusively on science or law it may be helpful to place them along a continuum. At one end are those arguments which try to show why science can help us deal with this question without reproducing the difficulties of approaches merely committed to explaining 'the truth about law'. At the other extreme we can place claims that the correct interpretation of 'law's truth' will also tell us what to do when law and science conflict. Towards the middle of this continuum are those approaches which offer the fullest accounts of how to operate a dialogic strategy in which both law and science are given their say.

These approaches each cope with the meta-theoretical issue in characteristic ways. Whereas the more scientific standpoints try to show how the reflexivity of science can even allow it to understand its own limitations the more legalistic approaches show how law's self-understanding, suitably encouraged, can find some place for all the relevant implications of external approaches. The positions towards the centre try to harness both of these reflexive strategies. By paying close attention to the arguments offered in support of these different positions we will be able to learn how successfully they deal with the problem of clashes between law and science.

I shall begin with an example at the 'scientific' end of the spectrum. In his recent review of the field of sociology of law Roger Cotterrell admits at the outset that the new agenda which it must confront is the difficulty of comparing fields of intellectual endeavour because "each constructs its own fields of knowledge and experience" (Cotterrell 1986 p.11). He nevertheless finds an ingenious argument to show why sociology can still provide a privileged route to understanding law. This is that, uniquely, sociology is dedicated to a reflexive perspective on the development of disciplines - including itself. Law, by contrast, lacking this interest, is no more than a 'discipline-effect', whose changing knowledge-claims can therefore be best illuminated through the use of sociology (of science and knowledge). The post-positivist twist in his argument is that a 'scientific' perspective on law is here credited with a superior epistemology not because of its greater capacity for getting at 'the facts about the world' but precisely on the basis of its more sophisticated sense of the limits of disciplinary understanding. Cotterrell sees law's tendency to import the methods and findings of external disciplines as a sign of periodic crises which reveal its recognition of its disciplinary weakness and the need to resort to other perspectives in order to correct the mistaken assumptions and fictions which disfigure it.

But can this argument provide the meta-theory we are looking for? In the first place it should be noted that insofar as sociology is being put forward as the discipline capable of rising above "competing fields of knowledge and experience" this is because law's disciplinary status has already been downgraded so that it does not represent real competition. There is some support for Cotterrell's view of law in the work of writers such as Kuhn, Rorty and Foucault, all of whom are unsure whether legal science qualifies as a 'paradigm', 'normal science', or "episteme". But this does not meet the point that law sees itself as a self- sufficient interpretative framework, as Dworkin amongst others would argue. If it is said that Dworkin's views are too closely identified with those of law itself, it may fairly be said that Cotterrell for his part stands too close to sociology to be able to furnish 'the truth of law's truth'.

Another way of putting this point is to recognize that even when seeking to describe its own limitations a sociological perspective cannot really transcend its own style and method of argument. Thus we find that sociological approaches to clashes between disciplines typically offer either functionalist explanations of the appropriate role of different disciplines or a conflict-oriented account of the sources of their rivalry. But this means that other disciplinary perspectives will offer alternative meta-theories which compete with that put forward by sociology. A psychological meta-theory, for example, would concentrate on the psychological aspects of disagreement between discourses and an economic approach would point to the importance of costs and benefits of the choices between different disciplines. Both of these meta-theories could also then be applied to explain their own evolution. Moreover law too can put forward a reflexive understanding of its own genesis and applicability which can enter into conflict with any alternatives. It does not have to work in the same way as social science to represent an epistemological equal. Whilst Cotterrell therefore claims too much for sociology (or any scientific approach) he is surely right to highlight the particular appropriateness of the sociology of knowledge for discussing the contests between disciplines since it is hard not to draw on this approach even for criticising his arguments!

However, we may now move on to consider the less imperialistic social scientific approach to our problem which is found in the work of Francis Ost and Michael van de Kerchove. Building on a continuing theme of their work, one of their recent texts directly addresses the problem of developing a critical perspective on interdisciplinarity and law. What they offer may fairly be described as a mainstream moderate social science viewpoint on the question (Ost and van de Kerchove 1987). These authors admit that it is impossible to provide anything like an 'absolute' or 'unconditioned point of view' (ibi. p.1.). What really interests them is the extent to which it is possible or desirable to try to transcend particular disciplinary perspectives in search of a synthesis. They are well aware of the dangers ,which we have already noted, of one perspective replacing rather than understanding another.[25] This influences their central recommendations concerning the possible choices to be made between the options of what they call pluradisciplinarity, transdisciplinarity and interdisciplinarity. They reject the approach of pluradisciplinarity , by which different disciplines are joined together without any real attempt at synthesis, because this can only mean incoherence and 'scientific babel'. By

transdisciplinarity, on the other hand, they mean the ideal of harmonizing this babel by creating a new common language - a sort of scientific esperanto. But this approach is also rejected on the basis that it is utopian. Evidence for this is drawn from the deconstructive argument that any attempt to mediate between different disciplines invariably faces the difficulty of knowing how to tell whether or not a given language game has been successfully translated into another.

For Ost and van de Kerchove the only viable option is the one they call interdisciplinary. According to this, issues to be understood should be addressed through a series of different perspectives, whether sociological, psychological, psychiatric, economic, legal or whatever. There can be no hierarchical precedence amongst these various independent perspectives although, it is suggested, there may be some possibility of dialogue. Perhaps because of this hope, however, the approach of interdisciplinarity is seen as inherently unstable, leading either to attempts at transdisciplinarity or collapse into pluridisciplinarity. Ost and van de Kerchove, unlike Cotterrell, do treat law as a fully-fledged discipline, and would presumably reject his suggestions for prioritizing social science. But, like Cotterrell, they do use a social science perspective in responding to the clash between law and social science inasmuch as their solution to possible clashes between law and science relies on the usual strategy for interdisciplinary work within science. The same attitude can be seen in the way they treat the 'internal - external distinction' in legal philosophy as if it were isomorphic with the debate between interpretative and causal approaches to explanation in the social sciences. Like Cotterrel, however, they stress the value of interdisciplinarity more for the purposes of critical appreciation of the limits of perspectives rather than as a route to technically improved methods of solving social problems. Efforts to actually integrate law with other perspectives are, for them, an unfailing sign of technocratic policy concerns.

But all this begs the question whether disputes between law and social science are best handled as if they were comparable to clashes between different sciences. What Ost and van de Kerchove's preferred approach offers is a way of seeing a problem from many different sides, including the legal one. But, for other purposes, other approaches to these clashes may be more appropriate. Pluridisciplinarity, for example, may well be a wholly unsuitable theoretical solution for interdisciplinary work. Yet this approach well describes what is often found on the ground as a consequence of the various forms of institutionalized division of labour between law and science. In the realm of law and psychiatry for example, some states in the USA adopted "guilty but mentally ill" verdicts. This may well be 'scientific babel' but could make practical sense as an open acknowledgement of the virtues of pluridisciplinarity when these types of incommensurable languages have to be combined. Even within the scientific world, there may be something to be said for the juxtaposition of different disciplines as a heuristic device which can lead to unexpected progress. We might consider here Durkheim's use of biological terms and analogies in helping create sociology; Weber's attempt to combine historical and sociological methods; or the difficulty we have in deciding whether figures like Newton or Poincaré were primarily scientists or philosophers. Whilst we shall see later that there are other arguments which can be used against 'hybridization' of law with other disciplines this cannot be justified simply on the ground that such a strategy is bound to be scientifically unproductive.

There may also be more merit in the transdisciplinary approach than is allowed for by Ost and van de Kerchove. It may help us see how legal rules and procedures reflect attempts at synthesis, successful or otherwise, as in the way the structure of legal excuses such as provocation or duress has been said to reflect an underlying compromise between neo-classical, voluntarist, conceptions of responsibility on the one hand and more positivist, scientific, notions of determined behaviour on the other (Kelman 1981). Ost and van de Kerchove's arguments themselves offer some encouragement for transdisciplinary work. Otherwise why should they look forward to the development of a dialogue between different disciplines or the larger picture that can be obtained by a series of disciplinary snapshots? Surely this is because the self-understanding of different disciplines is bound to be changed by a greater consciousness of the disciplinary alternatives. Moreover the familiar reflexive problem recurs here. These authors' arguments against transdisciplinarity and for interdisciplinarity have to be understood as operating at a level higher than any particular discipline if they are to count as more than just another disciplinary perspective. Thus it seems as if Ost and van de Kerchove have taken from post-positivism the idea that truth is a matter of internal disciplinary coherence but then find it hard to stay consistent with that sort of perspectivism in making any general statements.

Moving further along the continuum takes us to an approach which still poses the problem in philosophical and scientific language but tries to find an answer which will accommodate the different demands of law and science. In a succession of papers Zenon Bankowski has been working out the degree of force to be attributed to social science critiques of law. (Bankowski 1981, 1989). He focuses in particular on attacks on legal methods of fact finding. At the outset Bankowski's comments on criticisms such as Frank's which alleged that trials failed to find 'the facts' was to reply that the law had its own 'truth-certifying procedures' which could not be challenged using criteria belonging to competing procedures. Psychological studies, for example, which purported to show the ineffectiveness of some cross-examination techniques for discovering the truth, begged the question whether they had, or could have, a proper understanding of law's criteria of truth (Bankowski 1981). At this stage, just as Cotterrell's argument can be seen as a sophisticated justification of attempts to find the 'truth about law', so Bankowski's position could be read as a defence of the inviolability of 'law's truth'. In later writings, however, he has retreated from any relativistic interpretation of the coherence theory of truth (Bankowski 1989). He now argues that it may sometimes be appropriate to take account of scientific criticisms of legal procedures, for example, of the reliability of witness identification evidence, even if at other times external critiques should be resisted.

But this of course brings us up against the meta-theoretical question of how to decide which criticisms should be accepted. Bankowski suggests, reasonably enough, that to answer this question we must "move to a higher level" from which it may be possible to assess the appropriateness of different truth-finding procedures. He talks in functionalist language of

the fit between different truth-certifying methods and the tasks they are asked to perform. Within the Anglo-American criminal justice process, for example, the police are encouraged to apprehend alleged offenders using their knowledge of their previous convictions, whereas this information is kept from the court until the sentencing stage. Bankowski adds that it is ultimately the prerogative of the law to determine which type of truth-finding procedure to use at any stage of its processes. Law may choose between a more or a less restrictive approach to constructing its facts and make what use it will of lay, 'common-sense' or scientific perspectives.

Bankowski's approach certainly demonstrates how legal procedures may make use of more than one criterion of truth. As his illustration shows these may then be harmonized or deliberately juxtaposed within legal procedure. But for this reason he does not offer us much help in showing how to handle genuine competition between legal and scientific perspectives. We cannot assume that police work in collecting evidence can be compared to the use of scientific methodology given the legal restraints which shape even this stage of the criminal process. And the very fact that law relates its different truth-finding methods to its institutional allocations of responsibility means that the possibility of irresolvable conflict of perspectives is avoided.

Bankowski's proposals cannot solve the problems that may be raised by external challenges when law has no settled procedures or accepted competence to use in deciding the issue. A graphic illustration of this in relation to the criminal process can be seen in the recurrent difficulties we have in deciding at which point enough evidence has accumulated to justify re-opening a case on the basis of an alleged 'miscarriage of justice'. As we know, law can deal with this, or any other question by reformulating it in terms of the kind of choice between rules or values which it typically handles. But if Bankowski is to help us appreciate when a criticism of law has sufficient cogency to be accepted he presumably wants to do more than tell us that law has to decide this for itself. Moreover, if his recommendation to think of this choice in functional terms is superficially plausible this is because both law and science sometimes use functionalist types of argumentation. But insofar as they have competing interests and priorities regarding the functions they pursue, the meaning they attach to the notion of function will be bound to differ so that the dilemma of choice returns. We therefore seem still to be left with the problem that law and science pose questions in different ways and that any possibility of commensuration is either illusory or else relies on some ambiguous measure of apparent overlap between their discourses.

Probably the most sustained engagement with the implications of this awkward conclusion is seen in the work of Gunther Teubner. For him "epistemic authority is claimed by scientific discourse and legal discourse, and rightly so" (Teubner 1989b p.38) So he sees the problem squarely as how to work out the relationship between two (or more) varieties of internal

self-understanding whilst resisting any apparent short cuts or easy answers even when these are proferred by the discourses themselves.

In his earlier work Teubner argued that law's constructions of the world were best seen as 'strategic' models of reality which could not be judged or impugned by drawing on social science perspectives (Teubner 1984, Blankenburg 1984, Teubner 1985). In a series of increasingly sophisticated papers Teubner has since bolstered and developed this idea by conceptualizing law as one amongst many "autopoietic structures" or "epistemic subjects" each of which operate self-referentially (Teubner 1988, 1989a, 1989b). In his most recent paper entitled 'How the law thinks', which is of particular relevance to this discussion, Teubner reviews those arguments of Habermas, Foucault and Luhmann which may be used to develop a "constructivist social epistemology".(Teubner 1989b) The aim is to 'de-centre' the acting subject so as to focus instead on the reproduction of discourses and structures through which this and other ideas and practices are constructed. Teubner draws on Luhmann to argue that the form of social differentiation in modern society and the functional specialization which accompanies it has led to the multiplication of independent centres of cognition each of which produce their own reality constructions. Whereas economics, for example 'sees' the world in terms of prices, politics does so in terms of power, whilst law addresses it in terms of the distinction between legality and illegality. Teubner also adopts a strong version of the post-positivist claim that the truth of disciplines depends on their internal coherence and that science does not have a privileged access to reality.

Applied to our problem Teubner argues that legal communications can never succeed in satisfying the truth requirements of other discourses and should not attempt to do so. The appearance of overlap between law and science is to be understood as an example of 'interference'. By this is meant synchronic communications produced by self-referential systems which nevertheless have their own distinct referents within their own discourses. The upshot of this is that law regularly finds itself in an 'epistemic trap' insofar as its assumptions and claims are "exposed to the test of social coherence" which in modern society is a role assigned to science, whilst it can only take account of such requirements in terms of its own discourse. It is under these conflicting pressures that law produces what Teubner calls its 'hybrid' notions such as 'interest' or 'efficiency' which though originally borrowed from external disciplines soon take on a legal life of their own. As he argues, however, "incorporation of social science knowledge does not solve conflicts between judicial and scientific realities but adds a new reality that is neither a purely judicial construction nor a purely scientific construction, but a hybrid creature produced in the legal process with borrowed authority from the social sciences but their truth validity will be decided in the processes of legal communication" (Teubner id. p.51). The notions developed in disciplines such as 'law and economics' are therefore stigmatized as having "unclear epistemic status and unknown social consequences", (Teubner id. p.45).

Teubner is at pains to deny that there can be any 'escape' from the 'epistemic trap'. He rejects, for example, the tempting solution charactertistic of positivist writers, and endorsed by Luhmann amongst post-positivists, by which law renounces cognitive authority in favour of science. This is because law must serve as the ultimate forum for decision-making when scientists are in disagreement. Teubner sees it as the special role of sociology of law to show that law's cognitive constructions must prove to be unsatisfactory from a scientific point of view. Teubner has only one positive recommendation to make. This is that instead of trying to produce cognitively satisfactory constructions of reality law should create for itself a strategic procedural role. The questions it should deal with should primarily be concerned with deciding the appropriate truth-certifying procedure or forum to which to delegate any particular issue in dispute. Law's responsibility has therefore to do with the correct allocation of the burdens of risky decisions to collective actors, regulatory agencies, firms, unions, parliament etc.

Teubner's argument is probably the most original effort to date to deal with the cognitive and normative complexities raised by disagreements between law and science. But it leaves a number of important questions unclear or unsolved. These concern his conceptualization of law's claims to truth, the foundation of his own 'third position', and the merits of his 'procedural' model for law.

There is a telling ambivalence in Teubner's claim concerning law's capacity to know the world. On the one hand, he wants to grant law's constructions of reality epistemic authority; on the other we are told that law is bound to lose out in competition with science because law's 'cognitive operations are secondary' (Teubner op. cit. p.41)[26]. This may perhaps be rationalized as an imaginative attempt to consider the problem of law's truth from both laws and science's point of view. But, at least in earlier attempts to formulate the argument, it does seem as if Teubner endorses scientific claims of superiority over law. Thus he writes at one point: "social science writers are not by reason of their closer access to social reality intrinsically superior to legal conceptualizations of law in society" (Teubner 1986). If science can take us closer to 'reality', whatever that means in this context, can law really be considered an epistemic competitor except in terms of its own normative domain? It seems as if Teubner is not so far from the views of Kelsen or Luhmann by which law's epistemic autonomy is necessarily tied to its distinctive, non-scientific, grasp of the world, as in Kelsen's contrast between the 'logic of imputation versus that of causality' or Luhmann's between the 'normative closedeness of law as compared to its cognitive openness'.

Teubner's claims often seem to amount to no more than a re-working of the familiar distinction between 'institutional' and 'brute' facts. He argues, for example, that "empirical facts about dysfunctions in organized life as a result of scientifically controlled enquiry are in no sense more 'true' than legal facts about the violation of corporate duties which are produced under the firm guidance of the rules of the law of evidence" (Teubner 1989b p.38). Many writers have questioned whether there are any 'brute' facts. But Teubner chooses rather to emphasize the appropriateness of describing all "institutional" facts as empirical since he adds "....and if

these empirical facts conflict with each other there is no superiority of the scientific constructs over the legal constructs" (Teubner ibid. p.38). Elsewhere too Teubner has made it explicit that for him the law deals in empirical and not only institutional facts and that he is making definite claims about law's cognitive understanding rather than merely its attribution of normative consequences. As he puts it, the point is that "Under the pressure of normative operations (law) constructs idiosyncratic images of reality and moves them away from the world constructions of everyday life and from those of scientific discourse" (Teubner ibid p.34). In sum, Teubner poses the problem as one of genuine competition between law and science even if law does not quite count as a science.

This ambivalence is directly linked to a second set of problems which concern the basis from which Teubner observes the contest between law and science. Teubner rejects the possibility of establishing any higher level 'third position' insofar as modern social differentation has destroyed the plausibility of any overall centre of cognition. Yet here too there is an equivocation in his perspective which varies between a consistent perspectivism and a foundational confidence in the autopoetic and functionalist theories which provide the source of his arguments. Whilst he undoubtedly writes from a systems approach which allows for the "observation of observations" he also insists that law, and any other discipline, can only understand and regulate the world by self-reflection. Thus he is more cautious than Luhmann in claiming a privileged position for sociological systems theory in explaining law (Luhmann 1985 Appendix). But there is no other obvious basis for his own argument about the relationship amongst disciplines. This, in turn, helps explain the nature of the 'solution' Teubner offers to the apparently irresolvable problem of rivalry between law and science. For Teubner there can be no cognitive resolution of the problem. He confines sociology of law to the negative task of deconstructing law's solutions because, unlike Cotterrell, he does not endow sociology with any special capacity to transcend its own vision. Instead Teubner changes tack and offers us a normative remedy for a cognitive dilemma.

But can Teubner's turn to procedure solve the difficulties of competing knowledge claims as he has posed them? The drawback of this solution from a cognitive point of view is that if law is indeed a distinctive discourse it will necessarily also have a distinctive understanding of disputes and other dispute - processing procedures. So even if its task is confined to that of procedural allocation and delegation of responsibilities amongst decision-makers this understanding may well diverge from that which other groups and forums have of themselves or that which other perspectives would reveal. Can law fulfil its alloted task without distorting the significance of the institutions what it is supposed to be servicing? If Teubner is willing to live with law's idiosyncrastic constructions in this regard we must ask why he is so uncomfortable with law's hybrid constructions of social reality, which, from law's point of view, are just as much under its control.

When examined as a normative prescription Teubner's recommendations raise even more difficulties. Procedural techniques have been proposed to increase the possibility of reaching scientific truth, as in the philosophy of science arguments of writers such as Popper. But Teubner's solution is firmly geared to the successful resolution of disputes rather than to serving as a methodological yardstick of truth. But, his shifting of the problem from the cognitive to the normative register inevitably means that his normative solution can be challenged cognitively all over again. Teubner's recommended procedural solution could be attacked, for example, for being less a compromise between competing discourses and more an endorsement of law's typical way of dealing with difficulties, as in the way it tries to avoid or narrow substantive issues down or concentrates on developing constitutional or other frameworks of responsibility. This implicit privileging of the legal point of view is therefore open to similar objections to those raised in connection with Bankowski's example of the competing truth-finding criteria within the criminal process. If these authors are not just trying to give law the better of the argument with science it remains unclear how their understanding of law can claim to improve on its self-understanding.

Although Teubner's proposals are not put forward as political recommendations there is little doubt that they do carry such implications. Although it would be wrong to apply to Teubner all the attacks levelled at Luhmann for his alleged "false normative modesty" (Frankenburg 1989), it is plain that a preference for procedure is not politically innocent. Teubner's argument here can be seen as a development of his previous discussion of the so-called 'regulatory trilemma' (Teubner 1984). This argued that since law's comprehension of any sphere to be regulated is necessarily filtered through its own categories it can only regulate other spheres by regulating itself. For this reason law should become 'reflexive' about its own procedures and those of the spheres it seeks to regulate rather than aim directly at necessarily unpredictable substantive changes. But this argument as well as Habermas and Luhmann's suprising agreement over the virtues of law as a framework rather than as an instrument of change, runs the risk of turning evidence of failures of legal regulation into proof of the impossibility of successful regulation. In the end the choice not to risk law in schemes of social engineering is a political choice, dependent on the risks and benefits of particular interventions rather than an inherent necessity imposed by the limits of law. In the same way it is a political choice whether to attack or defend law's attempts to cloak its substantive constructions of the world in hybrid conceptual language. As Teubner himself indicates, the development of such concepts, whatever their scientific status, provide legal discourse with flexibility, openness, and the means of learning through experimentation. The clash of disciplinary perspectives, as he argues, can serve as a 'variety pool' for legal innovation, much as the range of cases brought forward by litigants provides the possibility for judges to develop the law. So why does he try to proceduralize?

Following this line of criticism, there is also some inconsistency between Teubner's recommendations and his post-structuralist standpoint. According to him the choosing human agent is 'de-centred' and must be treated as one of the products of discourse itself. But it is hard then to see how Teubner's advice can find its way into the internal reproduction of law, which at present seems more than content to produce the conceptual hybrids to which he objects.[27]

More provocatively, if law's understanding of other discourses necessarily distorts their meaning how can he avoid his suggestions from suffering the same fate - even when he merely tries to tell law how to be true to itself. Thus, for all its bravura, Teubner's attempt to explain how the law thinks is either redundant or cannot avoid telling it how it ought to think.

At this stage of the argument we might be persuaded to go right to the normative end of the continuum so as to find a solution to clashes between law and science by restricting ourselves to an internal interpretation of how law normally deals with such questions. Law is often asked to resolve clashes between values such as justice and certainty or deal with conflicts of law situations which raise apparently similar issues to the one we have been considering so far. Dworkin, for example, sees law as its own meta-theory, reflexively providing its own source of authority and validity, seeking to answer the riddle of its own meaning and offer the best sense of the valued social practices to which it gives recognition (Dworkin 1986). And, for him law's best interpretation of itself necessarily includes science's best interpretation of itself.[28] In many respects law can also be said to be a richer form of life than science (Guarnieri 1988).[29] It draws on various disciplines as and when required and contrasts them with robust 'common sense'. It maintains a healthy sceptism about the possibility of deriving determinate solutions from scientific arguments and reinforces this sceptism in adversarial confrontations at court.(Smith 1989) Its mode of argument has been characterized as a paradigm of post-positivism (Villa 1984) and its internal development can be presented a a model of how a system can transform itself by always holding some elements immutable whilst changing others (Hofstadter 1985 p.84).

An interesting recent attempt to develop a legal meta-theory can be found in Bernard Jackson's Law, Fact and Narrative Coherence (Jackson 1988). The main purpose of this book is to further the application of Greimasian semiotics to the philosophy and sociology of law rather than tackle problems of legal truth versus scientific truth. But Jackson's interest in truth as a species of narrative coherence means that he too has to confront many of the issues raised by post-postivist arguments in law and science. He argues, for example that since 'truth' depends on coherence within semantic structures rather than on correspondence with external facts it is impossible to claim that law is mistaken if its claims about casual relationships or other scientific phenomena are otherwise coherent (p. 143). His original contribution, however, is to stress that law's truth depends on the plausibility of its story-telling structures not only in its fact-finding enquiries but even when it comes to substantive legal rules. 'Hard cases' in law are said to be those in which law has lost touch with the underlying stories which helped shape its earlier rule-making. Jackson urges the incorporation of a reflexive sensibility into legal argumentation which would oblige legal actors to justify all truth claims about their construction of legal rules and legal facts and the connection between them (p. 194-195). The demystification of the trial process this would permit might show that the norm has 'lost' its meaning over time, as the Erlangen School might put it (Alexy, 1989), or that a norm had not been created under conditions which would now be considered egalitarian or otherwise legitimate. We would not therefore have "to endorse the conservative context of existing narrative frameworks". (p. 194) . The demand for normative authenticity could lead in this way to original legal arguments and the formulation of what Critical Legal Scholars call 'deviant doctrine'. (Unger, 1983).

How far can Jackson help us with our problem of clashes between law and science? In his optic, law and science are not seen as monolithic rivals. Each

discourse has interdiscursive connections with other forms of social communication. Law has some special forms of syntactic, semantic and pragmatic distinctiveness as compared to ordinary language, for example in its strain towards mono-semioticity, and the special claims it makes about itself. No doubt much the same could also be said for science. For Jackson the question of clashes between law and science insofar as it is touched on, is primarily seen as the problem of being able to tell more than one story of the same event. He admits that "the implications of some of the opinions here expressed might lead to abandonment of the institution of adjudication altogether" and asks "why not enroll a panel of adjudicators from a variety of disciplines, which can look at a particular situation in all its wholeness?" (Jackson, 1988, p. 194). But he rejects this solution, which roughly corresponds to the one put forward by Ost and van de Kerchove, as unsatisfactory on the grounds that "we know too much about the stories of others and we habitually make comparisons" (Jackson id.). The public, we are told, especially in an era of mass communications, expects at least the appearance of consistent treatment before the law, expectations which would be bound to be disappointed in any attempt to follow this type of solution (c.f. p. 144). But this retreat to legal consistency for the maintenance of "social peace" leaves our problem unresolved. If his approach to law in terms of narrative coherence is to retain any critical edge over Dworkin's 'best interpretation' strategy, his enquiry into the validity of past and present legal narratives must employ a variety of disciplines, however unpredictable and inconsistent the consequences. Moreover, like Dworkin, he has failed to offer a theory of how law should integrate the contribution of other disciplines into its own operations. In the end, principles of integrity in truth-telling can tell us relatively little about the ideal mix of legal and scientific types of argumentation.

The results of this survey of attempts to derive law's meta-theory from either science or law are therefore somewhat meagre. This is so whether we try to get science to get a grip on itself (Cotterrell) or to make law understand itself better(Jackson). Intermediate attempts to combine, contrast or separate the two perspectives (those of Bankowski, Ost and van de Kerchove, or Teubner) seem to take us further with our problem but even they have not suggested a reliable method for reconciling questions concerning the accuracy of factual propositions, the correctness of evaluative statements and the authenticity of speakers. On the contrary it is these writers who have shown most clearly the difficulties which face attempts to construct a new division of labour which would parcel out such questions neatly between law and science.

VI Two current controversies between Law and Science

One reaction to the arguments advanced so far would be to say that too much is being made of a theoretical problem which is regularly solved at the practical level, either in the courts or, if necessary, by deliberate law reform.[30] In this final section, therefore, I shall offer brief consideration of two contemporary controversies which reflect light on the way clashes between law and science are dealt with and argued about pragmatically.

Although both illustrations are taken from the Criminal Law (where the clash between law and science often tends to be sharpest) there are also important differences between them which make any common features, they demonstrate more telling. Whereas the first example concerns the rules of the substantive law, the second revolves around matters of criminal procedure. Whilst in the first case, law is under attack from a relatively 'hard' science, in the second it is the 'softer' science of psychology which is involved. Most importantly although the first illustration is one where law is resistant to change, the second is one where change is well under way.

The discussion of these controversies could be read as a (partial) sociological account of the professional and political context of current competition between law and science. But the main point of these case-studies is to show how the approaches assumed or adopted by those party to them relates to the possible positions which have been outlined so far.

Provocation in Law and Science

My first example, which involves a clash between law and medical science, is taken from Clarkson and Keating's recent textbook on criminal law (Clarkson and Keating 1984). In a passage dealing with proposed reforms of the excuse of provocation they quote on article citing recent medical discoveries concerning the chemical basis of the so called 'fight or flight' response to a provoking incident.(ibid.p.553-554) These are said to demonstrate that the effects of provocation endure for a considerable period unless and until some reaction is made. This, it is alleged, casts doubt on the legal definition of provocation, which uses the notion of a "cooling-off period" to deny the applicability of the excuse to cases where there has been a long delay in reacting. The article claims that it would be "perverse for the law to ignore these teachings of science and absurd for it to doubt their validity" (Brett (1970) cited at p.553). Clarkson and Keating endorse this scientifically based criticism of the law but explain that since the present rules also have some scientific support the law should not be changed until there is complete scientific consensus.

In terms of the framework set out before it looks as if Clarkson and Keating subscribe to the first position discussed under the heading 'the truth about law' which assumes that law can be judged from the standpoint of science. Even though they resist the call for change on this occasion they impliedly concede the important point that this legal rule should be taken to refer to scientifically determinable events in the world. The demand for scientific unanimity seems in this respect to be no more than a temporising measure.

We have already seen the theoretical difficulties of this position. It cannot be assumed without further argument that the legal rules on provocation do or should follow scientific findings on the chemical changes of the "fight or flight response". At the least we need to be shown why this particular scientific evidence is material. Other scientific approaches, for example those dealing with the psychological apprehension of a provoking incident, might point to important mediating factors which intervene between the chemical reaction and the decision to act. Some of these disciplines would also offer conflicting accounts of particular cases as well as resting on possibly quite different general premises about the explanation of human behaviour.

More fundamentally, there are those who would deny any direct link between the meaning of provocation as a legal category within the legal 'language game' and the behavioural events typically referred to in scientific and social scientific explanations. Clarkson and Keating perhaps recognise this point by demanding unanimity from medical science before expecting the law to yield. Since neither law nor science make unanimity a requirement in their own spheres this condition must reflect the further problem of articulating the relationship between scientific developments and legal criteria for change. It would be plausible for law to insist on consensus as a normative warrant or 'exclusionary reason' reason (Raz 1975) sufficient to guide its decision-making in the presence of rival disciplines. However, once we appreciate that laws functioning imposes extra requirements, it becomes clear that new scientific discoveries do not of themselves have an automatic claim to legal recognition. There must be specifically legal reasons for change. But if this is so why should we not take the opposite tack and try to make sense of excuses such as provocation in strictly legal terms?

An attempt to interpret 'laws truth' to deal with the issues raised by this example will certainly do much to confirm our suspicion that the theoretical structure of this excuse is not well understood by treating it as concerned with the behavioural state of the accused.[31] There are many features, quite apart from the idea of the 'cooling off' period, which are not well explained by such an approach.[32] A normative approach is essential to explaining why the excuse as such is restricted to murder even though the 'fight or flight' reaction, like any other behavioural factor, could refer to all offences. And it is also needed to explain why the related offence of duress is available for all offences other than murder. A historical or policy-oriented analysis could, it is true, also attempt to account for these facts. Provocation was historically linked to the special problem of securing jury convictions for murder at the time the death penalty applied, and there is a strong relunctance to extend duress to include murder in case it reduces the deterrent effect of the law. But we can see that these considerations have not counted as determinate for law, which has, for example, found reason to maintain the provocation excuse despite the abolition of the death penalty. Seen from a legal point of view the excuse of provocation serves, it has been said, to show that the law does not expect "the self-control of heroes and saints". It therefore helps to convey a symbolic message about the boundaries of acceptable conduct and legitimate state punishment by testifying to the self-imposed limits within which it is exercised. In these terms provocation as an excuse belongs within a normative argument and can only have its character changed as a result of normative

countervailing considerations (Fletcher, 1978). The question therefore becomes how far new evidence about chemical changes can form part of such a normative argument.

Here we face the problem that the definition of provocation makes considerate reference to what a reasonable person would have been expected to do in the same circumstances, not what a scientific investigation would show actually did determine the conduct in question. If the law is only partially willing to take into account what the accused actually felt, why should it be interested in more abstract problems of scientific accuracy? An answer could lie in the changing factors the law has been generally prepared to consider. It has consistently set its face against those personal characteristics of the accused which it considers to be morally blameworthy or unacceptable on other policy grounds, including such matters as short-temper or irritability. But, on the other hand, it has increasingly been willing to take account of universalizable, morally neutral, characteristics such as age or particularly harsh previous experiences or special vulnerabilities. In all this provocation functions as a standard not as a description so as to define the conditions whose absence constitutes mens rea. The bad-tempered person is not entitled to plead provocation, however influential this personal characteristic may have been in actually triggering the offence. Insofar as evidence about the 'fight or flight' reaction is universizable and morally neutral it could therefore be taken into consideration. However, the approach of 'laws truth' might also suggest other reasons for ignoring such scientific findings. Above all, law might have reasons for setting a time limit, albeit an arbitrary one, to the period within which claims of provocation would be acceptable. This could be justified in terms of alleged deterrent effects or just in terms of law's need for certainty and consistency. A still stronger thesis would be that the important reference point for law is really not scientific findings concerning the nature of provocation or supposed effects on deterrence of particular definitions. What is crucial is what ordinary people at any given time believe to be the case concerning provocation since it is their attitudes and behaviour that law seeks to influence.

According to the approach of 'law's truth', therefore, scientific evidence will be treated as relevant only insofar as it can be made material in the light of laws changing self-understanding of its point. New scientific findings even when they are unanimous will not be determinant. But as we noted earlier this approach also seems to go too far. Scientific discoveries are regularly cited by lawyers and experts at court, and referred to by legal commentators and law reform bodies outside it, in the expectation that some connection to law can and should be made. Scientific findings percolate slowly down to change common-sense and it would be strange to argue that it is law's role to reinforce and reproduce existing common-sense rather than help educate it to change, especially as current legal and common sense conceptions may themselves be derived from earlier and now discredited scientific beliefs. It may even be argued that law is normatively obliged to take account of such findings in accordance with whatever division of labour with science it has forged. The difficulty of keeping law in touch with developments in science in case by case adjudication should be seen as a merely practical rather than theoretical obstacle.

As we saw before, both of the typical solutions to scientific challenges to the law fail to make proper allowance for the dilemma we face in trying to find "the truth of laws truth". They admit that we may be uncertain whether a new scientific approach or finding is yet established or perhaps unclear whether the existing rules of law successfully capture current conceptions of its point. But each approach assumes that a satisfactory answer can be reached by following the normal protocols of either scientific or legal judgement. The problem which is not posed is the possibility of our normative and scientific protocols pulling in different directions and what to do if this occurs. If we look more closely at the recent history of the provocation excuse we will discover ample evidence of the lively effects of this unresolved and perhaps unresolvable problem, both within the courtroom and in law reform deliberations. In the leading case of R v Turner (1975 1 All E R 70) it was decided that common sense opinion about the relationship between wanton behaviour and provocation was not something which needed or could be bolstered by psychiatrists' testimony. Such psychiatric evidence on behalf of a defendant was ruled to be relevant but inadmissable. "Psychiatry" it was argued, "had not yet become a satisfactory substitute for common sense of the jury in matters within their experience". These matters were defined as those concerning human nature and the behaviour of adults within the limits of normality. Any other rule of evidence would spell the end of the distinctiveness of the trial process because; "If any such rule was applied in our courts, trial by psychiatrists would be likely to take the place of trial by jury and magistrates. We do not find that prospect attractive and the law does not at present provide for it". (p.75).

In general terms scientific expertise was excluded here on an interpretation of the common law principle that such evidence is inadmissable if it is on the very issue the court has to consider. On the other hand, scientific evidence has been admitted in very similar circumstances. In DPP v B.C. Chewing Gum Ltd (1967 All E R 504, for example, psychologists were allowed to give evidence on the possible effects of allegedly obscene collecting cards for sale to young children. Lord Parker CJ explained (at p.505) that: "With the advance of science more and more inroads have been made into the old common law principles". Although this case concerned children rather than adults, in the case of Lowery (1973 All E R 662) psychiatric testimony about the character of a normal adult was admitted when it was introduced by one defendant to displace an attempt by a co-accused to put the blame for a murder on to him. Taken together these cases show, it is said, that there can be no general answer to the question of when to allow in scientific evidence which always will depend on the particular issue in the case. Scientists, on the other hand, will have difficulty in seeing any logic in the limitations on their expertise implied by the rules of admissability of evidence and will be obliged to try to make further inroad on common law principles so as to maintain the coherence of their scientific arguments.

The problem of commensurability between normative and cognitive approaches to provocation has also arisen in the context of efforts at law reform. The 14th report of the Criminal Law Revision Committee in England, for example, carefully examined the question which should be put to the jury when provocation was at issue. They recommended that the jury should be

asked to consider 'whether the defendant's action could reasonably be regarded as having been provoked'. They thus acknowledged that an enquiry into what a reasonable person would have done means asking ourselves what we would consider to be reasonable. Of particular interest to us, however, is the way the committee struggled to find an appropriate way of formulating the question of what was meant by provocation. It reported that originally it had wanted to ask the jury to consider whether the facts as they appeared to the defendant could be regarded as 'a reasonable excuse' for the loss of subjective control leading to the offence. But some commentators objected that there could never be said to be a reasonable excuse for taking another's life. They therefore considered instead using the phrase 'reasonable explanation' in characterizing the excuse. But this was also rejected, apparently because it would seem to involve the jury

in too scientific an enquiry. In the end they settled on the formula that provocation must provide 'sufficient ground' for loss of control. In this way the committee could be said to have solved the problem by offering a form of words which would be equally at home in both causal (scientific) investigations and mainly evaluative (normative) enquiries. But the price of making two language games commensurable here produces a discourse which is deliberately ambiguous and, at worst, meaningless. Once again it seems as if we can only reproduce rather than resolve our problem. The use of the jury as the ultimate finder of fact may be seen as a resort to a forum beyond that of the specialised discourses of science and law. But now we see that even the terms in which they are asked to conduct their deliberations confirm the difficulty we have in specifying what this means.

Video evidence, truth and fairness

If there are serious problems to be faced in responding to scientific challenges to substantive legal rules, the difficulties are still greater when we turn to consider criticisms of legal procedure. Here normative consideratins of fairness, justice, the claims of common sense or the importance of public involvement are not merely additional and possibly competing arguments to set against scientific claims but enter into the way the legal process goes about constituting its facts. As we have noted, many features of adversarial trials have come under attack from psychologists, statisticians and others, although recently there have also been new attempts to defend the integrity of legal procedures.

The tangled issues which can arise are well illustrated by the current controversy over the introduction of video-links in criminal trials involving child victims of sexual assaults. A pilot scheme in operation in a number of courts was partly inspired by the findings of psychologists who argued that child witneses were more reliable than was once thought and that when exposed to the stress of court appearance many child witnesses suffered greatly and were unable to give their evidence. A compaign to allow children to testify in an accompanying room

connected by video-link to the courtroom, or to give their evidence on video in preliminary hearings subject to various safeguards, was supported by leading criminal lawyers such as Glanville Williams and John Spencer. On the other hand, some practicing lawyers resisted what they saw as an erosion of traditional trial practice in which the defendant is entitled to confront his accuser directly. One of the interesting features of this controversy is the way lawyers and scientists were found to line up on both sides of the argument. One intervention which shows this particularly clearly was that made by Michael King, a lawyer and psychologist working at Brunel University. In an open letter to The Psychologist King (1988) attacked the submission put forward by the Public Affairs Board of the British Psychological Society in favour of video-links. His letter then gave rise to an interesting further correspondence. (Davies 1988)

The submission by the Society, like many of the arguments advanced by Williams and Spencer, appeared to employ a relatively unsophisticated positivist analysis of 'the truth about law'. Once psychologists had demonstrated a more effective way of obtaining evidence from child witnesses it followed that it was important to reform the legal process so that their evidence could be obtained and their suffering relieved. Michael King, on the other hand, argued that psychologists had been too enthusiastic to show the value of their skills in the legal process and that they may have unwittingly lent their support to a 'moral panic' likely to increase the number of alleged sex offenders who ended up being convicted.

King also made a number of other points. These included the argument that if the issue at stake was the stress of appearing at court this was something that applied more generally and was relevant also, for example, to victims of rape. The claim being made was not that psychologists were unwilling to extend their proposals to include these cases but that they did not show enough awareness of the implicit lines they were drawing and indeed of the limited control they had over where the lines were to be drawn. Psychologists who did not take into account the context of their recommendations could only be described as technocrats who were engaged in "removing problems from the public arena of morals and social policy and redefining them as issues of technique and administrative practice".

In mounting his attack King also relied on an epistemological claim which brough him close to what I characterised previously as the 'laws truth' approach, using an argument which got him into some trouble. According to him it was over simple for psychologists to support the use of a video-link on the basis that this would allow "more truth" to reach the magistrates. Instead, legal proceedings had to be seen as a process of constructing facts within a system of fair procedure and not as a disinterested search for truth: "legal truth is not a discoverable entity, existing outside the trial process. It is, and only is, a product of the trial process itself" (King 1988. In the correspondence that followed one psychologist who had contributed to the official submission rebuked King for his alleged "extreme and untenable relativism". To argue that

law produced its own truth could not make sense of the way trials were sometimes found to have reached mistaken verdicts or of the manner in which witnesses were sworn to tell the truth. Reaffirming the commensurability of law and science, he insisted that "the epistemological differences between the trial and daily life lie not at all in the concept of truth, but in the more stringent and well defined notion of permissable evidence". The role of psychologists and the case for the video-link depended on their contribution to increasing the availability of evidence for the courts to assess. If this was something that had application more widely in the legal process so much the better. To this King replied that it was plain that the trial did not operate to permit all accounts of events to be brought to the court's attention, especially where there was concern that certain information would prejudice the fairness of the trial. But the question what was fair or unfair was "a normative one, a moral and political problem for the community to decide, not one that could be resolved by science" (King 1988.[33]

If some psychologists had doubts about the applicability of their science, criminal lawyers were amongst those who were most insistent on the importance of taking note of it. J.C. Spencer advocated increasing acceptance of the lessons which could be generally learnt from psychology, using the benefits of introducing video-testimony as a case in point. The arguments he deployed in trying to overcome resistance to this innovation were a pragmatic mixture of claims that psychology could help us learn 'the truth about law' and attempts to interpret 'laws truth'. Stress was laid on the ability of psychologists to provide counter intuitive guidelines to help law reach conclusions it could not achieve unaided. But Spencer also offered legal arguments based on precedents in which evidence was allowed to be submitted in other than the traditional oral fashion. At the end of his presentation of all these arguments, however, he concedes that there would still be some who oppose this change on the grounds that:

"they go against the traditions of the common law, or raising the stakes a little higher, contrary to its basic principles (Spencer 1988 p.251). His answer to these diehards is that: "all principles of criminal justice must either serve to convict the guility, acquit the innocent or help conduct the trial in a humane fashion". His closing peroration is worthy of a barrister's summing up: "any so called principle which does not further one of these objects is bogus, a dispensable supernumeray at best, and more likely a malevolent imposter, seeking to turn the serious business of criminal justice into a cynical game" (Spencer id. p.251). It is interesting that the form of Spencer's argument at this point is a rhetorical appeal to the underlying purposes of the rules of evidence. But it cannot be that there is no issue of principle at stake in the competing views of truth of the psychologist or the judge. Spencer seeks to make these discourses commensurable by moving to a higher level of principle about which few would disagree whilst relying on a degree of bluster to obscure the problem that psychologists' understanding of basic principles and legal interpretations of their force may not always reach the same conclusion. In the absence of any other way of developing the 'truth of laws truth' such persuasive techniques may be all that is possible. But it remains an open question whether they are all that is required.

This examination of practical controversies demonstrates that they are not isolated from wider theoretical debate. Positivism is alive and well both as an approach to law and science and as a justification of the division of labour between them. But post-positivist arguments also play an important point either in defending law's integrity or as an invitation to a more synthetic approach which can satisfy the requirements of both law and science. On the other hand, and not surprisingly, theoretical niceties are often ignored in the process of finding practically acceptable outcomes. On the one hand scientific unanimity is demanded in the case of medical science based criticisms of the provocation rules, on the other hand experiments in video-links go ahead at the same time without any zealous search for or attention to dissident psychologists. Law resolves, or attempts to resolve, even what it cannot solve.

Conclusion

"Postmodern legal criticism manoeuvers precariously between self-enlightenment and self-illusion always running the danger of losing itself amidst the 'enlightenment about enlightenment' in an intellectual nomadism" (Frankenburg, 1989, p.397).

In this review of current writing about clashes between law and science I have examined the arguments of approaches which attempt to discover 'the truth about law', 'law's truth' and 'the truth about law's truth'. The first conclusion which can be drawn is the sheer wealth of arguments in play in the 'conversation' of modern debates between law and science. All of the above approaches can find support in one or another strand of contemporary political strategy and intellectual fashion. This does not mean simply that we are going through a period of flux and confusion -- probably all periods seem that way at the time. What is of greater interest is the way different elements of positivism and post-positivism or modernism or post-modernism, variations between explanatory and interpretive strategies or between a stress on cognitive adequacy or normative correctness all figure as argumentative moves and counter-moves within theoretical and practical controversies between law and science. A second finding which emerges from this discussion is that if theoretical perspectives can offer only limited assistance in developing better decision-rules to use when law and science compete, the way legal processes succeed in deferring, resolving or avoiding the issues does not necessarily offer a model of 'good practice' either. Instead, what we have observed is that potentially irreconcilable and 'essentially contested' concepts are somehow deferred, reconciled or resolved by reference to experts, common-sense, juries, politics or whatever, without much claim to overall coherence, A final, important point to note is the way scientific and legal perspectives both tend to reproduce themselves even when they reach for a meta-level of discourse. Scientific and legal approaches may each be used to understand what is happening as much as to decide what to do about it: no straightforward division of labour now seems satisfactory. But it is important not to treat law and science as monoliths. There is always some overlap between the 'domain' of law and the extent of legal 'discourse' which helps obscure potential incompatibility (Nelken, 1988). As we have seen, some lawyers may make arguments in favour of science whilst scientists may defend the virtues of laws integrity. From all this we can deduce that theoretical arguments based on the

impossibility of developing coherent conceptions of science in law, or of finding satisfactory reasons for action in cases of legal and scientific conflict, cannot in themselves be used as a warrant for practical action. We should not take the self conceptions of law or of science as a justification for political choices leading to the proceduralisation of law if only because neither law nor science are able to offer a full account of their own conversation.

Footnotes

1. Earlier versions of this paper were given as presentations at the International Conference of the sociology of law, in Bologna, Italy; the Jubilee lecture at Lancaster University; in the Faculty of Law, Edinburgh University and the Facoltà di Giurisprudenza, Macerata, Italy. I am grateful for the questions and comments made on these occasions and also for valuable suggestions from Roger Cotterrell, Alberto Febbrajo, Bernard Jackson, Michael King, Alex Stein, and Gunther Teubner.

2.The examples chosen in this discussion will be taken largely from the social sciences, although reference will also be made to a wider range of disciplines from philosophy to history, on the one hand, to medicine and statistics on the other. I shall not have space to consider the important differences between the so called 'hard' and 'soft' sciences, but it should be noted that this contrast has been somewhat attenuated by the post-positivist challenge on which I shall be concentrating.

3.There are a variety of ways in which law and science may come into conflict. At one extreme the importance of scientific rationality may be urged as a means of improving law and legal decision-making and evalating the achievements of different branches of the law. At the other extreme, law may be used to expose the uncertainties of scientific reasoning or to adjudicate individual cases where science is unable to offer definite answers. As will be seen, I shall not be concerned with assessing the details of these various lines of argument but rather with the problem of how to understand and determine their changing force.

4.Cf. Clarkson and Keating (1983 p.101) "It cannot be stated too emphatically that the definition of death is not a scientific technical matter".

5.Cf. Samek (1974 p.298-299) "The quandry of sociological jurisprudence..is..reducing law to sociology and showing at the same time that the product of the reduction is law, and not sociology". Cf. Bourdieu (1977) on the 'objective limits of objectivism' in social enquiry.

6.Law too has sometimes been conceived in universal terms in the past and this approach is reflected in modern attempts to present law as a part of "practical reason" (Alexy 1989).

7.Cf. the explanation offered by Lord Kilbrandon (as quoted in Cowperthwaite 1988 p.24) "the legal presumption as to age of criminal responsibility... is one of the comparatively few conclusive presumptions of the law, and it shares with such presumptions this characteristic, that it enshrines a proposition which is not necessarily true. It is because the proposition may or may not be true and because it is considered expedient that the law should provide that matters are to be regulated on the basis of the universal truth of the proposition that the questioning of the truth of the proposition is for practical reasons prohibited".

8.Law's attack on the value-judgements inherent in the pursit and application of science, for example, with regard to medical research, allows it to pose as the scourge of professional expertise on behalf of the layman.

9.Alexy (1989 p.266ff), for instance, distinguishes the stabilizing, developmental, burden-re - ducing, technical, control and heuristic functions of legal dogmatics. But it is not clear from his discussion how far such a functional approach is or should be derivable strictly from within law's own self-understanding.

10.Jolowicz refers to Davies v Eli Lily and Co. (1987) 1 W.L.R. 428 at 131-132.

11.Damaska (1986) claims that the inquisitorial system developed by the 'activist state' in the hands of the 'activist judge' is peculiarly concerned with the discovery of 'the truth'. In the accusatorial system, by contrast, in which the judge plays more of the role of a referee, truth is neither a necessary nor sufficient condition.

12.In some cultures law has served as the vehicle for speculative enquiry even when apparently linked to the resolution of practical controversies. Steinsaltz (1976 p.230) offers the following interpretation of Talmudic law (which was constructed for the main part under conditions of little political independence). "The basic talmudic view is always that the subject under discussion is not 'law' in the socio-legal meaning of the term...No value is placed on the practical or basic significance of a certain problem. The objective is to arrive at the truth, which cannot be classified into components by order of importance. When it is necessary to discuss the solution to practical questions, certain restrictive measures are employed...The scope of discourse is wider than even that of 'pure science' since not only purely theoretical issues but even irrefutably disproved methods are examined thoroughly".

13.Disciplines may behave as rivals as much through similarity as distinctiveness. As Geertz (1983 p.107-108) argues, for example, "the lawyer and the anthropologist, the both of them connoisseurs of matters in hand, are in the same position. It is their elective affinity that keeps them apart".

14.This division of labour took some time to emerge. As Smith puts it when discussing the incommensurability of legal and psychiatric conceptions of lunacy:" for a considerable period scientists confused the boundary between discourses for that between the terms of one discourse."

15.For a comprehensive survey of the use of the distinction in debates in social science and legal theory see Stylianides (1989)

16.Dworkin goes on to say that both internal and external perspectives are essential. But he insists that any successful interpretation must be jurisprudential in the sense that it must take part in the legal argument rather than remain outside it.

17.Cf. Deighton (1989 p.153). "Sometimes an onlooker sees the game more clearly than the players". "But do any of the team take advice from the stands?"

18.From a philosophic standpoint this dilemma can be likened to Russell's famous set paradox. This is soluble, albeit arbritarily, by distinguishing statements about sets from statements within them. The possibility that law or science include within their discourses questions which they cannot answer should not surprise us after Godel's demonstration of the incompletability of any system containing arithmetic. The puzzle to be solved here however has more to do with how and where to draw the line between legal and scientific discourse than with what to do when reasons or arguments within these discourses run out.

19.Meta-theory is defined by Quinton (1977 p.386-387) as "the set of assumptions presupposed by any more or less formalised body of assertions, in particular the concepts implied by the vocabulary in which it is expressed and the rules of inference by means of which one assertion is derived from another. More broadly, operating at the 'meta-level' has been defined as "to consider a subject with regard to its definition, purposes, presuppositions, methodology and limitations, its status as a contribution to knowledge, and its relation to other disciplines (Hunter 1977 p.386). Applied to law, Villa (1988 p.246) describes meta-theory as "the delicious epistemological problem of the nature and justification of scientific knowledge" (my translation): His substantive enquiry (Villa 1984) concentrates on "the scienticity of judicial theory and its relationship with the natural and human sciences".

20.Cf. Lawson (1982 p.20) "The move of avoiding self-reference by the provision of a meta-level inevitably reintroduces a realm of possible certainty which provides what may be called a ground, a foundation or an absolute. A theory which declares the importance of context is thus forced to find a means of escaping the limitations of that context".

21."The great achievement of modern moral philosophy (is) to show how argument and justification are possible and may proceed even while the meta-ethics issues of realism and objectivity remain controversial, problematic and unclear" (Waldron 1978 p.105).

22.Foucalt's last writings (Bernauer and Ramussen 1986) deal with the different meanings of truth for the prophet (truth as destiny), for the sage (truth as being), for the teacher/ technician (truth as techne) and for the parahesiast (truth as the ethos of the person and the situation).

23.Hart and Honoré refer for example to Weld-Blundell v Stephens 1925 A.C. 956 at 986 in which Lord Summer explains that "lawyers causal enquiries are not scientific inquests" but are to be determined on common-sense principles".

24.Beer (1977 p.386) defines a meta-system as "one 'over and beyond' a system of lower logical order and therefore capable of deciding propositions, deciding criteria, or exercising regulation for systems that are themselves logically incapable of such decision, such discussion or of self regulation".

25.As Ost and van De Kerchove put it (1987 p. 74) "ou elles negligent de prendre en consid)ration le problematiques juridiques et r)duisent le droit au fait, ou elles r)alisent cette prises en compte au risque de la connivance id)ologique et de la pseudo-scientificit))".

26.For a strong statement of this conception of law as second class scientific knowledge see the following comments by Murphy (1989 p.21). "Law, today, is not just one (or even an official) interpretation of the world, one discursive practice to be ranged among others; it is constrained to produce knowledge at second hand; knowledge of the rules which govern - or fail to govern, as the case may be - the world as it is 'really' known to be - by psychologists, economics, accountants and others".

27.It is not clear how far Teubner endorses the post-modernist picture of the "anonymous existence of codes with a not rationally controllable play of difference" (Frankenburg 1989 p.374). Luhmann, for his part considers autopoietic theory to be a product of sociology rather than a feature of law's self understanding (personal communication December 1988 Lecce, Italy).

28.Personal communication from Ronald Dworkin June 1988, Florence, Italy.

29.In retrospect, law often seems less dated than its contemporary science, probably because its claims unlike those of science make less pretence to being ahistorical. Thus, writing about the trial of the 19th century Italian child murderer Carlo Grandi (L'Ammazzabambini), Guarnieri explains 'The alienists made it a question of principle. One the one hand, error and the prejudices of common sense, on the other the truth of their science which advanced according to determinism, equations between bodily signs, mental illness and criminal irresponsibility with the logic of transition by which the third term was the equivalent of the first ... By comparison with this rigid positivistic rationality which by definition put itself beyond objections and enquiry - classical juridical rationality presents itself as a rather wider and differentiated approach ... Instead of treating the verdict as the business of an aristocracy of experts, it considered it to be inseparable from the shared values of morality and fairness shared by public opinion". (P. Guarinieri, L'Ammazzabambini, 1988, p.196 ff., my translation).

30.What happens outside the courtroom or the law reform committee can be of far greater moment than what happens within them. Smith (1981) argues that psychiatry won its battle for legal recognition through administrative changes which gave it greater institutional power in the control of lunacy, as well as through internal changes which brought about greater unanimity within the profession. The current emergence of new professions such as the 'Guardian ad litem', whose role is to reconcile competing legal and social work considerations bearing on the needs of children, offers an instructive contemporary example of this process.

31.This point becomes even clearer when it is appreciated that this discussion only applies to the Anglo-American jurisprudence on the meaning of provocation. In Italian Criminal law, for example, provocation does indeed apply to all crimes and not only to murder. Nor does it include the provisions regarding a cooling off period or the requirements of proportional response, which are so hard to rationalise in behavioural terms. These considerations only apply where provocation functions as a complete justification, rather than as an excuse, for what would otherwise count as the crime of publically insulting someone.

32.For example, it is only by treating provocation as a legal 'term of art' that we can make sense of the way that English law, until 1957, held verbal insults to be incapable in law of constituting provocation.

33.King has elsewhere produced an extended criticism of psychologists' reliance on laboratory and other experimental techniques when applied to problems of truth-finding in law. But he does not take the view that 'law's truth' should always be preferred to scientific approaches. He is concerned, for example, about the limiting effects of judicial attitudes to child abuse cases. The criterion to be adopted is the political implication of adopting a given perspective rather than epistemological integrity as a value in itself. (King, personal communication November 1989)

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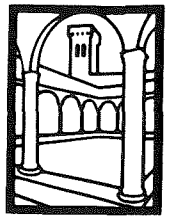

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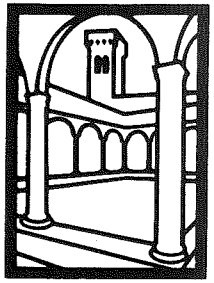

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