Workshop:

**Normativities**
Law, Science, and “Society”

July 7 to 9, 2005

Organised by:

Alfons Bora and Alain Pottage
I. Programme

7 July 2005  1400h  Welcome, introduction (A. Bora, A. Pottage)

1. Configurations, concepts, and perspectives
   1430h  Bruno Latour: The passage of law
   1530h  Gunther Teubner: Hybrid laws and the law of hybrids
   (Coffee)
   1700h  Jean Clam: Ambivalence. Law's Origin in Desire
   1800h  Karl-Heinz Ladeur: The Postmodern Condition of Law
   2000h  Dinner/Reception at the ZiF

8 July 2005  0900h  Sheila Jasanoff: Legal Order, Natural Order: The Collaborative
                     Kind-Making of Biology and Law
                     (Coffee)

2. Sites, instruments, artefacts
   1030h  Javier Lezaun: Patents and Pollution: On Mixtures and Property
           Rights
   1130h  Susan S. Silbey: Safe Science: Governing Green Laboratories
           (Lunch)
   1430h  Peter Weingart: Standards of excellence - unintended consequences of research evaluation
   1530h  Alfons Bora: Biopolitics, citizenship, and the ‘iron cage’ of law
           (Coffee)

3. Genealogies, comparisons, analogies
   1700h  Brad Sherman: The prehistory of intellectual property rights in living organisms
   2000h  Dinner

9 July 2005  0900h  Annelise Riles: As If Instruments: Means and Ends in the Technoscience of Law
   1000h  Thomas Scheffer: The (shared) problem of time
          (Coffee)
   1130h  Yan Thomas: Birth and life: medical knowledge and jurisprudence in ancient Rome
   1230h  Alain Pottage: Origin without genealogy: on law as biotechnology
          (Lunch)
   1400h  Departure
II. Introduction

The relation between law and science – the set of parallels, tensions, analogies, and ‘cross-borrowings’ which relay the two enterprises to each other – has long been a productive theme in the social sciences. It has become the focus of a broad range of styles of enquiry, which collectively address a multiplicity of sites, objects and concepts, and which have evolved a number of generative cross-disciplinary conversations.

Our workshop has two closely interlinked objectives. The first objective is to develop an exchange between the two most established approaches to the question of law and science – ‘law and society’ scholarship and ‘science and society’ scholarship – each which has evolved its own specific representations and conceptualisations of normativity and sociality. Our second objective is to encourage these two strands to meet on ground which at first glance they seem to have in common but which has not so far been a medium for sustained intellectual exchange between the two – namely, the figure of society or sociality as the shared context of their respective investigations of normativity. Each field constitutes its own specific observation of “society”, in accordance with its own specific process of structuration. Society is an object and resource of regulation in one case, and an object of true description in the other. Both ways of observing reality operate with implicit or explicit concepts of sociality, especially when constituting their respective concepts of normativity. On the basis of this observation, we seek to develop a synergy that will be of real significance to contemporary social-scientific debate. There are a number of increasingly pressing reasons for suggesting that the intersection of law, science, and sociality has become a central, but so far under-theorised, question for social-scientific investigation.

One field in which this theoretical voice-over can be studied is the area of bioscience. The case of bioscience shows that law and science – in various emergent conjunctions – are becoming the two principal ingredients of a powerful new political and normative discourse. The rise of biotechnology and (other) information technologies has generated an alliance between the two systems of knowledge, in which the critical potential of the legal tradition is cast as a moderating influence on scientific ambition, while at the same time legal categories are ’educated’ by the novel productive capacities of science. The most significant development is the emergence of the various strands of bioethical discourse, coupled to biomedical, environmental and insurantial technologies. The other principal strand lies in the
complex of regulatory programmes and practices which have evolved around biotechnological and informatic technologies. Both strands constitute normativities, i.e. implicit or explicit rules of adequateness/reasonableness within each field. These normativities are negotiated in different ways between law and science. They engage and reconfigure questions, which have long been central to the social and political sciences, namely, questions about the social conditions of social action and rationality, the historical or social constitution of persons, the social apprehension of life (Foucault 1976, Agamben 2004), the specific character of ‘human nature’ (Habermas 2001), or the dynamics of private and public governance regimes (Abels 2002/2003, Gottweis 1998, Irwin 2001, Levidov/Marris 2001, Pollack/Shaffer 2005, Salter/Jones 2002) In short, these developments re-open a whole set of questions about the constitution or structuration of the social. The normative potentiality of this emergent alliance between law and science is an invaluable resource for the social-scientific exploration of emergent normativities. The practice of bioethics has not yet developed a substantial second-order reflection on its own conditions of possibility, and the important studies of Agamben, Atlan, and Habermas have yet to been developed or complemented by substantial historical and empirical inquiry.

In what sense would a more sustained conversation between ‘law and society’ scholarship and ‘science and society’ scholarship – which is precisely what this workshop seeks to encourage – be the best way of initiating a more general and more sustained social-scientific exploration of such “technoscientific” normativities? Our workshop is premised on the observation that although the question of law/science has been addressed quite extensively from the legal or scientific perspective, and although these perspectives have developed the richest resources for an interpretation of “technoscientific” normativities, they still remain too isolated in their approaches. Somewhat ironically, perhaps, studies in ‘law and society’ and ‘science and society’, while referring their specific objects of investigation to the broader context of society, have each developed a somewhat local conception of ‘society’ or ‘sociality’. Whereas, for instance, from the perspective of the legal system, “society” is a potential source of normative substance, but also – and this is more problematic – a permanent source of non-normative perturbances (such as facts, power, interest, …), from the perspective of science, on the other hand, “society” is in a similar way the permanent source of non-factual perturbances (such as norms, power, interest, …) This is the situation addressed by the interlinked objectives of our workshop. Our first objective, which is to bring both approaches together on the common ground of ‘society’, is complemented by the second, which treats
society’ as a problem rather than a presupposition; and, more specifically, as a problem which requires both approaches to develop new concepts of normativity.

The themes and speakers for the workshop have been selected with a view to realising our project of situating existing debates in science studies or law and society scholarship in the broader question of how new emergent forms of normativity reflect the evolution of social-structural conditions, or how they generate new units of political or social-scientific ‘accounting’. Our workshop brings together more general reflections on the emergence of new normativities with selected ‘law and society’ and ‘science and society’ scholars who are themselves key actors in social science debates the better to exploit the potentialities of the question of law and science.

Not all of these scholars have written directly on questions of law and science, but (for example) Teubner’s consistent explorations of the resonances between systems theory and other contemporary social theories will be invaluable in bringing out the broader contexts of the debate, just as Thomas’s in-depth historical account of law and medicine as modes of normativity in antiquity (which is somewhat different in focus from the analyses of Foucault (1977-1984) and Herberger (1981)) will be of importance in developing a genealogy of modern forms of legal-scientific normativity. Of course, existing debates in the multiple field of law and science do engage with the broader social and political aspects of emergent normativities, but again our aim in ‘lifting’ these debates into a more generalisable debate, is not only to generate synergies between different perspectives on law/science, but to enable these synergies to contribute to general issues of social science.

Focusing more sharply on the specific methodological component to our workshop, what is the merit of encouraging a more systematic reflection on the theoretical and methodological implications of the ‘law and society’ scholarship for ‘science and society’ scholarship, and vice versa? What significant effects do we seek to generate by initiating such a synergy?

From the perspective of ‘science and society’ scholarship, the point is to induce a long-established tradition of reflection on normativity and sociality to develop an engagement with emergent normativities. From the side of science, or of science studies, Merton addressed some time ago the question of what forms of normative sociality (based on norms of exchange and transmission of information) organised the production of scientific knowledge.
Since then, scholars have explored the role of different modes of sociality in the fabrication of scientific criteria of proof or asset (here, we have in mind Shapin & Shaffer’s (1985) celebrated work on Hobbes, Boyle and the air pump, which focuses on experimental procedures of verification and assent in the 17th century), the role of social processes or *intéressement* in the constitution of experimental procedures and the verification of experimental outcomes (Latour), or the ways in which the products of science and technology incorporate norms and institutions while at the same time influencing them (Jasanoff et al 1995, Silbey/Ewick 2003). In terms of our theme of ‘emergent normativities’, the objective now is to build on these studies as resources for studying not so much the sociality of laboratories or technical operations, but rather, or also, the sense in which technical operations pervade and characterise social action in general. Of course, the work of Bruno Latour in particular has already proposed this sort of ‘expansion’ or ‘blurring’ of the sociality of the laboratory into the sociality of society, but it is our view that the “technoscientific” normativities to which we have referred have given a novel context for this sort of enquiry.

For example, the development of the concept of a ‘transformation event’ in the context of the regulation of the marketing of transgenic organisms (see Lezaun), which identifies ‘transgenic’ organisms by reference to the specific technical-industrial intervention which produced them, implies the emergence of new notions of relationship, based less on conventional biological taxonomies, and more on the novel – and normative – models of origin and relatedness that are being developed ‘between’ law and science. Our workshop is designed to draw out the significance that these emergent normative artefacts have beyond the specific regulatory contexts in which they are evolved, and the sense in which they both symbolise and perform new modes of social action. To take another example, the existing tradition of ‘science and society’ studies of institutional normativity has recently broadened out into an exploration of how the institutional norms of knowledge production have been eroded by the expansion of intellectual property regimes. Is scientific knowledge now being privatised at the expense of the public sphere? Can one in any case distinguish private and public (Strathern & Pottage 2004)? Again, the broader question – which can be developed properly only by bringing into conversation both with each other and with more general social-scientific enquiries – is that of how emergent alliances of law and science articulate new configurations of social agency and structure. This is the perspective from which it becomes essential to revisit a set of existing questions in ‘science and society’ scholarship: how do science and technology produce and change norms (inside and outside the
laboratory)?; how does science build norms of scientific quality?; how are mechanisms of norm-building and institutional power interrelated?; what are the effects of evaluation on scientific programmes?, and so on.

Here, the accumulated insights of law and society scholarship (understood in broadest sense), which has developed a rich reflection on forms of normativity and sociality, leading from Foucault and Habermas, through Luhmann and Teubner, to Agamben and Rabinow, offers an incomparable resource for the development of new, more expansive, models of laboratory/society relations in ‘science and society’ scholarship.

By the same token, emergent “technoscientific” normativities open up the other direction of the conversation, which leads from ‘science and society’ scholarship to ‘law and society’ scholarship. Science, or more usually technology, is the social agency that has been principally responsible for the fabrication of new social entities and of the forms of action or relation which configure these entities. Legal categories of object, person, and event find themselves obliged to adapt to the kinds of development that are so well captured by ‘science and society’ scenographies of the laboratory. What we call ‘emergent normativities’ arise from the practical tension between legal and scientific categories, a tension that has yet to be fully reflected in theoretical conversation. And in the case of ‘law and society’ scholarship, “technoscientific” normativities offer the perspective from which to revisit old questions about the nature of legal concepts and operations, and from which to make productive use of tools or procedures developed by ‘science and society’ scholarship, notably the specific mode of ethnography which has been evolved through this body of work.

We do not claim that conversations between ‘science and society’ and ‘law and society’ scholarship have never taken place thus far. After all, there have been investigations of how modes of authorization in science and the law build upon, mimic, or incorporate one another (Jasanoff 1990, Smith and Wynne 1989, Wynne 1982, 1988, 1989). And, some of the key scholars in the field(s), notably Jasanoff, Silbey, and now Bruno Latour (2002), are active on both ‘sides’ of the conversation we seek to initiate. Nor do we claim that there is an ‘exclusive synergy’ here. We are quite aware that the question of law/science has been taken up in other intellectual arenas. For example, it has become an especially dynamic theme in anthropological inquiry, and the work of Strathern (1999), Franklin (2000), Hayden (2003) and Landecker (2001) has reinvigorated existing ways of imagining the relation between the
two by exploring how technoscientific practices have reconstituted the categories of person, thing, and action which are central to law, and which have long been objects of anthropological inquiry. Our proposal is simply that the anticipated synergy between ‘science and society’ scholarship and ‘law and society’ scholarship will be especially productive because it ‘lifts’ or transforms existing debates into central resources for addressing the emergent social-scientific question of “technoscientific” normativities.

III Structure of the programme

1 Configurations, concepts, and perspectives

Presentations in this section of the workshop will address the emergent nexus between normativity, sociality and technoscience from broader conceptual perspectives; they situate technoscientific normativities in terms of notions of life, information, and communication.

The theoretical configurations in this field have already been treated from different perspectives: Similarities and differences in the normative constitution of “facts”, and the process of “verification” in both fields have been subject of the actor-network theory (Latour). Hybrid forms of normativity, especially the cross-over and the productivity of “misreading” between social fields have been theoretically reflected from the systems’ theory point of view (Teubner). Karl-Heinz Ladeur has investigated the “post-modern” condition of the legal system and the consequences for the structure of normativity. “Bio-sociality” as an emergent form of the conditio humana has been the issue in anthropological and philosophical reasoning.

Obviously, these observations have been embedded in theoretical concepts in particular scientific environments (law, STS, philosophy) and on different levels of generalisation: systems theory, actor-network theory, action theory, to mention only the most prominent approaches. From an integrative point of view, particularly when studying concepts of normativity and the relation to society, the question arises as to how far these concepts are responding to each other. The topics of normativity and society give reason to lift the existing debates on a more general level.
Each of the contributions to this section explores the following questions concerning theoretical perspectives: what theoretical perspectives and implications do the respective views of normativity and “society” entail? Which theoretical instruments are most appropriate for the observation/description of normativity in law and science, and how might they be related to the instruments used in complementary approaches? From what theoretical point might one observe society and normativity? Does the theory provide for a universalistic concept of “society”, such as to allow a description of the normative interrelations between law and science? In which direction does the social diagnosis go? To what extent are the models of self-regulation and autopoiesis (Teubner) compatible with anthropological approaches and actor-network-theory? Is there any common ground between these theories? What are the differences between them, and what might be learned from these divergences?

Participants and topics:

**Bruno Latour: The passage of law**

*Abstract:* By means of an ethnographic study of the French administrative supreme court, the *Conseil d'État*, in which the collective deliberations of the members of the *Conseil* were subjected to close examination, it was possible to detect the different 'objects of value' that guide the members’ reasoning as each file makes its way through the stages of the procedure. Particular attention was paid to two aspects: the avoidance of formalism and legalism, the two pitfalls which the counsellors seek to avoid by means of small and deliberate adjustments which preserve the movement of the case. The observation of these adjustments as they are made throughout several cases offers a unique opportunity to define the passage of law as if it existed in the world not as an object but as a type of enunciation. The sociology of Gabriel Tarde, himself a jurist, will be invoked to try to make sense of this paradoxical result.

**Gunther Teubner: Hybrid laws and the law of hybrids**

*Abstract:* Under present conditions, a new polycontextural law creates is transforming the traditional relation between law and science. While under the nation state, standard-setting, bio-ethical codes, professional self-regulation, intra-organizational regimes are strongly politically mediated when they are to be transformed into valid legal rules, under conditions of globalization and privatization, however, “private” governance regimes take over the interrelation between law, science and technology. However, they do not dispose of this organisational and legitimatory mediation and can be institutionalized only as forms of a direct contact between law and science, without mediation by institutionalised politics. These "linkage institutions" create a new type of hybrid law directly by “transjunctural” operations without being translated into political issues. In their ongoing procedures they operate in terms of more than one binary code which they...
treat with conjunctional and disjunctional operations. They operate within one institution but over the boundaries of two or more operationally closed social systems - with several binary codes and connect them via transjunctional operations (Gotthard Günther). They create a rejection value that negates the binary codes as such. In technical standardization, a technical standard is elaborated in the frame of the true/false distinction of science. Then the rejection value is introduced against the acceptance value of the scientific binary code. This opens the road to a multiplicity of other codes. The standard is "translated" into the economic, political, ecological or legal discourse. It is recontextualized in their language and takes on different meaning (antonym substitution, Holmes, 1987). Thus, linking institutions have the capacity to take into account the multi-valued character of a fragmented society. However, they create deep conflicts between radically diverging conceptions of normativity, emerging within the legal tradition on the one side, and science and technology on the other (Legendre).

The result of this hybridization of law is the externalization of the paradoxes of law. The paradoxes of legal self-validation do not vanish, but they are concealed by being externalized to the social practices of science and technology. Polycontextural laws externalize their paradox by creating their own myths of origin which result in different concepts of normativity. These are fictions of their foundation which nevertheless are based on ongoing outside processes. In the emergence of polycontextural law it is only the illusion of a prior knowledge which produces at the end actual knowledge. Here lies the fundamental paradox of the signifying process. The only possibility of creating new meaning is to go through the illusory premise that this knowledge already exists (Žižek). There must be enough non-legal meaning material which law can misunderstand as legal precedent. There must be a historical situation in which it is sufficiently plausible to assume that also in former times legal rules have been applied (Luhmann). The paradox of its self-validation will be concealed in the routines of an organizational hierarchy. Such are historical situations in which polycontextural law creates its recursivity based on fictitious precedents and conceals its paradox in the non-legal discourses of science and technology.

One of the most important consequences is the emergence of new collective actors – legal hybrids - in the relation between science and law. The traditional legal actors, the political “collective”, the “state”, the “legislator”, the “constitutive assembly”, which have been reconstructed and institutionalized in law via concepts of the juridical person lose their privileged position, and are replaced by new actor constellations. There are no ontological properties (mind, soul, reflexive capacities) that an entity needs to possess in order to ‘be’ an actor, social legal or otherwise. Instead, it is the surrounding social system – and not the entity itself – that constitutes the actor, identity, capacity for action and communication, responsibility, rights and duties, in short: creates the subjectivity of its fictions. Social systems, before they convey subjectivity to objects request credible indicators for addressability. They attribute subjectivity only under the condition that they have good reasons to presuppose self-referential processes of meaning behind their social addresses and at the same time they request close structural coupling with their communication.
Social systems attribute subjectivity only if (1) they presuppose the operation called *Verstehen* behind their communicative artefacts, (2) they presuppose that these artefacts presuppose the same in their partners and (3) the attributing social system itself has developed an internal irritability toward the contributions of those ‘subjects’. In their operational closure, social systems do not have access to this self-referential.

There are signs that the law is beginning to re-engineer its procedural and conceptual machines for producing the new fictitious actors. ‘Actants’ and ‘mediators’ (Latour) in the emerging science-technology-law discourse need not to dispose of full-fledged legal subjectivity in order to open new political dynamics. Multiple legal distinctions - distinctions between different gradations of legal subjectivity, between mere interests, partial rights and full fledged rights, between limited and full capacity for action, between agency, representation, trust, between individual, several, group, corporate and other forms of collective responsibility - have the potential to confer a carefully delimited legal status to associations of societal actants which may open a new political space of law and science.

**Jean Clam: Ambivalence. Law's Origin in Desire**

*Abstract:* 'Normativities' sets the stage for its argument by working out an analogy or proportionality between three relationships: science/society; law/society; law/science.

It is through the construction of this proportionality that the question about the firmness/infirmity of normativity arises. I would like to elaborate on an aspect of normativity in which the normative enters into an entanglement with something which precedes as well society as science. This other term of a fourth relationship is desire, as it is projected in psychoanalysis since Freud as something intrinsically ambivalent and whose ambivalence is at the root of guilt, and through the mediation of guilt at the origin of law.

Putting normativity in its ratio to society and its ratio to science in an analogical relationship to the ratio of society to science is a deconstructionist device which brings normativity in a "goedelising" or paradoxical entanglement with two terms of a special type. Society and science as they have to be understood in their position as denominators at the "bottom" of each other and of law are terms engulfing themselves and everything that enters in a ratio with them. This is what recent science studies have shown.

In the perspective of science studies – as well as of a systems theoretical sociology of science -, there can be no site of observation of science from which science could be observed before its entanglement with society or from which such an entanglement could be neutralised or its effects reversed or discounted. The engulfment of science by society reveals science to be a contingent effect of processes of social communication which cannot cease to operate in any operation of observation, especially not that operation by which the relationship of science to those processes themselves is observed. Insofar, there is no site beyond these processes where a theory of the entanglement of science and society could establish itself. The observation of the entanglement itself is entangled in it.
Another relationship involving society as its denominator is shown to be analogous to the latter. It is the relationship of law to society. The case is here a similar one: the entanglement of law and social communication is of such a nature that makes law a contingent effect of social processes. There is a greater disposition to acknowledge the historical and cultural relativity of norms than that of science. However and paradoxically, it is the more relative which is maintained against factual disappointment of expectations and the non relative which is given up at the first gathering of some evidence against it. The normative is counterfactually upheld and the cognitive is renounced at the emergence of the first conflicting factual evidence.

In a theoretical and cultural setting determined by an irresistible recognition of the overwhelming power of paradoxising or goedelising figures engulfing all orders of meaning there is no possibility to distinguish in the iterated reversals of sameness and otherness an inside and an outside of these orders. This is a major avenue of de-ontologisation transforming as well the world of cognition as the substance and architecture of social normativities.

I would like to draw the attention to another source of "ambiguisation" of the normative. It appears when we replace society at the denominator by a blank space or an O-sign standing for the origin of law. I would like to follow at this juncture a hypothesis which sticks to the deconstructionist scheme I have already introduced. Thus, it does not fall in terms of complexity behind that level of theorising. The chosen hypothesis takes into account the entangled nature of law as emerging out of a paradox: the paradox of its own origin in violence. Law comes into being out of violence and maintains an intrinsic, non reducible relationship to violence. I would like to show, following a track of thinking opened by Freudian and Lacanian psychoanalysis, that the violent origin of law is in fact a process of provenience of law from the primary orderings of desire. The fundamental dynamic underlying these orderings is that of ambivalence.

Karl-Heinz Ladeur: The Postmodern Condition of Law

Abstract: Legal normativity never had a monopoly in the reproduction of rules binding social behaviour in general and the rules of knowledge production in particular within the legal system. The stable difference separating the explicit general legal norm and the more factual character of "cases" and all kinds of non-legal rules, which nevertheless had a steady impact on legal judgements, was a symptom of a stable hierarchy within the legal system as such. It found its repercussion in proof rules, general legal roles on the reception of non-legal social rules ("boni mores") and the coordination of the understanding of legal concepts with professional practice ("negligence" "danger") or the methodological rules of legal interpretation (the normative status of which is still not well understood).

The postmodern condition of law by a hybrid and more heterogeneous process of self transformation and self-coordination of legal and non legal norms. This process is characterized by a new element of reflexivity; the production of social rules is more and more organized by private or public-private bodies ("standards") instead of being generated
spontaneously ("experience"). The smooth coordination of this new type of rules and the legal rules in the narrow sense has to be reorganized via procedural legal meta-rules which bring a new heterarchical momentum to the fore. The evolution can go so far as to render both private and public legal rules mutually substitutable.

The role scientific expertise as providing neutral empirical facts which are to be "subsumed" under the normative concepts and rules is openly questioned as is the role of expertise in public and private procedures of standard-setting. The character of property as one of the pillars of modern law is transformed as well: intellectual property is more and more remodelling the core of private property instead of being an exception to the rule. Information is the most important "object" of property. Instead of allowing for exclusion of third persons the new property has to be remodelled such as to be able to adopt different rules of access (information technology, bio-technology). The new version of "meta-rules" the legal system needs for the "management" of a whole infrastructure of non-legal norms has to be analysed in detail.

Sheila Jasanoff: Legal Order, Natural Order: The Collaborative Kind-Making of Biology and Law

Abstract: The deep-seated Western commitment to the idea of technological determinism often expresses itself as a lack of faith in, even a despair about, the capacity of other social institutions to keep pace with technological advances. Law is one institution that is frequently characterized as incapable of staying abreast of technology. The notion of the “law lag” famously depicts the law as a place of scientific illiteracy, conceptual stagnation, and procedural inefficiency. The law, so seen, is a hindrance to human creativity, which lodges, by implicit contrast, in humankind’s material engagements with nature through science and technology.

Against this received wisdom, this paper offers a countervailing view of the law as an indispensable partner of science and technology in projects of kind-making. Through examples drawn from intellectual property, regulatory, and family law, the paper argues that the very concept of the “natural” in technology-intensive Western societies is a joint achievement of the scientific and legal imaginations. Although the paper’s focus is on the United States, comparative observations from other national contexts are used to highlight the cultural specificity of what I here term the “collaborative kind-making” of law and the life sciences.

2 Sites, instruments, artefacts

Presentations in this section of the workshop will focus on specific ‘technoscientific’ intersections between law and science. Empirical, ethnographic, and textual analyses develop accounts of particular normative practices or artefacts, and offer fine-grained examples which complement the broader theoretical discussion.
A multitude of sites can be named, where law and science overlap. It is laboratories (Silbey), as well as law-courts (Jasanoff), where normativity emerges under the specific conditions of these sites. The scientific system itself produces legal and proto-legal norms as instruments of self-regulation, for instance in evaluation procedures (Weingart); here, as in other cases, the productions of “truth” is the aim, but how is this aim linked to the normative means? Furthermore, a broader debate in public arenas is involved in producing technoscientific normativity (Bora), by closely relating scientific “norms” (what are “standard” procedures of risk assessment, e.g.) and legal “facts” (what are the legally fixed rights of citizens in the debate about new technologies, e.g.). Legal procedures of verification import biotechnological constructs and artefacts (Lezaun). Accordingly, the instruments of constituting normativity vary from case to case. Law’s knowledge is based a set of scientific instruments, which themselves are result of legal operations. (Jasanoff). In these fields, artefacts get a multiple meaning; they are part of the “objective” world of facts, and at the same time they have inherent normative (e.g. ethical, legal) qualities.

Participants and topics:

**Javier Lezaun: Patents and Pollution: On Mixtures and Property Rights**

*Abstract:* The topic of this paper is the patentability of biotechnological objects, and the ways in which the biology of self-replicating transgenic organisms is beginning to stretch our understanding of property rights. Specifically, I want to explore the implications of patenting genes and organisms that are also thought to be the cause of “genetic pollution.” Or, to put it differently, the consequences of patenting inventions that have a predisposition to contaminate other people’s property?

I will use materials from two recent legal cases, both of them from Canadian courts. I will discuss the case of *Monsanto versus Schmeiser*, involving a farmer, accused by Monsanto of illegally planting patented seed, who counter-argued that his fields had in fact been “contaminated” by Monsanto’s invention - that Monsanto’s patent had forced itself onto his property. The second case involves the decision by the Canadian Supreme Court to reject a patent on the famous Harvard oncomouse – a mouse derived from cells genetically modified to be susceptible to cancer – on the basis that “the body of a mouse… does not consist of ingredients or substances that have been combined or mixed together by a person.”

These two cases exemplify the main analytical category of this paper: that of mixing, or the implications of mixtures for the recognition and protection of property rights. I want to argue that the action of mixing things together is central to our legal definition of property – it is essential to our canonical understandings of where rights over things originate, and it is specifically foundational to our understanding of what constitutes a
patentable invention. And yet, mixing poses a long-standing dilemma as to how to adjudicate entitlements to property over combinations of matter, and this dilemma has once again been brought to the forefront by the patenting of self-replicating biological entities.

**Susan S. Silbey: Safe Science: Governing Green Laboratories**

*Abstract:* Over the last twenty five years, social studies of science have produced a rich literature documenting the ways in which the cultures of science vary, from the degrees of social embeddedness, the meanings of data, the relationships among theory, experiments and available technology, to varying constructions of truth. In this work, I expand the repertoire of cultural variation by describing the different ways in which biologists and chemists respond to the prospect of legal regulation of their laboratories, including routinized surveillance, inspection, auditing. In the name of environmental health and safety, both groups bow before the law; however, they bend in different directions. I suggest that the different responses to law are comprised of different normativities derived from their distinct histories, sociologies, and epistemologies.

**Peter Weingart: Standards of excellence - unintended consequences of research evaluation**

*Abstract:* The European research system has come under the pressures of new public management and related neo-liberal mechanisms of accounting and controlling. After years of scepticism and resistance the administrations of universities and research institutions are embracing by way of self-commitment evaluation schemes. These are based on a few rather crude and unreflected indicators that replicate and externalize review mechanisms hitherto internal to science. They are enforced on a national and supranational scale. Little is known about the unintended effects of these mechanisms but first indications are that such effects exist and may prove detrimental to the innovative capacities of research. The paper will attempt to identify some of these effects and show how they are brought about by the linkage of indicators to resource allocation.

**Alfons Bora: Biopolitics, citizenship, and the ‘iron cage’ of law**

*Abstract:* In the field of biotechnology, participation of a broad variety of actors in decision-making processes has become an important aspect of science governance. Public communication about risk issues possibly related to this technology has brought the aspect of citizenship to the centre of the debate. The involvement of stake-holders and of the general public seems to be a core condition for legitimate and sustainable decision-making. Therefore, a wide spectrum of procedures has been developed in order to realise biotechnological citizenship. These multi-actor arenas are either located in close relation to the system of politics, or, as in the case of administrative decision-making, more closely to the system of law. In the latter case, I will argue, a problematic constellation arises. Here, law and science can build an intricate alliance – namely by coupling legal “facts” and scientific “norms” – that only leaves the role of a parasite for politics.
(Bio-)political citizenship, therefore, needs forms of communication that are capable to address the political conditions of technoscientific normativities. This general idea will be developed with respect to its theoretical relevance and to its practical consequences.

3 Genealogies, comparisons, analogies

Presentations in this section of the workshop give historical and comparative depth to the analysis of technoscientific normativities; in one direction, they focus on the historical processes from which contemporary normativities have emerged, while in another they give an anthropological twist to the relation between law and science, situating both discourses in terms of nature and culture. The historical dimension is developed through Yan Thomas’ account of the fabrication of norms at a point where law and science met in the ancient world, namely the discourse and practice of medicine, and is taken up (with respect to the early modern period) in Brad Sherman’s account of the emergence of bioprospecting techniques and intellectual property claims in Australia and the South Pacific. The comparative axis is addressed by Annelise Riles’ exploration of the conceptualisation of instrumentality in law and science, by Jean Clam’s conceptual analysis of ‘hybridising’ processes in law and science, and by Alain Pottage’s detailed study of the fabrication of normative genealogies in the twin contexts of intellectual property claims to novel plant varieties and the regulatory tracing of GM foods.

Participants and topics:

**Brad Sherman: The prehistory of intellectual property rights in living organisms**

*Abstract:* Intellectual property law has been engaged in the regulation of biological innovation for over two centuries. During this time, patents and plant variety rights have acted as vectors that link science, law, and commerce. Underpinning the operation of these legal technologies is the traditional legal distinction between tangible and intangible property. This has played an important, but often misunderstood, role in mediating other legal distinctions; notably nature and technology, invention and discovery. It has also been used to enable the law to trace biological innovation as it mutates and hybridises into new forms. In recent years, commentators have begun to question the applicability of the tangible/intangible distinction, particularly as it applies to biotechnological inventions. Indeed, rather than seeing the law as a passive medium that links science and commerce, or as a medium that corresponds to natural or social facts,
it has been argued that the law plays a pivotal role in the fabrication of nature and technology. That is, the question of what is to “count as nature and what is to count as artefact becomes itself an artefact of political and legal decision making”. This has led some to see law as the “original biotechnology”. Taking these ideas as a starting point, this paper will look at whether recent legal and scientific changes, such as the growth in bioprospecting and the idea of national sovereignty over plant genetic resources, undermine existing techniques used to navigate between the contingent form, nature and technology. In highlighting the creative and innovative role that the law plays in sustaining patentable inventions and plant varieties, the paper will conclude by looking at the new techniques that are being developed to sustain the new legal biotechnology.

Annelise Riles: Collateral Knowledge

Abstract: In the twentieth century, American lawyers and legal theorists have self-consciously modeled their art on technoscience, and they have exported a technoscientific view of law under the guise of Rule of Law reform. The key analytic of law, these reformers have suggested, is the relation of means to ends. Law is technoscientific because it is an instrument—a means to social ends. This paper will explore the aesthetic and epistemological grounding of this analytic, as it is theorized and practiced in two sites in which I have conducted ethnographic research—financial regulation in Japan and legal theorizing in the United States. My particular interest concerns the subtle orientation toward the means at work in this theory and practice, even as the ideology of instruments is framed in terms of what knowledge is for. Drawing on Vahinger’s notion of the As If in both law and science, I want ironically to consider what might be borrowed and learned, methodologically, from the subtle as-if epistemology and aesthetics of modern legal technoscience.

Thomas Scheffer: The (shared) problem of time

Abstract: What are the shared grounds of ‘Law and Society’ and ‘Science and Society’? The literature as well as the workshop suggests a number of links to be studied ‘together’: (a) expert-witnesses as relatively competent/alienated migrants from the scientific to the legal field, (b) legal regulations and standards as potentially troubling/disturbing emigrants for the scientific field; (c) scientific objects (e.g. from bioscience) as challenging/provocative matters for legal regulation; (d) the way these diverse epistemic cultures (in terms of how truth is established and tested) intersect and overlap; (e) the metaphors that travel from one research field to the other (such as the laboratory, the immutable mobiles or the archive).

The paper does not question the significance of these shared subjects. It is argued, however, that one common feature requires additional shared attention: doing research/science and doing case-work/law embody comparable temporalizations. Both praxes irritate established frames of analysis: the everyday life or the day-by-day (of lawyers or scientists); the talk, conversation and interaction (in court or in laboratories); the organisations or systems of governance (such as courts, prisons, firms or institutes). Legal and scientific projects endure and link
series of sites, situations and organisations. They do so due to various resources, alliances, standards, and artefacts, which carry binding effects for succeeding ideas, enunciations and statements. How, one can ask here, does either undertaking – its norms, facts, and decisions - get entangled in its own procedural history?

Research projects and legal procedures, I argue, are incomprehensible without a profound understanding of the respective form and mode of temporalization. This includes, as Foucault pointed out, “its rules of accumulation, exclusion, reactivation, its own forms of derivation, and its specific modes of connexion over various successions.” (Foucault 2003 [1972]: 221) The studies of law-in-action and science-in-action confront ‘their researchers’ with analogous conceptual challenges. In other words, the comparable performativity of law and science provokes an additional joint platform (here in the realm of methods). This platform leads to the reassessment of established methods, concepts and metaphors in the light of “the problem of time” (Luhmann 2000).

Yan Thomas: Birth and life: medical knowledge and jurisprudence in ancient Rome

Abstract: To follow.

Alain Pottage: Origin without genealogy: on law as biotechnology

Abstract: Legal instruments – documents and the factors associated with their performativity – have always been essential to the constitution of the objects and events that they configure and transact. The operation of so-called ‘viral contracting’ is just the latest example of this mode of instrumentality. Genealogies offer a more long-standing, ‘bio-political’ variation on the theme. In their classical form, (normative) genealogies animated the processes that they purported only to record or anticipate. Law made life live. Now, there is a newer form of textual animation or reproduction, coupled to the power of biotechnological intervention. Proprietary and regulatory instruments fashion origin without genealogy. They ‘trace’ or ‘authorise’ specific interventions in bioactive process, validating, conserving and reproducing them outside the temporal framework of old genealogies. My paper explores some aspects of these ways of retailing origin without genealogy, focusing specifically on intellectual property rights in plants and the regulatory apprehension of ‘transgenic’ manipulations.
References


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