PRICE AND PREJUDICE:
ON ECONOMICS, AND THE ENCHANTMENT/DISENCHANTMENT OF NATURE

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What are the *social* implications of using money as a medium of exchange? Classical political economists probably did not have much to say about this: they assumed that money is a commodity like any other and that monetary exchange is not fundamentally different from barter –it just makes it more convenient. Others had a different opinion. Karl Marx, for instance, thought that his contemporaries' benign view was misguided: money, he argued, is a *social* relation. Far from being "just a veil," *monetary* exchange does things to things, and by extension to people's relations to one another. For instance, we tend to think of the monetary value of commodities as the objectified expression of some intrinsic worth. But this is a delusion: the two do not coincide. The "real" value of a shoe, for instance, is not its price but the amount of labor "congealed" in it, *under a specific state of social relations*. It is, in other words, because we have made things commensurable through abstract labor that they can be exchanged through money –it is not money as such that makes things commensurable. By using money to conduct our economic exchange, we are obscuring the social relations that made the process of abstraction possible. The commodity form that prevails in capitalism thus operates a vast deception by turning the inter-subjective and social relation between persons in the production process into an abstract relation between objects (or between people and objects), mediated by money. Money, then, serves to conceal "real" essences by allowing for the confusion economic value (which is eminently social) with market price.

Money also bears a special status as a commodity. People want money for itself, they honor it and respect it. Most importantly it conveys power –it allows people to change their standing as human beings, and to bind others to themselves. "I am ugly but I can buy for myself the most *beautiful* of women. Therefore I am not *ugly*, for the effect of *ugliness* –its deterrent power—is nullified by money."[2] With money one may debase beautiful or morally desirable things and sublimate ignoble ones. It is the ultimate agent of social domination because it has the power to *overturn* any other form of worth.

Marx thus believed in an absolute, albeit socially contingent, order of value "behind the world of prices" (Heilbroner 1983:267). Politically, of course, Marx's articulation was highly subversive –not to mention the fact that he also claimed to offer the only truly *scientific* approach to political economy. But there was already another contender in the debate over value, which both sought to challenge Marx on the scientific merits of his approach and was also more successful in mustering political support. In 1871 a Manchester University professor, Stanley Jevons, had proposed that the relative degree of satisfaction (or "utility") –not labor– should be considered the ultimate foundation of value. Jevons's views grew straight out of the dominant British philosophy of utilitarianism, and opened up a new –and soon dominant– analytical model for political economy.[3]

The new economics that developed and flourished out of this so-called "marginalist" theory had implications for the relationship between value and price.

One of the basic teachings of neoclassical microeconomics is that the utility a consumer derives from a good –let's say apples– is a decreasing function of, on the hand, the quantity of apples he can consume and, on the other, the market price of apples. But there always comes a point where the additional satisfaction derived from spending more money on apples is actually not worth the price! In economic jargon, this means that in equilibrium *the subjective value, to the consumer, of the last unit of good* (its marginal utility divided by the marginal utility of money itself) *will equal the good's market price*. Mirowski (1990) notices that value and price are in fact often used as synonymous terms in the economics literature –as, for instance, in Debreu's classic *Theory of Value* (1959), where the only definition of value ever formulated is as "price times quantity."

The subjective view of value has also been developed in a more sociological direction. On this analytical terrain it has become less individualistic than its neoclassical counterpart (as Simmel (1978) pointed out, subjective value perceptions are always "socially constructed"); and more critical of the narrow equation between subjective value and price. Boltanski and Thévenot (2006) for instance show that conceptions of worth may have many different philosophical bases and that the relationship of all other forms of worth to market price may be quite a moving target. Sociologists have generally suggested that aesthetic, moral and symbolic aspects are always paramount to understanding the formation of economic values, as are the particular micro-interactional contexts in which value is supposedly determined (Smith 1989). Such aspects may affect both the very *possibility* and the particular *shape* of economic valuation: hence social taboos against the commercialization of love (Zelizer 2005) or human organs (Healy 2004) have generally prevented these "objects" from being *legally* incorporated into the monetary sphere, even though money continues to earmark intimate relationships in all sorts of ways and markets of "bodies for sale" continue to flourish unofficially. Economic valuation processes are thus idiosyncratic and contingent on the particular historical settings and social relations they serve (Zelizer 1979, 1985). Finally, there are powerful feedback effects between subjective value and price: pricing changes people's motives so that the value they attach to an object may actually be *endogenously* connected to the monetary sacrifice they consented to when they bought it (Simmel 1978). This kind of logic is highly relevant to explain some of the pricing patterns observed on the arts market, for instance, where the product –art– is emotionally bound up with the people who produce it (Velthuis 2003) and also serves as a vehicle for financial investment (Coslor 2009).

FROM ECONOMIC MARKETS TO ECONOMIC VALUES

To sum up, the sociological critique of price economics, as well as some critical analyses within economics, have centered, so far, on three questions: the general disconnection between market prices and other forms of worth, whether objective (Marx) or subjective (Boltanski and Thévenot 2006); the sociological and economic factors that prevent the market mechanism from functioning as predicted in the standard model –so that prices remain sticky, are set monopolistically instead

of competitively, or through mechanisms that have little to do with market equilibrium; and the further social and symbolic significance of prices once they have been set. In all these analyses, prices are always taken to be real entities –however deceptive they can be about worth. They exist out there, for us to study. Hence while we do not buy the economists' account about the mechanisms that drive prices, we still buy into their general naturalization of the price system as something that "is."

But what if we were to treat prices as artifacts? Not simply as artifacts of the market mechanism, but as technological artifacts, brought about by men and women working together to make prices a real thing? What if we shifted our analytical focus from the *meaning* (social, symbolic, cultural) of prices to the *technologies,* which sustain the price system? And what if we analyzed these technologies for what they stand for –e.g. what is the price system supposed to achieve? What makes it legitimate or acceptable? (Muniesa 2000)

Treating prices not as things, but as technologies, brings us back to a point first raised, perhaps, by Karl Polanyi (1944) in his critique of nineteenth century market society but powerfully extended by Callon (e.g., 1998, 2007) in his analysis of the "embeddedness of economic markets in economics." The real power of economics, Callon argues, is ontological –it is the power to "economicize" the material world through the imposition of a legitimate language and the proliferation of "calculative agencies." Economics produces (performs) a world (an economy) in which calculability is a key cultural competence, thereby reinforcing the applicability and performative power of economics itself. Furthermore, this back-and-forth movement between economy and economics is itself constitutive of the stable economic objects that we call "markets" or "prices".

MacKenzie and Millo (2003) have provided perhaps one of the best empirical illustrations of this transformative power of economics. In their analysis of the development of the Chicago Board Option Exchange's derivatives market, they show that the celebrated success of the Black-Scholes formula of option pricing came not from its accurate *description* of the existing behavior of option prices, but rather from the fact that financial market actors started *using* it to set option prices, thereby instigating a self-fulfilling prophecy where the formula came, after some fluctuations, to reflect prices accurately. In the process, they argue, both modern finance *and* modern financial economics were born, mutually constituting each other.

Auction theory exhibits similar performative features. If they possess the material means to do so, the actors involved in highly complex auctions will *try actively* to learn how to play the auction game as defined by its designers, including by means of hiring economic consultants. Hence while these (usually corporate) actors may not have behaved according to the economic model prior to their entry on the auction market, the economists who advise them will make sure that they do, thereby turning them into the rational, self-interested agents posited by the model –and ultimately making the theory "true". The spectacular economic "success" of the radio spectrum auctions in the United States and the United Kingdom (Guala 2001), as well as that of the "search phrase" auctions (Smith 2007), cannot be understood outside of this profound feedback mechanism of economics into economic processes.

Smith (2007) adds an important point: the product often only gets *defined* through the very process and techniques of pricing –thereby turning these markets into what he calls "definitional mechanisms." Thus in both the cases of the Black-Scholes formula and the spectrum or search engine auctions, economic technologies served to create markets *de novo*. Certainly the idea of options existed long ago, but no market could exist for them because no one knew how to price them. Similarly, no one knew how to establish property rights on something as immaterial as the radio spectrum. In other words, the products and their market came into being, were defined, all at once.

Many pricing technologies, then, are tools (complex, highly sophisticated economic tools) that bring markets into existence where there were none. That is, they are technologies whose purpose is to construct a space of "tradability." Still, there are many goods that remain outside of the space of market exchange. For instance, people and institutions "care" (or are made to care) about driving safe cars, breathing clean air, eating foods that won't cause them to develop some long-term disease; they care about the country's "safety", or about protecting the planet from climate change.

Economists reason that if people express their concern, mobilize, form associations, promote legal and administrative rules and lobby governments, then the things they defend through these means *must have value*. They further argue that if people are willing to spend their time, their tax dollars or charity contributions defending such goals, then the *economic* value of their preferences may be identified and indeed calculated quite easily. In other words, even though these goods aren't traded and may not even be tradable, the *trade-offs* that people make to pursue them are a good enough indication of the monetary value they implicitly attach to them (Lohmann 2009). For instance, if people are willing to drive an extra forty miles to reach an unpolluted beach as opposed to one that is much closer but less clean, then the value of their enjoyment of the more remote beach corresponds at least to the extra time, plus the gas and car amortizing costs. Finally, since for economists preferences are presumed to be individual and not social (i.e. interdependent), they may be *aggregated*. The value of the remote beach, for instance, may be calculated by adding up the travel costs of all the people who make the effort to go there.

Economic valuation technologies, then, are fundamentally mechanisms by which the things people care about (or *should* care about, more on this below) are turned into things with economic value. To be sure, we are not here in the highly visible value realm of market-clearing mechanisms, where people's desires to buy and sell are exposed publicly (think the strawberry auctions described by Marie-France Garcia (2008) for instance); but it is still one that can be readily framed for a calculative purpose. What obscures the comparison is that, in the case of "non-market" goods, the technical process of economic valuation often appears to occur, well, *outside* of "real" economic markets. It is typically carried out by administrative agencies interested in developing health, safety or environmental standards, by executive departments weighing the cons and pros of different national security strategies, by civic organizations working to promote the value of biodiversity, or by

courts seeking to compensate individuals and communities for the physical, psychological, or social "injuries" they claim to have suffered: it is through these non-market valuation processes that a whole series of institutions routinely produce monetary equivalents for things like human life, health, scenery, or bald eagles.

The purpose of this chapter is to offer a reflection upon the kinds of valuation technologies that are being deployed in cases where markets do not exist *and* are not even sought to exist (in contrast, for instance, to the spectrum auction cases where a clear policy goal was to bring a market into existence.) I suggest that even in such cases, the ultimate outcome is to increase the legitimacy and authority of the market logic. The reason is that, since World War II at least, economists have been no less critical to the valuation of non-market goods than they are to framing the processes that generate market prices. Economics operates by and large *as if* non-market goods were price-able (since they have subjective value, and price and value are deeply intertwined), that is, *as if* they were being traded on markets. The world of what David Stark (2009, 7) calls "Parsons's pact" (economists get value, sociologists get values) is long gone: from the point of view of economics, every object, tangible or not, every form of worth can presumably be subjected to an economic valuation process. (Social) values may be collapsed into (economic) value. The irony is that this narrowing down on the side of economics is at the same time surprisingly liberating on the side of sociology: it means that sociologists are now free to recover the values–and more precisely what Stark, again, calls the "accounts of worth"–that stand behind every "economic value" problem and are, indeed, "constitutive" of it (2009, 11). It further suggests that sociology's critique of economics must shift away from a focus on economic markets, in which the value problem remains confined to things that are effectively traded, to *a focus on economic valuation processes, where the value problem is much more general and encompasses everything that people care about* (or are believed and made to care about).

--Figure 1 about here--

What Marx and other critics (e.g. Ackerman and Heizerling 2000) call "commodification" is thus not an abstract process. It is, instead, a very *concrete* one, which (1) relies on technologies designed to make things comparable so that they *may* be thought of as exchangeable (Espeland and Levine 2002) and, (2) uses money as the privileged counterpart in the exchange. Note that the operation of many of our administrative, corporate and legal institutions is dependent on such techniques of monetary commensuration. Think, for instance, about the expansion and rationalization of financial auditing to all sorts of organizations –from state agencies to corporate subunits, from museums to hospices, from international aid programs to charities– (Power 1999). Think, also, about the no less remarkable expansion of "money judgments" in the court system –the increasingly complex use of money as an instrument to deter illegal behavior, compensate injury or breach of contract, and punish violators.

THE LEGAL PRODUCTION OF ECONOMIC VALUES

The law ought to be especially interesting to us here as an important (yet often overlooked) locus of economic valuation. Much legal activity, through the central function of injury compensation, revolves around the question of the value of things that are typically hard to square with money: trust, health, the life of a loved one, or feelings of personal worth (as in discrimination cases). How do courts go about producing monetary equivalents in such cases? At first glance the process looks highly erratic. Levels of monetary compensation vary widely across socio-legal structures (e.g., civil vs. common law), across legal situations (e.g., jury vs. judge trials), and across comparable cases (e.g., the enormous variability of the value of a statistical life [Sunstein 2004]). Still, courts in the Western world have witnessed over time a considerable expansion and technical rationalization of monetized legal remedies. The United States especially stands out in this long-term historical movement, because of the comparatively extensive reach of money as a compensatory instrument in American courts, and because of their comparatively heavy reliance on all kinds of economic valuation experts—e.g., economists, accountants and statisticians—to help in the calculation of damage awards.

The legal system has long been recognized as a site of economic production in its own right, of course. (Weber 1978, Swedberg 2003, Beckert 2008) A substantial literature in economic sociology analyzes the role of legal environments in shaping markets and organizational fields. (Edelman and Suchman 1997) Furthermore, since the development of the law and economics movement in the United States, the constitutive power of the law on the economy has attained an extraordinary level of self-consciousness: the credo of the school is indeed that the law can be used to manipulate incentives in non-market as well as market areas, and thereby transformed into an instrument for the pursuit of economic efficiency. (Posner 1987; Mercuro and Medema 1997) By "economicizing" the social through the systematic use of the price-theoretic framework, the law, then, becomes more than a "context" that frames economic activity: it is fundamentally one of the locations where a whole set of economic outcomes are being produced, with powerful social consequence.

It is difficult to pinpoint a time when economics and the law became closely interconnected in America. As Fligstein (1990), Dobbin (1994) and others have shown, U.S. courts took early on an interest in economic questions, and got involved with the regulation of the market –if anything, economists followed the courts' movement toward antitrust rather than preceded or provoked it. (Mayhew, 1998) During the 1920s and 1930s, the legal community, notably under the impulse of realist scholarship, welcomed the incorporation of economic knowledge into the legal system as a way to promote certain chosen ends. Conversely, interwar economists, particularly the institutionalists, were greatly attentive to the economic impact of legal rules, wrote extensively on regulation, and, at least in a number of individual cases (J.R. Commons for instance) were intensely involved with the courts, government commissions, and the drafting of legislation. (Mercuro and Medema 2002) Starting in the 1930s however, University of Chicago-based economists spearheaded an explicitly normative and pro-market turn of this literature.[4] After Ronald Coase (1960) offered

a powerful argument for using markets to solve disputes over rights in his article on the "problem of social cost" (published in the first issue of the Chicago-originated *Journal of Law and Economics*), economists started to extend the price-theoretic framework to all sorts of legal issues; a number of legal scholars saw an opportunity, too, and jumped on the bandwagon of the "economic analysis of the law" with the fervor of the newly converted. (Posner 1973; Medema, 1998)

Of course, the niche for economic expertise within the U.S. legal system is not purely "supply-driven", to use an economic metaphor: the common law culture of fact-finding and expert evidence favors the incorporation of rationalized forms of knowledge (Jasanoff 1995, Golan 2004); the competitive nature of professional organization in America (Abbott 1988) paradoxically allows for a more natural turf overlap between professions; and the constantly evolving and ambiguous nature of the legal and regulatory environment prompts social actors (e.g. corporations, citizen groups, or governments offices) to search for professionals who can help them formulate quantifiable standards to evaluate the impact of regulations, the realm of possible actions, and eventually argue, prosecute or defend their behavior in court (Jepperson and Meyer 1991; Dobbin and Sutton 1998).

For all these reasons, the American legal system has been historically uniquely open to economists and therefore constitutes a key arena where economic knowledge (meaning economic theories and methodologies) is being applied, developed, tested, contested, validated, or dismissed. (By contrast, in other legal systems the law is more autonomous and legal decisions do not need as much support –at least rhetorical support– from outside experts.) Such assimilation of economics into the legal system is not, however, without important sociological consequences. In particular, it profoundly affects the way in which the law conducts its function of valuation.

Among other things, the discipline of economics supplies the legal system with sophisticated technologies for eliciting value where value is hard to establish or even to identify. Not only because economics is uniquely placed to do so –indeed Coase recognized long ago that what gives economists a great advantage over other disciplines is that they are able to use "the measuring rod of money." (1994:44) But also because neoclassical economics connects money to the intangible and the immaterial --subjective value, or "utility." The point, however, is that in doing so economics is not merely "functional" and provides the law with the kinds of techniques it needs to measure some immaterial prejudices that would have been identified prior to the valuation exercise. What I am suggesting, instead, is that *economics performs a "definitional" role: it participates in the very conceptualization of the things to compensate for and subjectively value*. In other words, it is also performative of legal categories themselves, and beyond them of the categories ordinary citizens can legitimately rely upon to mobilize around, and "think" about the worth of things around us –in their both subjective and monetary dimensions.

This is true, I argue, because of the deep intertwining between monetary worth and other forms of worth that is at the core of economics: one the one hand, economists rely explicitly on (their perception of) many different types of worth when they design valuation methodologies –for all practical purposes, their goal is

often to translate beauty, enjoyment, peace, commitment into hard numbers. Conversely, valuation methodologies give non-monetary forms of worth a particular focus and orientation. By institutionalizing (or "performing", see Callon 1998) acceptable and effective conceptualizations *within* the calculative tools themselves, economic valuation practices play an important "definitional" (Smith 2007) role.

In the following pages, I rely on a well-known environmental case –the 1989 Exxon Valdez oil spill in the Prince William Sound in Alaska– to illustrate economic valuation processes as they specifically pertain to the natural environment. Clearly this example is highly specific, and deals with only one of the many techniques developed by economists and environmental accountants to elicit economic value where value is not revealed by an established, working market mechanism. However the valuation of natural resource damages in the Exxon Valdez oil spill was such a turning point in the field that it deserves a special status: first, the case provides a powerful illustration of the philosophy of value and the "epistemic culture" (Knorr-Cetina 1999) within the discipline of economics as it expanded its reach into areas that were not obviously part of its jurisdiction before. Second, it helps exemplify the unique role played by economists in the legal system–and specifically in the American legal system at the end of the twentieth century–and the consequences of this role on the social construction of value. And third, it offers a compelling example of the complex processes involved in the framing of the relationship between monetary value (price) and worth (seen here as on a photo negative, through the "prejudice" occasioned by the spill).

THE DAY THE SEA DIED

A fairly recent phenomenon, tied to the growth of maritime oil transport and offshore oil exploitation, oil spills are not an infrequent sight since the 1960s –even as I am writing these lines, a broken pipe from the Deep Horizon platform is spewing an as-of-yet widely disputed daily amount of oil into the Gulf of Mexico. Unlike nuclear waste spills, which are hidden from view and whose consequences take a long time to reveal themselves, oil spills present themselves as in-your-face, immediate, highly visible, malodorous and observably destructive ecological catastrophes. Even in the most isolated place –e.g. a beautiful fjord in Northern America– they would be hard to miss: the "black tide" occasioned by a large platform- or tanker-originated spill will spread over hundreds of miles of coastline, easily accessible to be filmed and photographed.

This is what happened shortly after the supertanker Exxon Valdez ran aground on Bligh Reef in the Prince William Sound near Valdez, Alaska with 30,000 tons of crude oil (nearly 11 million gallons) in its flanks.[5] The Native Chenegan Indians remember that day, March 24, 1989, as "the day the sea died." Although the spill was not the worst such disaster suffered by the United States in terms of tonnage, its location in an area known and celebrated for its pristine wilderness caused it to have an enormous impact on the "collective conscience." The event was a public relations disaster for the Exxon Corporation and the oil industry in general, which had little way of effectively countering the relentless broadcasting and publication of scores of

vivid and heart-wrenching pictures of beautiful seabirds –murres, gulls, ducks, bald eagles– and endearing marine mammals –seals, sea lions, otters, dolphins, orcas, even a whale– all covered in oil and breathing for air.[6] News media interviews with the local population, many of them Native Americans, further publicized an enormous sense of injustice and anger. The Alaskan state government was suspected of being sold off to the oil industry, which in turn appeared solely driven by the pursuit of corporate profits. (Engstfeld 1992) Moral outrage in the United States and elsewhere was so acute that it has been argued that the spill was a defining moment in framing the environmental consciousness of the nation. (Birkland and Lawrence 2002)

There was a strong sense that something worthy (a beautiful, wild, quiet, innocent, productive "nature") had been harmed or irreparably lost. But what was this material and emotional devastation all worth? In particular, how did the law frame the value question, and how did it go about calculating an appropriate monetary response? Who had been injured? Who ought to be compensated? How and how much? Nature, of course, does not defend itself in a court of law. Wildlife does not sue the polluter. Only people have legal standing here, or governments, acting in the name of a putative "public." It is the peculiarity of our age that our legal institutions will take advantage of these sentiments of public indignation and seek to translate them in legalese and in monetary terms. The sense of injury at the visible distress of the natural world (which is itself socially constructed and historically situated of course) thus soon finds its way into legal categories and economic valuation procedures, for damage compensation purposes.

PASSIVE USE

So what did this mess cost? After the failure of a plea bargain with the U.S. Justice Department, a federal grand jury in Anchorage indicted The Exxon Corporation and its shipping subsidiary on five criminal counts on February 27, 1990.[7] The Exxon Corporation spent more than $2 billion to clean up the area, and was ordered to pay $300 million in compensatory damages as well as $500 million in punitive damages (Supreme Court 2008) to various local victims.[8] Most significantly, the spill was sanctioned by a rapid and large out-of-court settlement of $1.025 billion between the state and federal governments and the Exxon co. *for the sole compensation of environmental damage (or "damages to the public's natural resources").* That figure, in other words, was deemed to represent the public's compensation for the injury suffered by its beloved "nature," as estimated and calculated through the legal-economic process.

Was this a "rational" number? It depends. On the one hand, the process looked very arbitrary: the round figure of $1 billion, for instance, was reportedly handpicked by the governor of Alaska at the time, after a political negotiation with the oil industry.[9] So the actual number had a certain arbitrariness to it. Yet the rationale behind the production of this particular monetary settlement was extremely elaborate. The background work had cost huge amounts of money and involved a large number of experts, including some of the most prominent names in the economics profession. How can we explain this discrepancy?

There was a feeling among public officials that the magnitude and visibility of the incident was such that only a very high monetary compensation would succeed in "making the public whole." And so legal officials went and searched for a valuation method that would somehow *help them argue* for what they felt would be an "appropriate" number. With this goal in mind, economists working for the state of Alaska suggested to estimate not only the cost to restore the Prince William Sound's environment to its previous "natural" state, but furthermore the cost of a program that would prevent with certainty the eventuality of a similar incident in the future. But how should such an estimate be produced? One traditional possibility was to base calculations on actual, known costs for such programs. The economists, however, recommended a different route and proposed that a new method be considered, which in fact had never been implemented on such a large scale. It was (and still is) called "passive use" damage valuation. Here is a key litigator in the case (on the state of Alaska's side) describing how critical this methodological move was for the ultimate outcome:

> "When you actually would go look at real damages, sort of compensatory for the most part, like sports fishing I think we had valued about $36 million. Tourism was like $18 million or something like that. We did where we took individual species and tried to assign a value to the dead animals by looking at replacement costs or the costs they expended trying to rescue them, or something like that, that you could assign a value. And that came out to like $50 million. We had a few others we did. But when you start adding all those things together it's not a lot of money. But the way we got [the number] up was because the American courts allowed, or at least it had never been done before, but the rules were going to allow us to try the passive use damages. And the passive use damages came out at $2.4 billion [Note: the correct number was $2.8 billion]. But absent those passive use damages, the kinds of damages we could get were going to be very, very limited. Not limited, but they were going to be small compared to what actually has happened.
> (…)
> We immediately convened attorneys and policy makers who dealt with natural resource damages. And we just started brainstorming on the kinds of damages that might be available. And passive use very quickly came to the top as being something that might capture a lot of damages. So our next step was we immediately tried to hire the best passive use people we could find. We, in the state of Alaska, we were very fortunate in that this spill happened during our legislative session. And one of the first things that happened is that our legislature appropriated about $35 million for us to litigate with and to investigate with. So we had the funds to go out and hire people. And even then one person we tried to hire, we lost out to Exxon by about a day I think. A guy who was a Nobel laureate, an economist." (US #1, May 25, 2006)[10]

The quote immediately prompts an interrogation: what is this providential technique called "contingent valuation", and where does it come from? Conceptually, the idea is simple: the method consists in using "survey questions to elicit peoples'

values for private or public goods or services by determining what they would be willing to pay for specified changes in the quantity or quality of such goods or services or what they would be willing to accept in compensation for well-specified degradations in the provision of these goods or services." (Carson et al. 1992, p1-5) These economic values are determined by asking people to state their preferences through the medium of money. The method is also called "passive use" because it focuses specifically on those resources that people are unlikely to use directly themselves. If they did, values could be calculated through an analysis of behavior, that is, through *revealed* –rather than *stated*– preferences (for instance, how far are people willing to travel to lay their towel on clean beach when the one they normally go to has been oiled). What contingent valuation typically does, instead, is estimate the utility people derive from *knowing* some unique natural spot exists, which they could, some day, visit (but more likely will not); or knowing that some rare species of bird that lives in far-eastern Siberia will be protected. For instance, I enjoy the fact of knowing that Yosemite Valley exists, that people like me are benefit from admiring its beauty, and I would probably oppose any plan to build a dam on the Yosemite River, even if I don't ever go visit the place. My personal use of Yosemite is passive, however the utility I derive from the existence of Yosemite is not zero.

Historically the method has its sources in the development of cost-benefit analysis (henceforth, CBA) in U.S. federal agencies. Originally developed by the US Army Corps of Engineers, CBA was appropriated and expanded by economists in the postwar period. (Hanemann 1994; Porter 1995; Loomis 2000; Lohmann 2009) More specifically, the creation of organizations devoted to the management and protection of so-called "natural resources," such as the Ford foundation-sponsored Resources for the Future (1952) and the federal Environmental Protection Agency (1970) prompted a surge of interest for the valuation of environmental goods as an extension of the CBA framework (e.g., a clean environment was conceptualized as a new "benefit" to be counted; conversely, the negative environmental impact of a public work or industrial project could now be factored in as a cost). It is thus in these institutions that many of the methodological developments in natural resource economics took place. These economic tools then gained prominence with the rationalization of legal rules surrounding environmental issues. The most important turning point here was 1980, when Congress, in the aftermath of the Love Canal crisis, passed a law known as CERCLA (or the "Superfund law") that made natural resources damages assessments mandatory in cases of hazardous spills and wastes.

In choosing contingent valuation as the preferred method of valuation of the ecological damages caused by the spill, the environmental economists working for the State of Alaska were deliberately taking inspiration from the federal rules and practices established after CERCLA.[11] Less than two years after the spill and with funds released by the governments, a contingent valuation survey was designed and administered in four main locations across the United States chosen to represent different segments of the American public (lawyers had determined earlier that the spill was of national significance so that the lost passive use values at stake in this case were those of the whole U.S. nation).[12] Respondents to the survey were presented

with visual and oral information about the Prince William Sound, the transportation of oil in the area, the local wildlife and how it had been affected by the spill. They were then primed about a program of Coast Guard escort ships that would prevent another large oil spill with certainty, financed by income taxes as well as a special tax on the oil industry; they were then asked whether they would vote for such a program, and how much they would be willing to pay for it if it were implemented. (Carson et al. 1992)

There are several meta-analytical points worth discussing here: The first one is the individualist, consumer-oriented, privatist philosophy that inspires this method. By asking people to provide a monetary equivalent of a putative "utility" loss, and then aggregating these values, contingent valuation reconstructs the natural environment as an aggregation of *individual* preferences, each one disconnected from the preferences of other individuals and therefore from any relevant social context: in contingent valuation, everything happens *as if* any one of us could go, *independently from other individuals*, to the grocery store next door to buy a piece of the Prince William Sound.[13]

Second, the whole process appears very artificial and can only be resolved thanks to an enormous work of "framing" (Callon 1998) that produces the calculating public. For instance, interviewers administering the survey were primed to elicit a response from people who said they were unsure and repeatedly insisted that they provide one. Thus if the respondent expressed uncertainty or questioned the interviewer, the interviewer had to reply: "We want to know what <u>you</u> think. Take as much time as you want to answer this question. We find that some people say they would vote for, some against; which way would you vote if the program cost your household a total of $___?" (Carson et al. 1992, p3-58)

Thirdly is the extremely confined nature of the survey instrument itself, which reflected a very particular political imagination. Questions about appropriate measures to repair damage and means of payment were closely controlled, and the realm of options was fairly narrow. For instance, interviewees could only vote on and express a willingness to pay for an escort ship program –but closing the Prince William Sound to tanker traffic was not an acceptable possibility; neither was asking for the oil industry to pay for the *totality* (as opposed to just a part) of the program. The obvious methodological reason is that if such a possibility had been present, there would have been no point in asking people how much they were willing to pay *of their own money*. Conversely, the implication of such a framing was that if people are not willing to part with their dollars, they probably do not care much about the Prince William Sound and its wildlife.

When all was said and done, the contingent valuation survey revealed that the median American household valued the Prince William Sound natural environment at $31. The figure of $31 per household, when multiplied by 91 millions American households, gave a total willingness to pay (or utility loss), by the US nation, for the Prince William Sound environment, of $2.8 billion, ultimately settled for $1 billion (1991 $). Even reduced to that number, the settlement money was not insignificant and provided for a whole series of new policies, from the closer monitoring of

supertanker traffic to the reservation of land or maritime areas for environmental protection, from ecological studies to the promotion of Native Americans' cultural heritage. In other words the whole process "reassembled" the social world of the Prince William Sound and arguably reorganized how we think about "nature" as well.

The adoption of the contingent valuation method served, in the Exxon case, to justify an unprecedented settlement, which –by the sheer amount of resources it liberated for ecological monitoring and restoration–had a dramatic impact on both the local setting and environmental science and politics in general. By implementing the concept of "non-use" values, economists may have participated directly in the construction of new relations to the environment. In this new framing, nature was not so much constructed as a "thing" with intrinsic value as an idea that people far away –in California, Ohio, Georgia– enjoyed and which therefore had to be preserved, enhanced, and promoted as such. Paradoxically, the survey's forced process of abstraction and disentanglement from local relations and uses made the Prince William Sound stand for something bigger and more universal. Thus although the economists' claims were about the economic value of the Sound and the Sound only, symbolically and in their urge to elicit numbers they called upon much more –a pure, unspoiled, intangible "nature." The philosophy and outcome of the valuation process did, in a sense, participate in magnifying the symbolic worth of the Prince William Sound.

The paradox is that all of this happened, of course, against a background of heavily controlled, technical commensuration. The Prince William Sound was effectively commensurated with money and implicitly commodified through the disaggregation of its economic value into the personal utilities of the 1,000+ citizens surveyed, not to mention the 91 million U.S. households these people supposedly stood for. The methods underlying the Exxon Valdez settlement were, in fact, playing on a dual symbolic register: on the one hand, they mobilized a powerful *collective* imaginary of untouched, pure, and seemingly priceless Alaskan wilderness. Indeed *their (economic) success depended on that mobilization*: as Kahneman and Knetsch (1992, also see Diamond and Hausman 1994) have suggested, in willingness-to-pay surveys it is hard to distinguish between economic value and the purchase of "moral satisfaction." On the other hand, the Prince William Sound was likened to a vulgar commodity, whose value only lies in the eyes of the putative *individual* consumers through the price they are willing to pay. Finally, that very process of commodification was also the material condition of the Sound's further *sacralization*: by fetching a high number and allowing the near totality of the $1 billion settlement to be spent on further ecological activities in the area, it made it even more renowned, precious, and special. It helped "[re]generate the shared meanings, understandings, mindsets and governing narratives intrinsic" to our relationship to that very place that is Alaska.[14]

CULTURAL AMBIVALENCE IN THE MEASURING ROD OF MONEY

Non-market valuation methods are profoundly dual, all at once objective and subjective. They thrive on inarticulate and eminently collective forms of worth but act

as if none of these characteristics was relevant. They seek to make the ineffable concrete and calculable while maintaining some of its ineffable character. They long to reflect the unique character of the Prince William Sound, but they can only do so through abstraction and commensuration. They imagine a market for goods whose defining economic condition is <u>not</u> to have a market.

Duality does not mean neutrality, however. First, as countless critics have shown, people's responses in contingent valuation surveys are extraordinarily sensitive to survey manipulations. Because of this, the method is extremely versatile and can accommodate almost any type of politics. As debates surrounding estimates of the value of statistical life show, non-market valuation methods are never immune to political charges precisely because the economic values they produce are always dependent on extensive framing work and are contingent on the configuration of political pressures (e.g. Viscusi 2009; Fourcade 2009). For all its complex design and rationalized procedures, the contingent valuation survey following the Exxon Valdez oil spill, and even more the settlement itself, were driven primarily by the *Realpolitik* goals of governments trying simultaneously to assuage the public's anger in an age of alert environmentalism, as well as to carefully tread around the powerful oil industry. This is the first lesson: *economic methods are performative, but with qualifications*; both whether and how they "perform" their world is determined, in part, through the intervention of politics.

Second, for all its controversial epistemology, it is undeniable that the contingent valuation method has had a conservationist impact in the United States – helping make certain tracks of unspoiled nature more "valuable" as such. But does valuation under these terms simply amount to commodification –to go back to Marx's point, with which we opened this chapter? The answer is somewhat nuanced, and demands that we take into account the method's complicated relationship to mainstream economics. One of the fundamental bedrocks of microeconomic theory is that the equilibrium price must be unique, otherwise individuals would take advantage of arbitrage opportunities between several prices (this principle is usually referred to as the "law of one price"). Consequently –if microeconomics is logically consistent– the price an individual is willing to pay for one item (e.g. a pristine environment in the Prince William Sound) must equal the compensation s/he would be willing to accept to forego the item. (Maximum willingness to pay equals minimum willingness to accept). Presumably, then, the "American nation" could be paid a certain price to let Alyeska or the Seven Sisters "spoil" the Prince William Sound, under controlled conditions. Which evokes the logic of tradable emissions permits (such as carbon or sulfur dioxide emission rights): the measuring rod of money cuts both ways.

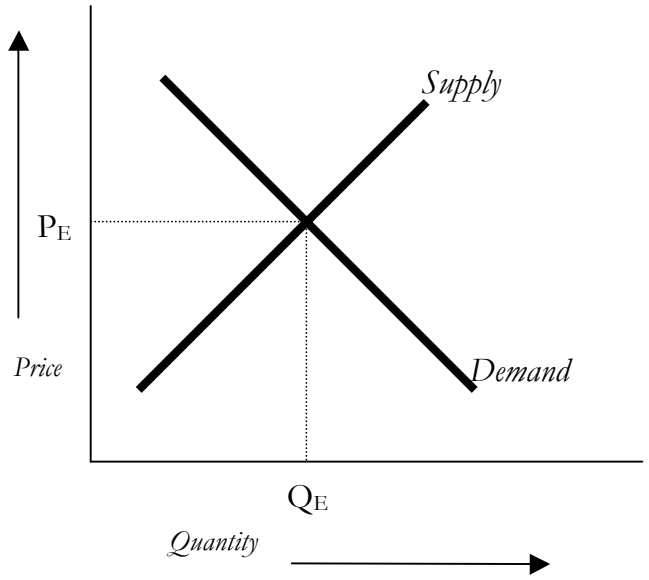
If we follow this logic, the virtual market of contingent valuation and the real market of pollution vouchers are conceptually equivalent: they represent *the two sides of the same methodological coin of neoclassical environmental accounting*, as some critics (e.g. Hopwood 2009, Lohmann 2009) have pointed out. Thus the somewhat left-wing, natural resource economics coming out of the environmental establishment would wrap around to meet the free market economics of nature coming out of Coase and

Chicago. What an irony! But not so fast. As it turns out, resource economists have suggested that the willingness to pay and the willingness to accept may differ, and even widely diverge, in the case of truly unique public goods that have few or no substitutes, like the Grand Canyon for instance (Krutilla 1967; Hanemann 1991; Shogren et al. 1994). And indeed empirical evidence from contingent valuation studies and experiments indicates large differences between people's responses to willingness to pay and their willingness to accept, with the latter generally two to three times higher.[15] This is the second lesson: *sacralization and commodification do go hand in hand, but again with qualifications*.

Economics is never as powerful as when our societies, through the working of their many institutions, such as the law, express and validate a "need" for *monetary* valuation in the first place. For its promoters, the great societal benefit of the contingent valuation method is that it does manage to answer that need: it elicits economic values where all we obviously see are other forms of worth (in Boltanski and Thévenot's (2006) sense). It is not so much that the "price" produced by this method measures some preexisting "prejudice" suffered by the public. Rather, the "prejudice," and all the symbolic and legal baggage that goes along with it, becomes legible primarily through its realization as a price –that is, once it has been framed as a payment by the polluter or as a "willingness to pay" for the Sound's return to its pure and unspoiled natural state. Does this mean that other ways of expressing and compensating distress are being quietly hidden away? Not necessarily. The possibility of a large-scale payment for nature "as such" also serves as a rallying point for other ways of framing and institutionalizing our relation to the non-human world, be they symbolic, legal, ecological or political. This is the third lesson: *monetary worth and other forms of worth do not necessarily stand in a contradictory relationship* (or what Viviana Zelizer (2005) calls a "hostile worlds" relationship). What gives content –hostile or not– to that relationship is not only how money is extracted (Marx's point) but also what we do with it –how, to use another one of Zelizer's concepts, we "earmark" it (Zelizer 1994). Thus the fact that the Exxon Valdez settlement money was redistributed back to protect the particular nature of the Prince William Sound obscured not only the economic philosophy that had made the settlement possible, but also the process of oil extraction that goes on elsewhere in Alaska, through the intense and relentless exploitation of another "nature." This, after all, may be just one of the many cultural contradictions of capitalism in the United States –a country, let us not forget, whose most munificent philanthropists often came from the ranks of the most ruthless industrialists.

Figure 1.

The two roles of economics



ECONOMIC VALUATION TECHNOLOGIES

Cost-Benefit Analysis
Contingent Valuation
Accounting techniques, e.g. "mark to market"…

PRICE ECONOMICS

MARKET → PRICE/VALUE

LOCATION:

ECONOMIC MARKETS

ECONOMICS OF VALUATION

VALUATION → MARKET

LOCATION:

COURTS

PUBLIC POLICY

CORPORATIONS, BANKS...

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Footnotes

[1] Earlier versions of this paper were presented at the annual conference of the Society for the Advancement of Socio-Economics, Washington, July 8-11, 2004, the Mini-conference of the Theory Section, American Sociological Association Annual Meeting, San Francisco, August 14-17, 2004 and the Center for the Study of Law and Society, UC Berkeley, April 25, 2005. I acknowledge helpful comments on earlier versions or presentations of this work by Jens Beckert, Irene Bloemraad, Vicki Bonnell, Michael Burawoy, Bruce Carruthers, Craig Calhoun, Thomas Gieryn, Michael Hanemann, Dawne Moon, Stanley Presser, Dylan Riley, Charles Smith, Sandra Smith, David Stark, and Viviana Zelizer.

[2] Marx, *Economic and Philosophical Manuscripts of 1844*. (In Tucker 1978:103; emphasis in the original)

[3] As such, they appealed to the most influential (and categorically non-Marxist) group on the British left at the end of the nineteenth century –the Fabians (Shaw 2006)

[4] The roots of Chicago law and economics can be traced back to the 1930s (and specifically to Henry Simons' appointment to the School of Law in 1931).

[5] It was later demonstrated that the ship's captain, who was supposed to supervise his pilot's maneuvers, was drunk at the time, and that his drinking problem had been long-known by the company.

[6] The U.S. Fish and Wildlife Service estimates mortalities directly related to the spill to be in the range of 350,000 individuals for birds and 3,500 for sea otters (these are lower bound estimates, as reported by the National Oceanic and Atmospheric Administration in its case history of the Exxon Valdez oil spill). See http://www.akrrt.org/Archives/Response_Reports/ExxonValdez_NOAA.pdf. Last accessed May 12, 2010.

[7] The five counts include two felony charges under the 1972 Ports and Waterways Safety Act and the Dangerous Cargo Act, and three misdemeanors under the Clean Water Act, the Refuse Act and the Migratory Bird Act. See Keeble 1999: 269.

[8] This includes, for instance, economic losses paid out to fishermen and Native tribes.

[9] What I call here the "$1 billion settlement" was actually a slightly higher number: it includes a criminal fine of $25 million; a criminal restitution for the injuries caused to the fish, wildlife and lands of $100 million; and a civil settlement of $900 million paid to a trust fund over 10 years. Finally, the settlement includes a provision allowing the state and federal governments to claim an additional $100 million in the future for natural resources restoration should the money above prove to be insufficient.

[10] Note: the economist mentioned here was Kenneth Arrow; the state ended up hiring Robert Solow, another economics Nobel laureate.

[11] And in 1986 a milestone judicial decision (*Ohio v. United States Department of Interior*) specified that non-use damages to natural resources could be calculated using the contingent valuation method in cases where use values were not measurable (Thompson 2002).

[12] There was some discussion about whether to include populations outside of the United States at the onset. However, this consideration was eliminated for three reasons:

> "1) Practically speaking it eliminated the costs of multinational survey work; 2) the plaintiffs were trustees suing on behalf of Americans; and 3) this conformed to our [the contingent valuation researchers'] conservative principle of "when in doubt choose the course of action likely to produce a smaller value."" (Email exchange with Stanley Presser, 11/29/2004)

[13] As Sen argues,

> "The philosophy behind contingent valuation seems to lie in the idea that an environmental good can be seen in essentially the same way as a normal private

> commodity that we purchase or consume. [That idea] is itself quite absurd. The amount I am ready to pay for my toothpaste is typically not affected by the amount you pay for yours. But it would be totally amazing if the payment I am ready to make to save nature is independent of what others are ready to pay for it, since it is typically a social concern." (2000:949)
>
> Also see Lohmann 2009: 522.

[14] The quote is from Smith (2007, 2) and applies to market transactions.

[15] Most micro-economists disagree, however, and use the same empirical evidence to critique the imprecise nature of the contingent valuation method.