

KNOWLEDGE AND POWER IN GLOBAL ENVIRONMENTAL ACTIVISM

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Abstract

The constitution of global environmental problems as political issues has given new weight to scientific knowledge. At the same time science has become a key weapon in the arsenal of environmental activism. This article focuses on the relationship between science and activism, grounding the analysis in the first successful global environmental campaign, the struggle to save the whales. The case raises the broader question of what constitutes the power of activists to 'make a difference' on issues of international concern. To this end it introduces a conceptual framework derived from the works of Michel Foucault. A set of specific concepts structures the case-analysis at two, complementary, levels: the notions of authorship and subject-positions; and the concept of *episteme*. This perspective highlights the common 'will to power' driving *both* science and activism.

Global concern for environmental problems is closely tied to the development of global science. 'Global environmental problems are not there for us to see', writes Andrew Jameson (1996: 224) but rather 'the products of a collective, instrumentally dependent and institutionally circumscribed professional activity that we call science or scientific activity'. Of all issues of international cooperation, environmental questions bring particular weight to bear on scientific knowledge. Yet, as Jameson (1996) himself remarks, the development of science alone is not enough to 'make' an issue of international politics: the emergence of environmental issues on the 'global agenda' required a growing and increasingly organised global environmental movement, which was able to wield science to draw attention to the plight of the planet. In other words, science and activism mutually reinforce each other in the shaping of global environmental policies. Environmental activists use science to convince states of the need for policies to stall environmental destruction; conversely, the findings of scientists are headed only once they are taken up in activist campaigns. Historically, this marriage of science and activism took root in one campaign, the campaign to save the great whales from extinction. This campaign is seen both as the first victory of environmental

activism, and the issue that propelled the movement onto a global scale. Activists began campaigning in the early 1970s; by 1982 states had collectively declared an international ban on commercial whaling, which continues to be upheld today by the International Whaling Commission (IWC). Furthermore, most states implementing the ban were themselves former whaling nations who for centuries had actively promoted whaling. This was one of the first times states were seen to collectively turn away from an environmentally destructive behaviour, and this change was directly attributable to activist pressure, which in turn was construed around the scientific argument – the risk of extinction threatening whales. The practice of knowledge-utilisation has since become a widespread strategy in global environmental activism. This paper enquires into the utilisation of knowledge in activist practice, in order to understand what exactly constitutes activist power. In a theoretical perspective drawn from Michel Foucault, science is envisaged as a form of power. Subsequently the relationship between activism and science appears as a nexus of knowledge and power. The story of the whaling ban provides the grounds for conducting a concrete analysis of the dynamics of knowledge and power playing out in global environmental activism.

The study is deployed in four parts. It introduces the conceptual framework used to analyse the case by situating it within existing International Relations (IR) literature. Two strands of scholarship are used to contextualise the current approach, the literature tackling the utilisation of knowledge in international cooperation, and the work on transnational activism. Both of these fall short of analysing the issue of power; first, in relation to science, and second, to activism. By contrast the Foucauldian grid connects the use of knowledge with the exercise of power. The paper then traces the evolution of the relationship between whaling sciences and activism, illustrating how these interactions were instrumental in raising science to a central position in the whaling regime. The case material presented in this second part is then appraised at two successive and complimentary levels-of-analysis, which together comprise the conceptual framework. The first level casts a new light on the relationship of science and activism through the Foucauldian notions of authorship and subject-positions. In the final part the analysis moves out of these bilateral interactions, in order to capture the broader contextual dynamics underlying *both* science and activism, using the concept of *episteme*. Only at this level-of-analysis does the deep commonality between science and activism reveal itself, namely, a common will to power.

Theoretical Overview

The last thirty years have witnessed the growing role of Non-Governmental Organisations (NGOs) on the international scene. Yet their prominence derives, not from the material capabilities associated with traditional actors in the international system, but from their ability to collect knowledge and information, and to bring these to bear upon

inter-state negotiations (Keck and Sikkink, 1998; Josselin and Wallace, 2001; Boli and Thomas, 1999). But what exactly constitutes this new clout? NGOs influence states by tapping into the ‘power of knowledge’, the form of power at the heart of Michel Foucault’s work. His core insight is that knowledge is never disinterested, purely ‘objective’ or ‘neutral’; and that any deployment of knowledge always sets into motion a particular set of power relations. ‘Power and knowledge directly imply one another; (...) there is no power relation without the correlative constitution of a field of knowledge, nor any knowledge that does not presuppose and constitute at the same time power relations’ (Foucault 1979:27). Understanding how knowledge is utilised in activist practice thus serves not only to fathom what constitutes activist power, but to broaden the understanding of what types of power may play out in international relations.¹

A Foucauldian framework highlights any production of knowledge as a deployment of power. Such perspective breaks significantly with studies that have broached the knowledge component in international cooperation. The importance of knowledge in regime building is no new theme to international studies. Once again the significance of science in environmental issues, coupled with the growing presence of these questions on the international agenda throughout the 1990s, has made it the designated issue-area for this type of analysis. The first wave of work on science as a facilitator of environmental cooperation was triggered by epistemic community studies. This type of approach ‘focuses on the process through which consensus is reached within a given domain of expertise and through which the consensual knowledge is diffused and carried forward by other actors’ (Haas, 1992: 23). Science-based consensus is the main driver behind successful international cooperation, and the key ingredient to viable global regimes. Indeed one of the articles in *International Organization* Special Issue on knowledge in international policy-making is a case study of the whaling regime (Peterson, 1992). However this approach has since attracted mounting criticism, on account of its uncritical, almost blind confidence in the role of science, which is furthermore detached from the social context and relations of power in which it is embedded (Lidskog and Sundqvist, 2002). This focus on epistemic consensus leaves this type of analysis ill-equipped to understand how a regime may fail *despite* a scientific consensus, as occurred in the whaling regime, as we shall see. Furthermore, by concentrating solely on the institutionalised knowledge and the community of ‘official’ scientists it fails to take into account other actors playing a part in the regimes, such as transnational activists (Klotz, 2002), who may also be wielding science. Most importantly the approach falls short of capturing exactly what constitutes the power of science (Litfin, 1994).

Environmental questions were amongst the issues that played out the increasing importance of non-state actors in international relations (Wapner, 1996). Here activists in particular were seen to be able to ‘make a difference’ in issues of international cooperation, habitually the preserve of state-actors. Hence such issues reinforced the need to recast IR’s focus beyond international institutions and inter-state interactions. This

progressively modified the way issue-areas of international cooperation were conceived, prying open conceptions of international regimes to include non-state actors. They attracted growing scholarly interest as new agents of change; examined in particular was how they had orchestrated the transformation both in norms (Nadelman, 1990) and actual behaviour of states (Klotz, 2002). Concepts such as 'transnational advocacy networks' were devised to analyse how knowledge and information were mobilised and diffused globally through activist campaigns (Keck and Sikkink, 1998). At this point IR blended with another strand evolving out of social movement theory (Klotz, 2002). Increasing work was carried out on the emergence of 'new social movements', where environmental movements occupied a pride of place (Beck, 1992; Sutton, 2000). A key theme here was the processes by which issues were framed for action, and how knowledge entered into the framing (Jameson, 1996; Eyerman and Jameson, 1989).

Although these different approaches demonstrate a strong concern with the impact of activists, the question of what exactly constitutes their power is seldom raised. In other words, while the effect of their power had been amply demonstrated, this 'power to make a difference' itself has rarely been analysed. It is amply theorised as an issue of *agency*, yet hardly as a form of *power*. As a result the critical suspicion exerted towards the powers deployed by other actors of international relations, such as states or corporations (Sklair, 1995), has eluded these new actors. Perhaps this is also due to their own vital role as critics of these traditional forms of power. Thus while the same actors are being increasingly recognised as powerful (i.e., able to bring about change) in the IR and social movement literatures, their own power is seldom critically evaluated.

Hence despite an increasing attention in IR both to activism and knowledge, activist power has received little in view of critical examination, nor has the power of science. The dissatisfaction with existing literatures is thus rooted in one core point, namely, a consensual and uncritical perspective towards both science and NGOs, which in turn stems from a failure to gauge the extent to which both are laden with power (Doran, 1995). In this paper the focus is on environmental activism not as a social movement, nor even as a type of actor in the whaling regime, but specifically on the type of knowledge-based power deployed in activist strategies. This said, certain concepts developed in these other approaches, such as processes of framing, remain powerful tools for analysing the interactions of activism and science, and are retained in this study. With one major caveat, however: always raising the question of whose power-interests are being served in the process.

In order to tease out the knowledge-power axis as it runs through the whaling issue, the part played by activists in the production of knowledge that 'made a difference' is examined under two successive lenses. First the production of scientific discourses on whales is explored, as the locus where the power/knowledge nexus plays out. The Foucauldian notions of authorship and subject-positions serve to triangulate the relationship between power, knowledge and discourse (Howarth, 2002). The Foucauldian use of these notions will be clarified during the course of the analysis. The second set of

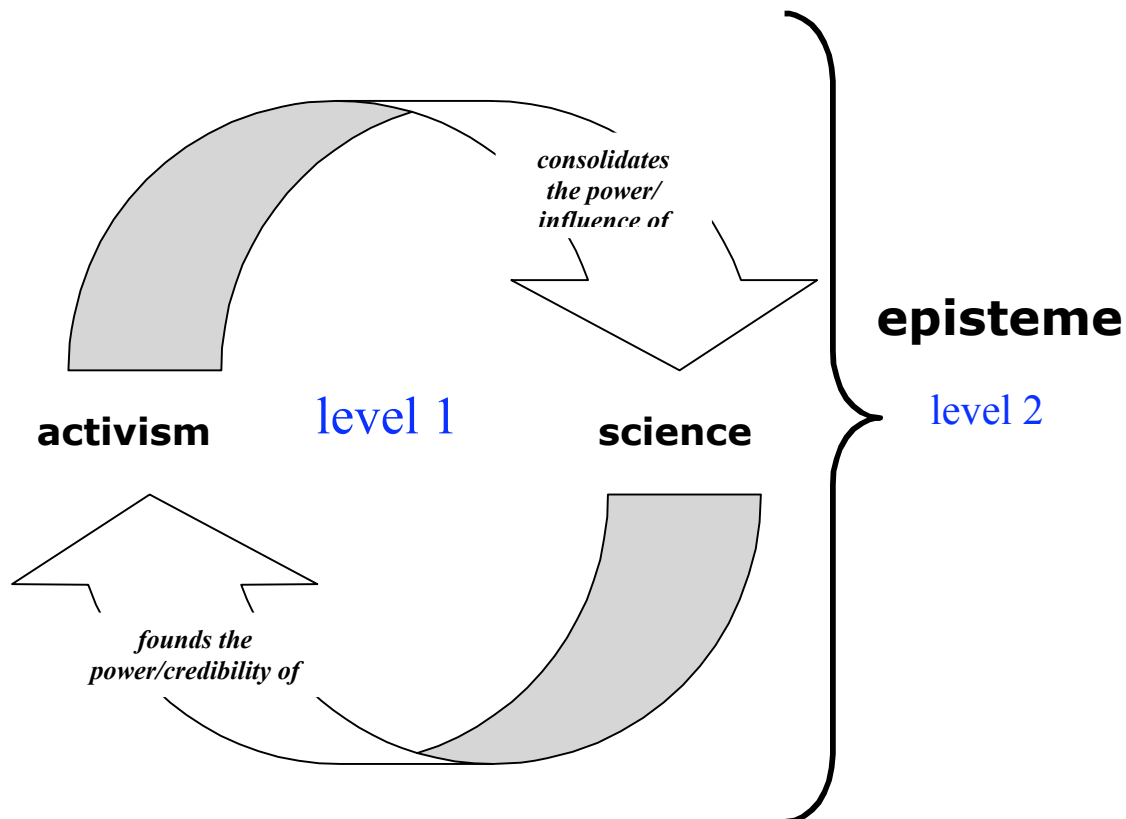
lenses is brought in with Foucault's concept of *episteme*. An *episteme*, in Foucault's own words, 'may be suspected as something of a world-view, a slice of history common to all branches of knowledge, which imposes on each one the same norms and postulates a general state of reason, a structure of thought that the men of a particular period cannot escape.' (Foucault 1972: 191). In contrast to the first angle which focuses on the bilateral interactions between science and politics (fig.1), the concept of *episteme* pits the analysis at the level of broader contextual dynamics underlying both political activity (including activism) and the production of scientific knowledge. The two sets of lenses work together as successive levels of analysis (fig.1). At the final level *Episteme* brings both the science and politics into one overarching perspective. Indeed, while science is increasingly used in international policy-making, political scientists tend to shy away from analysing the scientific activity itself, in the face of an ever higher degree of scientific specialisation. What is analysed is the way science is *used*, while the whole process whereby it is produced-as-science in the first place is left unexamined. This increasing delinkage of 'science' and 'politics' ultimately fixes them as autonomous realms, and serves to legitimise them (as *the* realm of science and politics) (Epstein, 2004). Thus it becomes important to oppose a perspective which captures them as operating within the same process, along a power/knowledge axis. This is achieved by the concept of *episteme*. It does not attempt to vie with science on its own grounds but, rather, to contextualise it, situating every eruption of 'new science' in relation to a particular historical moment. It underscores the extent to which a body of knowledge belongs to its epoch. In a different way the growing research into the 'sociology of science' emphasises the historic relativity of scientific formations, against the claims of absoluteness and universal rationality (Lidskog and Sundqvist, 2002). The difficulty with this type of study is that, approaching the sciences 'from the outside', it fails to actually engage with their own internal logic, and thus tends to reduce them to sociological phenomena. The concept of *episteme* enables us to straddle both internal and external perspectives, emphasising the historicity of particular scientific discourses, yet remaining *within*.

Adopting a Foucauldian framework requires a series of shifts in the way international regimes are envisaged, as in our case the IWC (Keeley, 1990). Methodologically, it implies moving away from the traditional emphasis on institutional hardware, in favour of immaterial factors such as discourse. In a Foucauldian perspective regimes are highlighted as 'regimes of discourse'. Foucault's main insight was to demonstrate that statements around an issue, rather than arbitrarily put together, observe particular patterns. These patterns of regularity function as 'orders of discourse' which rule over what can be said, and done, about the issue in question, including issues of international cooperation. (Foucault himself, far from pitting his analysis at the micro-level, was working to uncover a 'global logic'; Howarth, 2002: 84). In turn these discursive orders are born of the progressive sedimentation of power relations, and often the result of one dominant discourse asserting itself over other possible discourses.

Analysing regimes of discourse consists in teasing out the rules of formation which govern over the way discourses are formed around an object, such as whales; and, further, tracing these back to particular forms of domination. Epistemologically, this requires a certain suspicion towards ‘Truth’. Rather than taken at face value as evidence of ‘real’ or ‘proven’ knowledge, ‘truth’ is seen in its utilitarian function, in relation to its regime of discourse. For discursive orders function as regimes capable of establishing ‘truths’. In other words, the practices of speaking and knowing always invoke sets of ‘truths’, and involve particular ways of utilising them. In this way different subject-positions within the regime will resort to different truths, to obtain particular effects. In the words of Foucault (1980: 133):

‘Truth is to be understood as a system of ordered procedures for the production, regulation, distribution, circulation and operation of statements. It is linked in a circular relation with systems of power which produce and sustain it, and to effects of power which it induces, and which extend it. A “regime” of truth.’

The analysis here is therefore less concerned with the IWC as an institution than as the key site of a discursive regime around whales. First however the case material forming the background to the analysis is presented.



THE CIRCULARITY OF DISCOURSE (FIG. 1)

Science and Activism throughout the Anti-whaling Campaign

Cetology is the branch of Zoology dedicated to the study of cetaceans (whales and dolphins). Its development as a science was doubly dependent, on the growth of the whaling industry on the one hand, and on the broader national research and development programmes of whaling countries. In the United Kingdom for example, cetology was inscribed in a vast, government endorsed, scientific and industrial complex developed around the exploration of the Southern Ocean and the exploitation of the natural resources off the Falkland Islands and Antarctica (Matthews, 1975). The Netherlands, United States, Norway and France all harboured national research programmes in connection with their whaling industries throughout the first half of the 20th Century (Matthews, 1975: 172; Small, 1971). Cetologists were also dependent on whaling companies both for data and employment. Research was conducted on the decks of the whaling vessels, where the scientists would measure, weigh, and examine the animal about to be processed into oil or wax. Scientists held the logbooks of the whaling company. Industrial processing and scientific analysis were thus intertwined and complementary; and knowledge of the animals was promoted inasmuch as it had a commercial application. For example, a key research topic throughout the first half of the 20th century was how to render whale oil edible. The scientists even used the industry's own unit of measurement, the Blue Whale Unit (BWU), which measured the oil yield per whale caught according to 'how much' of a blue whale it amounted to (the blue whale being the largest hence most profitable species. Such uniformizing logic was thus more suited to fuelling a 'measuring up' logic amongst the whalers than to accounting for the biological characteristics of each species.

The science was heavily bound in the first half of the 20th Century, and early cetological discourses tended to reflect the requirements of the industry. The creation in 1949 of an international body of scientists within the International Whaling Commission (itself established in 1946) appeared to constitute a first step towards autonomy. However even at the international level the science remained secondary to political and industrial interests. The Scientific Committee had no funds to carry out its own programmes, its scientists were appointed by national governments; the Committee meetings counted on average seven scientists in 1953-59 (Aron, 2001). There was scant contact with other scientific bodies (such as the Internal Union of Biological Sciences, the International Council for the Exploration of the Sea, and the Biometrics Society) and no Scientific Committee meeting report until 1955. In short, scientists had difficulty acquiring a *voice*. Thus even while they still owned exclusive authorship over the scientific discourses on whales, in the policy-making process they were unable to weigh against states. Consequently when, as early as 1955, they started calling attention to the declining rates of reproduction among whales, and recommending restrictive quotas, they were simply

not heard. William Aron, himself a former member of the Scientific Committee, recalls how at one of his first meetings, he was advised by other scientists to temper his recommendations, as ‘the Commission would simply ignore the advice if it were proffered’ (Aron, 2001: 107). The little scientific advice that was heeded had to be routed through the official channels of political representation, which required persuading chosen delegations among the Commission’s less antagonistic nations. One such nation was Norway, who, taking up the scientists’ alarming findings, argued through the late 1950s for limitations on each country’s catches (Tonnessen and Johnsen, 1982). This was proposed in vain, however, as any measure capping their sovereign whaling rights was fiercely rejected by most countries – the Netherlands, for one, who resigned from the IWC in 1959 in protest against the Norwegian proposal. Norway in turn resigned before this failure of inter-state cooperation.

These dynamics began to shift in 1963. By then whales stocks were visibly declining, and the whaling regime was falling apart, having lost already two significant members. (Both would however soon rejoin). The Commission appointed an independent ‘Committee of Four’ scientists drawn from other institutions (such as the Food and Agricultural Organisation) and areas of specialisation (population studies). This breathed new life into the Scientific Committee, who saw an increase both in attendance and technical competence. For the first time, quotas for two species (blues and humpbacks) were reduced to zero – effectively the first whaling moratoria. The real causes for change, however, lay *outside* the whaling regime. In the 1960s, against a backdrop of a blossoming popular environmentalism across (Western) industrialised societies, public concern soon came to crystallise around ‘the whale’. This culminated in ‘whale marches’ and other public manifestations that made the whale into the symbol of the first UN conference on the environment in Stockholm in 1972 (McCormick, 1989; Day, 1992). Hence the scientific component of the whaling regime progressively consolidated, because of internal institutional innovations, but more significantly, because the new environmental consciousness was framed in terms of the plight of the whale, and public opinion was receptive to this plight (Epstein, 2003).

A watershed for global environmental issues, Stockholm stoked the general demand for knowledge (McCormick, 1989). The United Nations Environmental Programme was established in 1973; subsequently the 1970s saw the proliferation of environmental institutions, at both national and international levels, where the emphasis was on the production of knowledge (Hajer, 1995). This was also the decade of international environmental conventions (notably the 1971 RAMSAR Convention on Wetlands, the 1972 Convention on International Trade in Endangered or CITES, the 1979 Bonn Convention on Migratory Species, and the 1979 Long-range Transboundary Air Pollution Convention). Next to these official knowledge agencies, environmental activists were progressively organising themselves around this task of assembling and disseminating information. The knowledge-function was thus at the very heart of the process whereby informal groups of green activists became fully-fledged NGOs.

Sometimes inter-governmental and non-governmental bodies worked in tandem. In the endangered species regime, for example, the data on illegal trade of fauna and flora was (and still is) collected for the CITES Secretariat by the NGO TRAFFIC. Knowledge was thus of key importance to the institutionalisation of the international environmental movement. In their analysis of the green movement, Eyerman and Jameson (1989) capture this centrality of knowledge to environmentalists' practice with the concept of 'knowledge interest'. This refers to particular sets of practices deployed by the environmental movement in their production and subsequent utilisation of knowledge. Knowledge was both a motivation, born of the urge to understand the damage to the environment, and a political means to score points for the green cause. Whales were made a flagship issue for the movement, and the 1970s marked the beginning of campaign to bring about the end of whaling. A plethora of environmental NGOs appeared, dedicated to saving the whale. Some were set up exclusively to this end (Project Jonah), while others were broader groups of green activists turned to the cause (Greenpeace, Friends of the Earth, Sierra Club, WWF). What was new however was the global scope of the organisation, significant of a 'new environmentalism', breaking with the 'conservationism' of earlier conservation groups (Sutton, 2001).

The first proposal for an overall moratorium on whale catches had been tabled at Stockholm by the United States, herself a former whaling country. The Scientific Committee at the IWC annual meeting the following year estimated that a blanket moratorium would *not* be justified scientifically, recommending instead limited moratoria targeted on specific species (Aron, 2001). The eyes of the world, however, were on the whaling regime. This gave a formidable impetus to the Scientific Committee, which was able to seize the middle ground, both standing up as the vanguards of 'objectivity' against an inflamed public opinion, and able to secure more independence vis-à-vis the states within the regime. By 1974 it had devised the first comprehensive management system, the New Management Procedure (NMP), drawing on techniques developed in other resource exploitation regimes (notably the Maximum Sustainable Yield developed by the FAO in relation to fisheries). This led to the final abandonment of the BWU in favour of a stock-specific approach, a management scheme based on actual knowledge of the species rather than its oil-yield. Under the pressure of public opinion, channelled through NGOs, the dynamics between the scientific and political components of the whaling regime had been reversed. For the first time and for a few years (1972-1978), the Scientific Committee advice was heeded, the Commission would regularly implement the recommended quotas at its annual meetings. Science had asserted itself as the basis for management; and the Commission became reliant on scientific results for its policy-making process. Analysing the evolution of discourse in the IWC, Ronald Mitchell reads this period of the IWC history as its 'second phase', marked by the dominance of a 'causal discourse' grounded in science. Here scientific arguments triumphed over the 'interest-based' discourse of the first phase, leading states, despite their reluctance, to increasingly allow collective IWC decisions to constrain their whale hunts (Mitchell,

1998). We may note in passing that this period would have also been the most suited to an epistemic community analysis, which would have observed the emergence of a consensus on the need to restrain whaling grounded in science. What such an approach would have missed out however is the degree to which the science's position of strength was upheld by activist strategies.

Knowledge was a key weapon in the activists' arsenal against whaling. Inasmuch as obtaining evidence of how endangered whales were was considered essential to convincing states of the need to act, knowledge featured as an integral part of their 'cognitive praxis' (Eyerman and Jameson, 1989). Initially, the NGOs focussed their efforts on propping up the Scientific Committee, against the whaling interests prevailing in the Commission. However this alliance dissolved when the Scientific Committee advised against the blanket moratorium. The Scientific Committee then became the next target in the campaign, now perceived, in the words of an activist, as 'the Commission's primary defence system' (Day, 1992: 93). By 1978 NGOs became knowledge-producers in their own right. They were beginning to appropriate the authorship over scientific discourses on whales. That year, access was eased to the ranks of the Scientific Committee. NGOs began cultivating careful relationships with Scientific Committee members, whom they commissioned to carry out independent studies to complement official research programmes. Sidney Holt, for example, one of the 1963 'Committee of Four' was employed by two NGOs for this type of project in 1978 and 1979. In addition to this direct input into the Scientific Committee's work, NGOs also developed parallel frameworks of research, 'a kind of anti-IWC', to quote the same activist (Day, 1992: 151). They wove their networks of scientists, organised conferences and workshops outside the IWC. There were also however joint initiatives, such as the 1980 Special Meeting on Cetacean Behaviour, Intelligence and Ethics of Killing Cetaceans, held under the auspices of the IWC but co-sponsored by NGOs. NGOs were contributing knowledge on all fronts, and their own discourse was progressively 'scientized'. Furthermore, on an issue that was becoming increasingly charged, they possessed one distinct advantage over the Scientific Committee, they were apt at handling relations with the media and public. Indeed many Greenpeace founders worked in journalism or public relations (Hunter, 1980) These 'alternative' scientific discourses were thus regularly conveyed to the public, cultivating a picture of grave threat incurred by all whale species. By contrast the *other* scientific discourse of the Scientific Committee seldom spread beyond the confines of the IWC.

In the end however the activists' battle was won not on the scientific, but on the political front. The science had been neutralised, as it were, by being over-emphasised. In the beginning of the 1980s, mean attendance at the Scientific Committee meetings had risen to over a hundred (Aron, 2001). In 1982, the views of its members were so divided that the Committee was unable to give any clear recommendation when the blanket moratorium proposal was put forward once again. This time, it was voted in by the Commission. The scientific body had been ground to a halt by an overflow of data and

information to process at the Committee meetings. In the end there were simply too many different voices, breeding cacophony, and eventually paralysing the Committee's ability to provide clear recommendations to the Commission. Furthermore, despite this overproduction of scientific discourses, important uncertainties remained (for example as to the level of endangerment of certain species). This uncertainty was key for the activists, who exploited it, paradoxically, by adding yet *more* information. Quite often when a quota was devised under the NMP authorising limited catches, a new study would suddenly appear, emphasising different parameters to show how the species in question was otherwise endangered. Interestingly, this issue of uncertainty had previously been exploited in exactly the opposite direction. On several occasions during the 1950s, whenever limitations on catches of a certain species were suggested, scientists from whaling countries (notably the Dutch scientist Slijper) would argue that the estimates of the levels of endangerment were *too uncertain* to warrant limiting the catches (Schweder, 2000).

By the beginning of the 1980s, with the Scientific Committee thus neutralised, the brunt of activists' efforts shifted to the political arena, the Commission. In the second half of the 1970s, they had embarked on a 'recruitment drive' (Day, 1992). Their strategy worked on two levels: they addressed public opinion through a series of very televised direct actions (obstructing whaling expeditions, filming the slaughter of whales etc), and they manoeuvred directly within the Commission to buttress the anti-whaling stance. The grass-roots strategy, indeed one of the first in the history of environmental activism, proved remarkably successful (Epstein, 2003). Australia, for example, had hosted the IWC annual meeting in 1977 as an active whaling nation. In less than a year, Australian public opinion had been won over to the anti-whaling cause. The new Prime Minister Malcolm Fraser, elected in 1978, had vowed to bring whaling to an end. Meanwhile membership in the Commission surged from 17 to 39 nations between 1978 and 1983. Most new members had never been involved in whaling (such as the landlocked Austria). Indeed some (Germany, Monaco) explicitly joined to consolidate the anti-whaling stance. The balance of votes was tipping against the nations committed to defend whaling. Activists played an important role in this opening up of the IWC, proving apt at playing at the IWC's own game – at the risk of stretching its rules. Some new members had their fees covered by anti-whaling NGOS. The delegations of Seychelles, Panama, St Lucia, Antigua and Barbuda all had activists, either as Alternate Commissioners or even as Commissioners. Some of them were scientists. Jean Paul Fortom-Gouin, for example, a Frenchman based in the Bahamas, had contributed papers to the scientific debates on whales (Fortom-Gouin, 1978). He had worked closely with Greenpeace, and founded his own anti-whaling NGO (the Whale and Dolphin Coalition). He was Commissioner for Panama in 1980; in 1982 he was Alternate Commissioner for St Lucia who that year became the new spokesnation for the anti-whaling cause. Today, both St Lucia and Antigua stand in favor of whaling, while the Seychelles and Panama have retracted from the IWC.

The moratorium on commercial whaling was thus obtained on the political rather than the scientific battlefield; here were also the grounds where it would need to be withheld. Indeed the rift between activists and scientists was consummated in 1993 with the resignation of the Chairman of the Scientific Committee, Philip Hammond. The Committee had been commissioned in 1982 to carry out a comprehensive assessment of all whale stocks, which was to set the grounds for a evaluating the moratorium ten years after its implementation. By 1993, the assessment was complete, and the scientists came forward with a new management system, the Revised Management Procedure (RMP), to remedy the shortcomings of the previous one. However Their report was also establishing *de facto* that certain stocks of whales were healthy (for example, the minke whales, hunted by the Japanese, were estimated at over 760 000). Hammond's resignation was a statement against the progressive sidelining of science within the whaling regime. In his resignation letter he wrote that he could no longer justify to himself 'being the organiser of and the spokesman for a Committee which is held in such disregard by the body to which it is responsible' (Aron, 2001: 117). Green activists had played a key part in pushing science to the heart of the regime, but equally in demoting it as a basis for management.

Level-of-analysis 1: Authorship and Subject-position

Activists constituted science as a weapon. By appropriating the capacity to produce science, they effectively 'democratised' the process of knowledge production, no longer confined to exclusive government-appointed bodies. This appears to condone Andrew Jameson's observations, in his study of the role of NGOs in the 'shaping of the global environmental agenda', that 'NGOs have emerged [...] to fill, or carve out, certain niches in the global system of knowledge production' (Jameson 1996: 224). What is not analysed in his approach is the extent to which this process served in turn to consolidate their *own* power. In producing 'their' knowledge NGOs were able to tap into the power of science as the monopolistic discourse on truth. Here their 'cognitive praxis' needs to be read against broader societal developments, where science has come to occupy a central position as the authority on 'truth'. Musing on the power of science in modern society, Stanley Aronowitz remarks how 'claims of authority in our contemporary world rest increasingly on the possession of legitimate knowledge, of which scientific discourses are supreme' (Aronowitz, 1988: ix). The power of science 'consists, in the first place, in the conflation of knowledge and truth' (Aronowitz, 1988: i). In the IWC NGOs, by taking over the function of knowledge-production, were also positioning themselves upon the sites of utterance of 'scientific truths' within the whale discourse regime. This had two, very opposite, consequences: in the first instance, it contributed to consolidate the autonomy of science, and thus added to its clout and popular credibility. A backfire effect, however, was that when so much scientific discourse was produced

with so little certainty and such contradictory results, it eventually undermined science's position as the basis for management.

Paradoxically, this democratisation of knowledge production brought with it its own risk, fragmentation, which eventually weakened science itself. For science became employed to directly opposite ends, made to prove the need to end whaling or to continue it; and this effectively reduced it to impotence. The IWC presents an example of *failure* in an international regime established on scientific bases. Once the veneer of cooperation cracked, the raw workings of science and politics surfaced in the whale debates. In this light the whaling regime features as a case in which the science-politics dynamics is merely accentuated, but by no means exceptional. This instance of failed cooperation in a science-dependent regime thus becomes an appropriate case for analysing the power of science in international politics. For the whaling case appears to lay bare the primacy of politics, or, rather, that all knowledge is politics. Or better still, that any production of knowledge is potentially revealed as an exercise of power.

The deployment of knowledge in the IWC debates has shown the two points of tension around which the science-politics relationship is stretched to the limit: the issue of uncertainty, and the fantasy of total knowledge. Once science had been accepted as the basis for policy-making, questions arose as to how far its role should extend in the management of whaling, and what it could or could not do. In the scientific discourse, uncertainty was incorporated in the calculations through precise techniques and statistical concepts such as 'standard error' or the '95/99 percent confidence interval' (or CI). Uncertainty thus featured as an integral part of scientific practice. And yet bringing uncertainty onto the Commission's floor was enough to paralyse policy-making. From the scientists' perspective, this was seen as a failure to properly take into account a parameter that was relatively circumscribed; and policy-makers, by placing the onus of the management decision entirely upon the scientific assessment, forfeited the political function, which is to manage *despite* uncertainty. One scientist used the image of a road on which the car needs to be driven even if one does not know exactly what lies ahead (Interview with Nicholas Mrosovsky, who drew a parallel with the sea turtle regime). From the political perspective, uncertainty sets the outer limit of science, beyond which the two discourses (activist and scientific) ceased to overlap. In fact today both NGOs and the delegations of anti-whaling countries (such as Australia, New Zealand, and the United Kingdom) are moving away from the scientific argument, and recasting their argument in terms of the moral value of cetaceans. The second point of rupture pertains to the inherent workings of science itself. The modern scientific effort is ultimately driven by the quest for total control, the ultimate fantasy of mastering nature (Aronowitz, 1988; Haraway, 1991; Shiva, 1998). Thus any intellectual endeavour structured by the ideal of perfect knowledge, albeit unconsciously, may not lend itself adequately to the task of managing, which needs to operate on imperfect knowledge. However, at a different level, it also reveals a profound connivance between science and politics: a similar will to power.

In this light the mismatch between science and politics appears not as an incompatibility but as a vying for authority in the whaling regime. At stake is who holds the legitimate authority in the IWC. The democratisation of science production has operated, to paraphrase Foucault, a sort of ‘decentering’ of subject-positions, a dispersion of the possible places from which knowledge can be proclaimed. (Foucault, 1982). All NGOs, big and small, now have their own local cetology, as it were, their set of data and evidence on the level of endangerment of this or that species. The government-appointed scientists of the Scientific Committee no longer maintain exclusive (universal) authority upon what can be said about whales. The capacity to produce knowledge has been appropriated on the edges of the regime. While this might ultimately threaten science’s credibility, it has also become a strategy that consolidates the power of NGOs within the regime. At stake for them in wielding the scientific discourses on whales is the issue of *their* credibility. Being un-elected, their legitimacy vis-à-vis the public rests entirely upon this credibility. It procures them the right to have something to say about whales. In other words, it sits them in the appropriate subject-position: they have become legitimate authors of the whale discourse.

What is being contested is the power to produce knowledge; it is an issue of *authorship*. The notion actually remains rather underdeveloped in Foucault’s own corpus, hinted upon in texts of his early period, where it is developed in relation to the production of literary texts (Foucault, 1981). Here the concept is extended to the production of scientific discourses, in order to tease the dynamics of power that are being played out in the process. Hence around this author/authority nexus, the ‘early Foucault’ (on issues of discourse production) is being conflated with the ‘later Foucault’ (concerned with the question of power; Smith, 1995). Foucault’s main insight was to see ‘authorship’ as a principle of coherence for discourses. What pins discourses together is not so much their internal coherence (anti-whaling discourses are sometimes indeed very contradictory) but that they may be ascribed to one authoring instance. The ‘author’ thus invokes a ‘principle of grouping of discourses, conceived as a unity and origin of their meaning, as a focus of their coherence’ (Foucault, 1981: 59). This coherence grounds the discourse, and constitutes its authority. Within the whale discourse regime, the instance/subject which can *author* on the status of whale stocks (their level of endangered, etc) effectively determines the policies which *authorise* what is to be done with them, given that the operating principle of IWC policy-making, according to its own Convention, is that endangered whales require protection. This *authoring* instance is thus the locus of legitimate authority. However, in view of the current paralysis of the whaling regime, where science is used to show that whales are both endangered and not endangered, the question remains as to whether this legitimacy becomes undermined, when too many ‘counter-authorities’ are established against the official science.

Level-of-Analysis 2: Episteme

Not only did activists constitute science as a political weapon, they actually contributed to shape the science in the making, in terms both of its methods and content. Here the conceptual tool of *episteme* becomes useful to grasp these effects. The central insight captured by this concept is that, as with discourse, the evolution of scientific knowledge does not merely observe its own internal logic, but it falls under an implicit sets of rules, a subterranean order governing over the way in which all discourses, scientific and non-scientific, are formed in a given period. The concept casts light on an overarching framework of culture or perception within which the development of particular sciences is inscribed. ‘In any given culture and at any given moment’ writes Michel Foucault ‘there is always only one episteme that defines the conditions of possibility of all knowledge, whether expressed in a theory or silently invested in practice’ (Foucault, 1970:168). A perspective which focuses on the episteme treats scientific discourses not as a *connaissance*, that is, a cohesive set of specialised statements centred on precise object of study (in our case whales), but as a *savoir*, a particular discursive practice or field, situated in relation to other discursive fields within the same era. *Connaissance* and *savoir* mark the difference between approaching the body of knowledge ‘from within’ (*connaissance*) and taking a step out (*savoir*) – the archaeological step – in order to analyse it along the knowledge/power/discourse axis. This type of study charts the overlaps and transpositions with other scientific, but also political discourses. Placing the analysis at this level allows us to capture the circularity between discourses, and to see how they are articulated within a coherent cultural whole, pertaining to historical moment (fig. 1). The concept of *episteme* highlights the historical relativity of practices, both scientific and political. It also reveals the extent to which an individual conducting these political or scientific practices may be influenced by his/her times, and how these practices may evolve not because of some internal improvement, but because of some broader epochal shift. Following Foucault, the concern here is with the way in which the activists’ political practices have modified and transformed the rules of formation of scientific discourse (Foucault, 1972: 194-95; Howarth, 2002: 48-85).

Cetologists’ practices evolved in accordance with the whale’s new political significance. Previously perceived as a source of oil (and food), in less than a decade it had come to be seen as the living symbol of an endangered planet. This shift in the way the whale was *perceived* would alter the way in which it was *studied*. Only at the level of the *episteme* can a proper measure of the activists’ success be had. For more than just halting commercial whaling, they actually succeeded in transforming the way whales were apprehended. They spearheaded an epistemic shift, whereby all at once popular perception *and* practices of knowledge production would never be the same (Epstein, 2004). To illustrate this, a few pointers, first, on the evolution of cetology’s methods. In the early days of a ‘slice and dice’ science, research was carried out directly on the decks of the factory ships; the animal’s internal organs were studied using the very instruments

and manpower with which it was then processed (Interview with cetologist Per Palsboll). In the 1970s, photographs and video footages of these bloody factory decks flooded the world's newsrooms. Green activists had cast camera lights onto practices that could hardly be more invisible – carried out on grim factory ships on the remotest oceans. Yet as much as the whaling, the scientific practice was being exposed to the public eye. This public scrutiny prompted the elaboration of alternative ways of studying the whale. This incentive tied in with other factors in contributing to the evolution of cetology, notably technological developments occurring in other scientific fields. In combining with the computation techniques adapted from fisheries science by the Committee of four, cetologist research shifted from the deck to the computer screen; the 'knife and notebook' was substituted by statistics and population curves (Interview with cetologist and former IWC Secretary Ray Gambell). Likewise today, DNA technology has been adapted to cetologist research, currently employed in stock identification. Noteworthy however was the justification for this technology in the scientific discourse, where they were described as 'non-lethal methods', as they allowed for the sampling of data that could otherwise be obtained only from the whale's internal organs. This concern for not harming the whale while researching was simply absent from the scientific discourse half a century ago.

Along with the research practices, the actual contents of cetology reflect the broader shift in *episteme*. A survey of the themes surfacing throughout the scientific research programmes since the 1970s is instructive (survey of 35 years of the *Reports of the Scientific Committee*). Humane killing, or the study of killing methods in order to minimise the animal's suffering, was not a new concern the Scientific Committee. Yet it had fallen to the wayside by the late 1960s, eclipsed by the issue of quotas; no doubt also due to a lack of interest on behalf of the Commissioners. In 1975, significantly, the topic was re-established on the research agenda, by the American Commissioner. It has since been a standard research item at every IWC annual meetings. Another significant topic, by the end of the 1970s, the IWC, as we have seen, was involved in the organisation of a special conference on 'Cetacean Behaviour and Intelligence', on which, however the Scientific Committee report commented 'unfortunately, few members of the Scientific Committee took part' (*Chairman's Report*, IWC 1981). Indeed the issue of whale intelligence was another marker of the limit of possible overlap between scientific and activist discourses, inasmuch as scientists harboured doubts as to how much *biological* knowledge could contribute to the question of intelligence. More in keeping with their traditional forms of research, in the 1980s the IWC scientists contributed research on the topical issue of marine pollution stirred up around the series of conferences on the Law of the Sea. Within the IWC arena this translated into proposals put forward by the Scientific Committee as of 1981 to research into the effects on cetaceans of chemical pollutants in the sea (PCB's, heavy metals and other organochlorines). By 1985 the Scientific Committee had created a Special Working Group to analyse the threat to whales arising from their living environment. Whereas IWC research had tended to focus exclusively on stocks of whales, with this new research question it was falling in line with the more

‘holistic’ approach recommended by the budding discipline of environmental sciences. The rest of the 1980s saw the Scientific Committee more drawn in on itself, devoted to the task of completing the comprehensive assessment on the stocks of whales requested by the Commission. Yet external influences become tangible once again in the 1990s. In 1993, a year after the United Nations Rio Conference on Environment and Development, the Committee’s research programme included global warming and even ozone depletion – the very themes of the Ozone Layer and Climate Change Conventions (IWC Special Report 2001). Today the discourse of sustainable development is slowly pervading IWC debates. Finally, in the wake of the beef crisis both in Europe and in Japan, the IWC has been passing resolutions on the contamination of whale meat and the threat to human health since 1998.

It has become apparent how much the direction of IWC science was influenced by the agenda of environmental activism. We have so far seen examples of activist-turned-scientists. The issue of *scientists*-turned-activist illustrates the salience of thinking in terms of subject-positioning. In the plenary meetings of the Commission, delegations habitually include as ‘advisors’ the scientists appointed by their government, who stood the previous week at the Scientific Committee meeting. As the issue became polarised, this advisory position took on increasing political significance. For example, the United Kingdom nominating of Peter Scott, the founder of WWF, was read as a statement against whaling. Similarly Sidney Holt, a British national who had taken part in the Committee of Four, appeared as the acting Commissioner on the Seychelles delegation as of 1980. The absence of any prior link with the Seychelles (or, for that matter, of Seychelles’ interest in whales) made his nomination controversial. For some, it was seen as flouting the scientific duty of neutrality. Already throughout the 1970s within the Scientific Committee the ‘scientific’ issue of uncertainty had been regularly flagged to obstruct the determination of whaling quotas with the New Management Procedure (Interview with Cetologist Greg Dononvan, scientific editor of the IWC). Sidney Holt was known to be particular about this issue. (Interview with Cetologist Doug Butterworth). This type of situation increasingly occurred where political and scientific motivations became difficult to untangle. Holt also had many ties with NGOs (such as International Fund for Animal Welfare, Environmental Investigation Agency, and Greenpeace). Similarly Jean-Paul Fortom-Gouin, after partaking in the research into cetacean behaviour, surfaced as Commissioner for Panama the very year first resolution on commercial whaling was tabled by, indeed, Panama. Here were men juggling three caps, the scientist’s, the politician’s, and the green activist’s (Epstein, 2004).

Analytically, the whaling issue presents a case where this conflation of functions appears particularly pronounced. One consequence is that categories devised to analyse the role of science in other international environmental issues may not apply. For example, in her study of the interaction between science and politics in the ozone regime, Karen Litfin locates the source of power not in the scientists themselves but in the ‘knowledge brokers’, who are ‘the intermediaries between original researchers, or the

producers of knowledge, and the policymakers who consume that knowledge'. This position derives a 'substantial source of political power' from the 'ability to frame and interpret the scientific knowledge' (Litfin, 1994: 4-5). Here there is no intermediary, and this power is actively appropriated by the scientist himself. The agent of knowledge is all at once knowledge broker and political actor. Instead of categories of agency, then, it may be more useful to think in terms of subject-positions within the regime at large. This concept better embraces the fluidity within which the same individual may rotate between different positions within the regime, accordingly taking up the discourse (scientific or activist) associated with that position, of which s/he thus becomes the current subject-author. These examples of activist-scientists provide a concrete illustration of the way the *episteme* plays out at the individual level.

The whaling issue illustrates how environmental activists were instrumental in consolidating the power of science. They constituted science as a powerful weapon and successfully wielded it to obtain the end of whaling, which conversely also strengthened their own position within the IWC. The interaction between science and activism was not merely external: activists transformed the *episteme* in which scientific practices were grounded. The whaling regime presents an extreme case of the blurring of boundaries between science and politics. On the one hand this case exemplifies the risks wrought by the politicisation of science, both for science itself and for regimes of international cooperation. For today whale science is produced everywhere, to justify calls for opposite courses of action. While science has become discredited, the regime itself is falling apart. It has lost some of its key players, such as Canada; and despite the continued ban on commercial whaling, unregulated whaling is actually growing world-wide. On the other hand, lessons taken from the whaling regime are relevant in view of the current trend towards the 'scientisation' of international politics, where science is increasingly relied upon to form the basis for international cooperation. The case rings a note of caution against treating science as the 'objective grounds' for building collective international policies. Analytically, it highlights the need to move away from perspectives that approach either science or activism as discrete or apolitical components in the policy-making process. This article has developed an alternative framework where science and activism are analysed side by side in the making of international policy. This perspective reveals the dynamics of power being played out in the process. It assesses activist power, a question too often overlooked in IR literature. Furthermore, it casts anew the question of the *end* for which any piece of science is produced. Instead of treating it as a matter of knowledge or 'truth', the question asked, before such piece, is: what was it aimed to prove? This move is essential if, following Donna Haraway, at work in the production of scientific knowledge is the aspiration towards a total knowledge, an 'absolute truth', whose purpose is not the disinterested growth of knowledge itself but some form or other of human domination (Haraway, 1991). Thus taking a step further, this calls for the need to see all practices of knowledge production as *situated* within a political project, to take

up Haraway's injunction. In this perspective, any knowledge-producing exercise needs to be read against the 'will to power' ultimately driving it.

Notes

1. In the interest of precision, 'activists' here refers broadly to the individuals who partake in a cause-driven political activity, while NGOs comprise organised groups of activists.

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