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Cosmopolitanization in action: connecting scales in international environmental organizations

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Abstract *In this article we analyse how professionals in two international environmental organizations (IEOs) concerned with biodiversity act as 'entrepreneurs of cosmopolitanization' by establishing connections between the various scales they mobilize in their daily work. Drawing on an empirical survey, we show that these professionals mobilize a range of activities to meet a twofold requirement. The first requirement is for universality, which corresponds to their status, their determination to adopt a scientific approach and to the scale at which they initially defined the problem of biodiversity loss. The second requirement is to embed in specific contexts. Tension between these two types of requirement is inevitable. It is inherent in the cosmopolitan perspective and leads to contextual arrangements between the global approach to environmental problems and the forging of alliances with national, regional or local institutions and actors, according to opportunities and requirements. Connecting the various scales of environmental action unavoidably remains a partially achieved objective.*

Keywords COSMOPOLITANIZATION, PROFESSIONALS, ENVIRONMENT, BIODIVERSITY, SCALE, INTERNATIONAL ENVIRONMENTAL ORGANIZATIONS (IEOS)

Many recent studies in the social sciences have observed and analysed the emergence of a global scale for grasping environmental phenomena and problems.¹ According to different authors (Cosgrove 1994; Jasanoff and Martello 2004; Ollitrault 2008), the opportunity to see Earth from space, which first occurred in the 1960s, has played an important role in this emergence. Moreover, environmental crises that have arisen over the last few decades, such as acid rain, the hole in the ozone layer, climate change and the loss of biodiversity, have raised awareness of the transnational and

sometimes global extent of these phenomena (Beck 1992). World summits on the environment, notably in Stockholm (1972), Rio (1992) and Johannesburg (2002), as well as the institutions set up on these occasions, have also encouraged a more worldwide approach to addressing environmental problems (Ivanova 2007; Miller and Edwards 2001). Finally, frames of thought promoting the idea that we should design our responses to environmental problems on a global scale have lately become very popular, with a striking and topical example being the notion of ecosystem services. Underpinning this notion is the claim that it is possible to design a general system to assess the services that ecosystems provide, for example the filtration of water or the pollination of flowers. Theoretically, it is possible to compare the values of such services across time and space, to add them up, exchange or aggregate them, and eventually even create a global market of ecosystem services. Widely disseminated by the Millennium Ecosystem Assessment (2005), this approach has encountered much success² and the majority of biodiversity actors seem to have adopted it, albeit hesitantly at times. All this reinforces the idea that we cannot tackle environmental problems from a narrow, even outdated, framework of nation-states and that 'saving the environment' calls for a planetary framework of analysis and action.

The globalization of practices, institutions and cognitive frames does not disqualify other scales and geographical entities in environmental or other fields. As Kwa (2005) pointed out, ecologists have succeeded in capturing global changes and redefining the global level while maintaining their traditional interest in the study of local ecological systems (ecosystems, biogeographical regions, biomes, and so on). Science policy (Ollitrault 2008) and political geography studies in areas as varied as water (Swyngedouw 2004), tropical forests (Smouts 2003), upland management (Debarbieux and Price 2008) and climate change (Bulkeley 2005) show that with the advent of global reflection and action come a reassessment of lower levels and the establishment of new organizational perspectives, networks and localities. Thus, globalization does not necessarily weaken environmental knowledge and action at the more local organizational levels; instead, it leads to an overall new configuration of places, areas and scales.

A growing number of authors consider that one cannot view scale as nested, given and static. Some have even suggested rejecting the concept of scale in its entirety; in fact, they think it should be 'expurgated from the geographic vocabulary' and replaced with a 'flat ontology' (Marston et al. 2005). While we agree that we should not reify scale, we remain unconvinced by this suggestion. Indeed, not only researchers but also actors talk about scale, which they refer to as a category of action (Moore 2008): how are we to understand the importance actors attribute to scale and the use they make of it if we abandon the concept? Instead, we intend to contribute to the understanding of how scale is socially constructed (Marston 2000), how the global, national and local are reinvented (Robertson 1995) and always in a process of becoming (Herod 2010: xvi). We believe that these inventions and constructions result from the ongoing efforts of actors who constantly rework scale, as categories of action, and use them as strategic resources in their power relations (Jasanoff and Martello 2004; Swyngedouw 2000).

In this article, we analyse how professionals in international environmental organizations construct scale in their daily work to facilitate the circulation of environmental information and their own circulation between different levels. Drawing on an approach that combines sociology and geography, we show how they develop *bricolage* (literally ‘tinkering capacity’)³ to navigate between the various scales they define. This allows them to embed themselves in situated contexts while promoting the global level as the framework within which to define, analyse and deal with environmental problems. We shall see how they base this capacity on the deployment of a set of diversified activities.⁴ To a certain extent, this set of diversified activities reconciles two types of requirement pertaining to global biodiversity governance and solves the tensions resulting from their coexistence in work practices. The two types are (a) a requirement for universality, congruent with the very nature of international institutions and with the rise of environmental issues defined as global and (b) a need to embed in localized contexts. The latter implies studying more restricted ecosystems, on the one hand, and fosters the development of partnerships with local and national decision makers, on the other. It involves adjusting environmental issues defined as global to situated and often competing constraints, expectations and interests.

Thus, the work carried out in international environmental institutions does not correspond chiefly to a globalization process (of stakes, problems and actors). Rather, it illustrates a process of ‘cosmopolitanization’ (Beck 2004), which entails the restructuring of a complex system of spatial entities and levels of scale. Borrowed from Beck, the notion of cosmopolitanization designates the simultaneity of the emergence of a global scale and the permanence of national and local levels. In other words, individual and institutional actors are able to construct different scales that can be weaved into their daily activities. Indeed, adopting globalized discourses and practices does not prevent stakeholders from remaining embedded locally and belonging to a nation-state. This constant weaving back and forth is crucial to making the globe a relevant scale for environmental action. It entails forms of articulation loaded not only with opportunities but also with potential tensions and conflicts between multiple belongings and loyalties. The emergence of a global scale can even reactivate lower scales: while it concerns humanity as a whole, the threat of generalized death that current societies are seen to generate by accelerating phenomena such as climate change greatly varies according to the living conditions of individuals and populations and according to regions. It also tends to redistribute and exacerbate inequalities that have become inextricably social and natural (Beck 2010). We therefore intend to show that the emergence and rise of a global scale for grasping environmental phenomena and problems do not rest only on unprecedented technologies and problems. They also rely on the aptitude of professionals to connect different scales, between which they can circulate, transport and transform the environmental data and images they use and produce as well as the interests of a growing range of actors.

We shall focus here on the cosmopolitanization practices of members of those environmental institutions that tackle the question of biodiversity loss rather than of climate change. Biodiversity is indeed a particularly suitable subject with which to

reflect on the making and connecting of scales in the work of international environmental institutions. Promoted by the Rio World Summit (1992), from the start the concept of biodiversity aimed to grasp the question of conserving life on a planetary scale (Chauvet and Olivier 1993). It is important to keep in mind that biodiversity varies greatly across the earth's surface according to the physical and geographical characteristics of almost infinite diversity and to the ways in which human societies, which are themselves a component of biodiversity, use it.

Our survey highlights how biodiversity professionals seek to connect the various scales they mobilize in their work. We carried out the survey in two institutions based in or near Geneva – the International Union for the Conservation of Nature (IUCN), an inter- and non-governmental organization, and the European office of the Global Resource Information Database (GRID), which is part of the Division of Early Warning and Assessment (DEWA) of the United Nations Environment Programme (UNEP).⁵ These institutions pursue a twofold objective – to produce knowledge and to conserve biodiversity. Situated as they are on the frontier between the academic and nature conservation worlds and involving the participation of actors from both, we can look upon them as boundary organizations (Guston 2001). This leads them to act at various scales as they work to acquire good knowledge of environmental data and undertake actions in highly territorialized institutional contexts.

Moving from one institution to the other, we carried out a dozen semi-structured interviews, lasting between one and two hours, with professionals in these institutions. We also analysed a number of the documents and databases they publish. Contrary to other studies adopting an institutional approach to international organizations (for example Haas 1994; Ivanova 2007, 2010), we sought to reconstitute the spatial and scalar frames of individual reference. We tried to highlight the points of view and the daily work practices of individuals (see, for example, Berry and Gabay 2009). Thus, what we intend to bring to light is cosmopolitanization in action in international biodiversity organizations.

Meeting the requirement for universality

The institutions we studied strive to address biodiversity at a global scale. The members of staff share this objective, as the comments of one of our respondents on the Millennium Ecosystem Assessment suggest. 'This was a process which was aiming to look at the relationship between the environment and people, biodiversity and people, in a kind of IPCC⁶ type of credible, global, international-based way, and that I found rather exciting' (IUCN, 1).

In this first section, we present three means that the individuals we interviewed used to lend a universal dimension to their institutions and to make the globe an appropriate scale for environmental action. These are first, the inscription of their work in the scientific sphere; second, the production of tools to monitor, present and grasp biodiversity and its stakes at the planetary scale; and, third, the endorsement and adoption of cosmopolitan everyday practices and culture.

Benefiting from the universal image of science

Specialists working in these institutions claim to base the acquisition of their knowledge and the production of their work on scientific methods. Previous studies have shown the persistent application of scientific criteria to legitimize the work of environmental NGOs and that we can study these actors as both consumers and producers of science (Eden et al. 2006). We found that this also pertained to inter-governmental institutions such as GRID-Europe, where we observed a strong faith in the universal reach of science.

By conforming to the practices and standards of the scientific community, international institutions aim to lend a dimension of universality to their work. In fact, all our respondents insisted that the work their institutions carried out was in the realm of science. Everyone we met in the IUCN, which claims to play a major role in identifying and addressing environmental problems at a global level, regarded it as 'a science-based organization' (IUCN, 3).

Nevertheless, the members of these institutions do not consider them fully-fledged research bodies, in that they often contribute only marginally to the production of new scientific knowledge. '[We are] scientific, but we are not a research organization. We do not do fundamental research ourselves. We do some applied research. ... I would not call it a scientific research organization, but we use data, we add some value to the data' (GRID-Europe, 1).

In short, members of GRID-Europe do not define themselves as researchers, or at least they are reluctant to do so. However, they all have a solid academic background with a Ph.D., or at least a Master's degree in geography or ecology (cf. Eden et al. 2006; Yearley 1993). In other words, the individuals involved in implementing or organizing the projects either belong to the scientific world or have come from it, and continue to have close relations with it. They asserted that they based their work on the latest scientific findings and that the capacity to use scientifically validated knowledge was of paramount importance to them. As one respondent put it, 'scientific credibility is to me the most important. We really have to make sure it's the best available science being used' (GRID-Europe, 1). For that matter, IUCN recently (November 2009) hired a 'head of science'.

These institutions design the tools of their trade with a view to showing that their work has a solid scientific grounding. In producing its well-regarded Red List of protected species, the IUCN relies on a network of thousands of volunteers ('the biggest global conservation network' (IUCN, 2)) spread across approximately a hundred specialist groups. Not all members of these groups are researchers; some are 'practitioners' with a good knowledge of their subject. 'The SSC⁷ is really a mix of practitioners and academics' (IUCN, 3); in effect, 'the commissions tend to be a real mix of academicians, practitioners and policy-makers' (IUCN, 2). Unlike academics, the practitioners work in the field to address practical conservation issues. We could see the stress they place on the mixed composition of IUCN groups and commissions as a way of benefiting from the universal reach of science while attempting to entrench themselves in localities dealing with situated issues of nature conservation.

Scientific approaches are also at the forefront of the field. Our respondents value transparency and peer reviews, and think that publishing in peer-reviewed scientific journals is particularly valuable. The classification of species on the Red List and modifications of the classification over time adhere to strict scientifically validated criteria, with well-established rules in place to contest them. The classification criteria themselves have been progressively revised and refined. As far as possible, the data mobilized are also scientific. As one respondent explained, ‘we do look of course at the scientific credibility of those data, so it has to be published and reviewed and come from good sources’ (GRID-Europe, 1). For instance, the GRID-Europe early warning team, which releases ‘environment alert bulletins’, makes a point of using data from scientific journals.⁸

Because the information that biodiversity professionals generate and convey is scientific in nature, it acquires the universal dimension generally associated with science. Moreover, the tools they use to define and tackle the problems their institutions set up to address and solve are global in scale.

Designing globalized tools to define and tackle biodiversity problems

Since the introduction of databases and simulation models, climate specialists have been able to address the climate in a new way, namely as globalized from the start (Miller 2001). However, while biodiversity was from the start defined globally (Chauvet and Olivier 1993), apart from the Red List, there is no real documentation about its state or evolution at the planetary level. The institutions we studied therefore consider the acquisition of more knowledge about planetary biodiversity a worthwhile goal, especially knowledge of the nature and distribution of ecosystems. As one professional (IUCN, 2) explained:

Even some of the basic stuff, you know, we do not actually know how many species there are on the planet. ... That is growing slightly now but it is still a problem. When it comes to the ecosystem scale, we do not even know where the world’s habitats are. We have no idea where the world wetlands are. We hypothesize around rates of change about things we do not even know baselines for. We do not know where half the water mangroves are, I think still. So, we have some challenges and just these really basic understandings about extent, let alone change.

Thus, our global knowledge of biodiversity is far from complete, despite efforts to document more precisely the distribution of, and changes in, natural environments at a planetary level. These efforts have resulted in much more accurate knowledge of a number of environmental features that are important for understanding biodiversity, such as topography. Another respondent (GRID-Europe, 4) described how:

People are now sort of struggling and competing to try to improve precision at the global scale. We are starting to have a digital elevation model available for

the whole planet with a resolution of 30 meters; which is amazing. We have a resolution of 25 meters for Switzerland, so we nearly have the quality of data we have here for the whole planet, which is just unbelievable.

Having steadily improved their means of acquiring worldwide data on natural environments, environmental organizations now strive to demonstrate, in practice, that it is possible to document the environment and its evolution on a global scale. The GRID-Europe bureau, for example, contributes to the UNEP mission to monitor and assess the state of the environment across the planet by drawing up the Global Environmental Outlook (GEO). The four GEO reports so far released provide information on the state of the environment at a global level, biodiversity being one of the components scrutinized.

Thanks to partnerships with several institutions, but most notably the National Aeronautics and Space Administration (NASA), the bureau members use a large amount of data obtained through remote sensing. 'We have carried out many satellite studies to see the state of deforestation, urban sprawl, droughts, etc., which have been used for the atlas of global change' (GRID-Europe, 2). Remote sensing provides data from space about the state of terrestrial surfaces, thus facilitating access to information about regions for which it is difficult to perform ground surveys.

The organizations use information and communication technologies that allow them to exchange data with collaborators in different locations and to process huge amounts of material that would not exist without the current computer technology (Bowker 2000). For instance, some members of GRID-Europe participate in a European project called Envirogrids, which explores the possibility of computing geo-referenced data using big clusters of computers, such as those of the European Organization for Nuclear Research (CERN). 'We are beginning to have data available at very large scales and it is becoming more and more difficult to manage this on an ordinary computer. So, we are trying to explore the possibility of distributing the GIS calculations across large clusters of computers' (GRID-Europe, 4).

To analyse the data and communicate the information produced, our respondents make abundant use of maps that consistently refer to a global level and, in particular, often represent the global biodiversity crisis. The production and release of world maps showing the extension of specific and situated phenomena, such as algal blooms (Figure 1), reinforce the fact that we are indeed dealing with a planetary crisis.

Members of GRID-Europe have also been closely involved in writing *One Planet: Many People*, an atlas edited by the Division of Early Warning of North America and its Sioux-Falls bureau. The aim of this atlas is to provide 'visual and irrefutable illustrations of environmental changes induced by natural processes and human activities'. By covering the surfaces concerned by deforestation or 'rush for land', satellite images have the considerable advantage of making the planetary dimension of the environmental crisis visible (see, for example, the cartography of S. Kluser, in Piuz et al. (2008)). As one member (GRID-Europe, 2) put it:

The identification of environmental degradation through satellite analyses is a quite popular and efficient product. One does not have to be an expert to interpret satellite images ... the difference is very visual. So, we make these products for the general public, our goal being to see to it that everybody can become aware of this global change and will modify their decisions as consumers.

With satellite equipment enabling biodiversity professionals to produce more globalized knowledge, the GEO reports thus help render the globe a relevant object for environmental analysis and action. The GEO data portal that provides a complementary set of reusable data also promotes this level of reference. The reports and the portal are accessible from any location across the globe, provided there is an internet connection, which of course is far from being the case everywhere. The IUCN Red List also offers a global vision of the state of conservation of many known species. Moreover, the standardization of data and the technical conditions of their dissemination make it possible to exchange, compare and aggregate information produced or utilized in countless places across the planet. Global pictures of the environment can therefore be produced using data collected on the ground. The biodiversity professionals can then mobilize the circulation of data to define the local and the global as highly interconnected. As one (IUCN, 6) put it:

We are working with others to develop wiki-databases where experts can – you can – have a global picture, but we are trying to build it from the bottom up, so you get expert local data on whatever it is you are interested in. ... [It] could be kelp beds, for example – where they are and all the other information about them – and you put them into a global atlas. And so it does mean something locally as well as at the global level. So hitherto, a lot of the databases have been driven by the global-level analysis because there weren't the tools or the money available to build them from the bottom up. So I think that's where things are moving now.

Finally, once processed, the data are frequently presented and discussed using maps that, at least visually, reinforce the global scale of reference.

Protectors without borders

People who pass on and promote the knowledge that biodiversity institutions present and disseminate are those whose culture and practices testify to a recurring reference to a planetary level of scale. During each of our visits to the IUCN headquarters in Gland, we made the same observation: the atmosphere was at once very confined – visitors have to provide identification and sign a register before entering – and very international. English is, by far, the most spoken language, though Spanish is also common as are French and German, but to a lesser extent. One can say the same of the offices of GRID-Europe, which frequently take on interns, often students from

Geneva University whom they sometimes hire following the internship. However, the head of the institution is American and the vice-head Dutch. National identity does not seem to matter. On the rare occasions it does, it is in response to an objective to diversify staff origins and to form teams that are as cosmopolitan as possible.

Furthermore, we found that our respondents had travelled widely. Indeed, the diversity of countries visited or in which they have worked during their careers, sometimes over long spans of time, is even greater than the diversity of national origins. For instance, the then IUCN 'Head of Science' was Canadian but she had worked for some time in China for the WWF. The positions our respondents hold lead them to travel all the time. For that matter, we often had difficulty meeting them, for countless meetings and conferences frequently held them up. 'Out of office' messages, informing us they were currently at the other end of the planet, often met our requests for appointments. As well as making physical trips, they also appear to travel virtually, regularly receiving and sending messages from and to localities across the globe. In this respect, biodiversity professionals resemble the key organizers of global justice networks (Routledge et al. 2007) and the transnational knowledge workers that Colic-Peisker (2010) investigated, though the latter showed less fervour for activism than a number of our respondents did.

This dense flow of people and information creates a space extending across a considerable number of the planet's localities, which these professionals fill with their practices and interactions – a space the collection and exchange of data already occupy. These spaces personify the thinking of the members of these international organizations, namely that biodiversity is undergoing a crisis and that this crisis is planetary. Legitimizing practices and exchanging information are as important at this global scale as framing and addressing problems. In this respect, this global scale is a reflection of one of the aspects of what Ulrich Beck (2006: 184) referred to as the 'cosmopolitanization of reality'.

Although the members of these institutions gear their activities towards helping their institutions in the global governance of biodiversity, they also seek to meet the need to embed in localized contexts. In the second section of this article, we shall consider the latter set of activities.

Becoming embedded in specific contexts

Some social scientists have demonstrated that scientific knowledge can appear as a view from nowhere, detached from researchers and scientific communities, and from locales (Latour 1989; Latour and Fabbri 1977). Haraway (1988: 580), on the other hand, claims that 'science has been about a search for translation, convertibility, mobility of meanings, and universality', which might explain the persisting conviction that it is universal (Jasanoff and Martello 2004: 19). However, the same scholars have also shown that the most general claims are impossible without locales, be they the fields where scientists carry out their observations and measurements, the laboratories where they undertake their experiments and write their papers or the

seminars and journals where they discuss their results. Scientific practices are deeply situated, contextual and embodied⁹ (Haraway 1988; Jasanoff and Martello 2004; Livingstone 2003). This also applies to the practices our respondents implemented to produce knowledge. Moreover, to optimize their actions, they define the regions in which they plan to intervene by building partnerships with local actors and adjusting international issues to the expectations, interests and possibilities of local individuals.

The unavoidable field

Naturalists are well aware that because a number of complex climatic, geological, pedological and other factors influence biodiversity, it manifests infinite variety across the surface of the globe. Scholars also study biodiversity within a system of analytic scales (whether biome, biogeographical region, ecosystem or biotope) so that its state and evolution may be diagnosed in detail. Its analysis calls for field investigations and, despite the promises of remote sensing (Kwa 2005), in nearly all cases the need for empirical knowledge still means that somebody has to 'go and see'. This explains the need to define study perimeters. More often than for the climate, which is frequently regarded as less dependent on local physical and geographical characteristics (Godard 2005), initiatives related to biodiversity juggle with levels of scale on which observation and analysis are based and those of existing institutions. Scientific knowledge on biodiversity thus rests on quantities of localized practices and entities aiming to take into account the spatial nature of phenomena.

Many collaborators of these biodiversity institutions pay particular attention to this fact. They have a solid background in several disciplines (mainly geography and ecology but also disciplines like veterinary medicine). Their studies and research often lead them to undertake scientific field surveys and to focus in particular on *in situ* observations. Researchers (like IUCN, 2 quoted below) often base planetary scale statements about biodiversity on such observations:

Something terrible is taking place and it is visible even at the individual scale. Even during my life, between my childhood and now, everything has decreased. In the field, it is obvious that everything is disappearing, not at the speed of generations, but from one year to the next. ... I went to Brazil last summer, I had been there 27 years before, exactly in the same area, but it is not the same anymore, it is not the same country: everything was uprooted to grow sugar cane, or eucalyptus. ... So, in a few decades, drastic changes have been made.

They are thus acutely aware that the methods this type of institution favours – modelling, remote sensing, sets of indicators and so forth – also call for field surveys, beforehand to collect data and afterwards to validate and interpret the observations or deductions. One employee (GRID-Europe, 2) explained how:

We can suggest limits for national parks and we did it, in this bureau. We said: this is where you still have an outstanding biodiversity, at least when looked at

from space, and we suggest that this is where the limit should be drawn. So we can provide this type of quantification but, of course, meticulous work is needed, based on an inventory and long-term studies that cannot be carried out from space, as far as I know.

Our survey therefore highlights the importance of science in terms of the ability of our respondents to articulate different scales and to enable their institutions to be global actors capable of adapting to the diversity of national and local contexts. Because science draws simultaneously from localized practice and universal knowledge (Hine 2008: 40; Latour 1989), it appears to have the means to respond to the requirements for both universality and embedment in the particular contexts facing international environmental institutions. Its dual nature would therefore seem to be particularly precious for transnational biodiversity professionals who need to move between different levels of scale.

Defining 'policy-relevant' regions

The members of these biodiversity institutions also have to take perspectives relating to political territorialities into consideration. While they recognize that scientific robustness is essential, they also point to the need for political relevance. In our discussions with them, they continuously underlined their recourse to 'policy-relevant science' (IUCN 1, 2, 4; GRID-Europe, 1, 2, 3, 4, 5). As we shall see, this involves trade-offs and an ability to move from one institutional level to another, not without a certain amount of tension being generated.

Indeed, those who design and run biodiversity-related scientific projects do not want to know just for the sake of knowing but for the sake of preserving and bettering biodiversity for the future. Thus, they seek to produce knowledge that is liable to shape environmental public action. They hope that political decision makers will mobilize the knowledge they provide and that it will have a positive influence on biodiversity management. This is what they call 'policy-relevant knowledge'. This wish to put available knowledge to good use rather than to produce new knowledge has encouraged some to give up a purely academic career to join an action-oriented institution. As one such respondent (IUCN, 1) explained:

I never did a Ph.D. and never intended to do a Ph.D. I found it much more interesting to see how science was taken up in decision-making, in policy processes, but also in terms of how people implement conservation practice on the ground and development on the ground. So looking at 'the interface between science and policy' in practice was what I found most interesting. I wanted to get involved in implementing, understanding and supporting that to happen in practice.

Their determination to make knowledge useful gives them an incentive to integrate into their work of designing and operating tools to monitor and manage

biodiversity some of the points of views, concerns, objectives and rationales of those who plan and implement public environmental policies at different territorial levels. This imperative is even stronger among biodiversity organizations with regional and national offices that liaise with the state departments of national governments. The members of these regional offices are therefore particularly keen to initiate circumscribed and applied projects, if only to justify their mission.

In this context, GRID-Europe promoted a Regional Environment Outlooks (REO) series to back up the Global Environmental Outlooks. The former cover the Carpathians and Caucasus, but outlooks also address national and local levels, as well as any large cities that are interested. GRID-Europe would like to produce more such outlooks, but has a restricted budget. It is notable that this 'rediscovery of the local level' also took place in the field of climate change, with IPCC experts starting to regionalize or localize their studies on climatic impacts (Jasanoff and Martello 2004: 7). This swing between scales is, as a respondent (GRID-Europe, 1) confirmed, clearly motivated by a hope to become more policy relevant:

With the years we have thought, 'well, we should try to become more policy-relevant and also work at the regional' – at the level where policies are usually made, and you can have the biggest influence, and from there the whole idea was born to do regional, sub-regional, national level, even city-level outlooks. So from the global down to the real local level to try to become more – that's the bottom line, to become more policy relevant.

The decision to involve political bodies has often meant negotiating the spatial (or geographical?) boundaries and content of the outlooks. In such cases, discussions take place with local authorities or national governments before publication of the REO. These preambles lead to choices that take into account geopolitical considerations (best strategies for cooperating or competing with neighbouring states) as much as scientific ones (the region at stake must correspond to a national entity scientists acknowledge). 'There is always a highly political discussion about the territories to include. But this normally occurs at an early stage of the process since we have to define the places where we will go and get the data' (GRID-Europe, 5).

For instance, a disagreement between the Hungarian and Romanian governments over what region to delineate dogged both the organization's attempts to define the REO perimeter for the Carpathians and a simultaneous discussion about that of the Carpathian Convention. The Hungarian government wanted a broad perimeter capable of including the living places of Romania's important Hungarian minority, whereas the Romanian government wanted to stick to a more restricted topographical area (Fall and Egerer 2004).

With so many scales at play in environmental assessments, those involved regularly have to juggle with their respective institutions' boundaries and levels of entrenchment. To facilitate future work, states may require environmentally relevant regions (defined according to criteria that can vary from one institution to the next) that will accommodate their administrative and political rifts. A desire to be pragmatic

can result in trade-offs being made between political interests and ‘scientific’ criteria, an example being taking into account the administrative partition of member states in the delineation of European biogeographical regions.

Thus, national administrative rationales and international relations can both have an impact on the designation of the regions studied and, sometimes, the splitting up of space into regions that are relevant for biodiversity studies.

Adjusting to the interests of situated actors

Finally, in some cases negotiations over the perimeters and content of environmental outlooks have also involved data and goals. GRID-Europe first turned to scientific institutions to obtain biodiversity-related data, but as mentioned below (GRID-Europe, 1), it progressively felt obliged to use the states’ official environmental data, even if these were of lesser scientific quality:

We at UNEP, we are an intergovernmental organization like the UN, so we are sort of obliged to work with governments who are our major stakeholders, our major clients so to speak, to use data that officially come from the country. Then again, we know that some of the data is [*sic*] not always the best data, perhaps, or not scientifically sound. There are also science universities who [*sic*] improve those data sets, at least they claim to improve them, and then – so on the other hand there is the challenge to be scientifically sound as much as you can, to work with science organizations and also policy relevant and work with governments. So there can also be some conflict between the two.

Administrations, as well as governmental and infra-governmental agencies, not only provide the data for environmental outlooks but also sometimes influence the work to conform to their own views and interests. The environmental outlooks undertaken in a growing number of regions, countries and cities are not the same everywhere because the chief concerns of the regions’ decision-makers influence the content of the work. The IEO professionals we interviewed (see GRID-Europe, 1 below) underlined their will to take into consideration the concerns of their regional and national partners:

Of course, it has to address the most important issues, issues that can be addressed by governments and other decision-makers so that there can be some practical influence of the report. You can write about all sorts of issues, but if it really cannot be solved or people cannot see how they can address it, then it is not very relevant, but really to focus a bit on issues that can be addressed, that are high on the agenda in countries and regions.

Moreover, because they want their work to have concrete effects on biodiversity management, the members of international biodiversity institutions more frequently

set out to meet local decision-makers and integrate some of their goals and concerns, as explained below (GRID-Europe, 1):

I think with the years we have been trying to involve more activists, basically because we have been doing this work more and more at the regional and sub-regional and even national, city levels. So from that, automatically it follows that you have more collaboration with those actors.

The frequently used expression ‘policy-relevant science’ therefore refers to pragmatic compromises, negotiated in the course of the action.¹⁰

Finally, the capacity of states or subnational entities to influence biodiversity assessment or governance is not limited to adapting contents or modalities. It sometimes takes the form of such entities or states resisting global initiatives they perceive as a short-term threat to their interests and autonomy of action. ‘Mega-diverse’ countries, such as Brazil, were rather reluctant to create an institution to act as an ‘IPCC for biodiversity’.¹¹ Several of our respondents interpreted this reluctance as the states’ determination to defend their sovereign rights to exploit and manage their natural resources as they wish. They believed that the representatives of these countries objected to the constitution of a global device for monitoring and regulating biodiversity out of fear that a better knowledge of biodiversity at a planetary scale would lead to international pressures to preserve it. As one respondent (IUCN, 2) put it:

There are big issues regarding the states’ sovereignty over their biological resources. As a consequence, the reluctance to create a space of scientific production independent from the political realm is huge in all emerging countries, notably China, India and Brazil in particular. Brazil has calmed down a bit but it was very much afraid of having somebody telling them what the state of Amazonia is and what they ought to do about it.

To sum up, connecting global and lower levels of scale entails discussing and negotiating with various territorialized actors about how to delineate environmental regions, which data to mobilize and which issues and interests to take into account. As IEO professionals travel between scales, they transport data, images and interests and transform them along the way, clearly acting as ‘entrepreneurs of cosmopolitanization’.

The under-representation of non-Western collaborators

The presence of personnel from regions in which the institutions want to work facilitates the integration of local and national levels. At the time of our fieldwork, GRID-Europe launched an REO in the Balkans and Dinaric Arc and appointed a consultant from former Yugoslavia to write a preliminary document and facilitate work sessions with the governments and environmental institutions of the different

countries involved. His knowledge of several languages in the region, and of its geography and history, proved to be highly valuable in discussions with local actors. It enabled them to avoid blunders and promote the REO project.

However, this use of individuals from the regions studied is often only temporary. For instance, the aforementioned consultant called in for the Balkans–Dinaric Arc REO only had a short-term contract. There was thus no long-term partnership established. More generally, this short-lived recourse to local experts significantly highlights the fact that a very large majority of the permanent staff of international institutions are from Western European countries and North America, and more precisely from English-speaking countries. Although the biodiversity professionals we met were cosmopolitan in demeanour and had worked in a long list of Northern and Southern countries, their non-local origin is a serious obstacle to the institutions' capacity to respond to the twofold requirement of universality and openness to territorialized situations. Cosmopolitanism cannot compensate for the scarcity and, in some cases, lack of collaborators familiar with the particularities of the regions in which the institutions work. Moreover, although English caters to the need for universality, its hegemonic position is an obstacle to discussions with local actors and prevents the establishment of close and long-lasting relationships with them (about the language issue in global justice networks, see Routledge et al. 2007). So the composition of the permanent staff of biodiversity institutions, characterized by the predominance of Northern country representatives, limits the possibility of adjusting global initiatives to diversified cultural and political contexts, despite the temporary recourse to personnel who are more familiar with them.

The institutions' human, material and financial means appear relatively restricted, especially in relation to the scope of the work to be accomplished. A bureau such as GRID-Europe cannot produce as many regional outlooks on the state of the environment as it might consider necessary. It has to make choices, to the detriment of any cohesion between its different levels of action. For instance, between our fieldwork and the time of writing, GRID-Europe first postponed and then abandoned its proposed REO on the Balkans and Dinaric Arc because of lack of funding. This suggests that the objective of connecting the global level of scale to lower levels remains only partially achieved. IEO professionals establish connections between the global, as they conceive of and practise it, and to particular places, rather than between scales in general.

Conclusion

The process of cosmopolitanization entails making scales that can be interconnected and then dealing with the resulting tensions. The simultaneously geographical and sociological perspective adopted in this paper has enabled us to show that the scales of environmental action and their interconnections are not pre-given but enacted through practices, notably those of IEO professionals. In particular, our survey has highlighted how biodiversity professionals carry out a range of socio-technical activities to give their dedication and local activities a global dimension. They strive

to promote their institution as an actor of biodiversity governance by meeting a dual requirement. This is on the one hand a need for universality, which corresponds to their status, their determination to adopt a scientific approach and to the scale of the initial definition of the problem of biodiversity loss. On the other hand, it is the need to embed in specific contexts if they are to take account of the variability of biodiversity and of the political and institutional contexts in which it is addressed. There is a certain amount of tension between these two types of requirement. This is inherent in the cosmopolitan perspective and leads to contextual arrangements between the global approach to biodiversity problems and the establishment of links with national or local institutions and actors, according to opportunities and requirements. This is how a situated environmental cosmopolitanism emerges, performed through the actors' practices and characterized by the making and entanglement of various scales. Through their practices, IEO professionals gradually define the various levels of their action as interconnected: they present local phenomena as examples and consequences of global processes; they incorporate data collected on the ground into global pictures of the environment; and they continuously move from global meetings to local and national arenas. As they make it, the global becomes a relevant and meaningful level of scale, linked with territorialized phenomena and issues.

The findings of our survey suggest that the emergence of a global level of biodiversity monitoring and management does not necessarily lead to a departure from local problems and act like a steamroller (as described by Jamison 1996: 225). Much more fluctuation appears to be involved: the rediscovery of the local level did not occur solely in the domain of traditional ecological knowledge but also in that of the scientific devices used to monitor and manage biodiversity. Moreover, the actors' capacity to adapt globally designed devices to the particular circumstances in which they are engaged (and notably to the situation in the states with which they have to cooperate) might call for a downwards revision of the weight that international studies attribute to the rules and norms of the 'regimes' in charge of environmental problems (Haas 1989).

Nevertheless, our survey also reveals a number of limits to the actors' ability to navigate between the different levels of scale on which their institutions act. The scarcity of available means and the time-consuming work of making scales that one can at least partially link up are what set the limits. They also stem from the tenuous presence of individuals with the cognitive, cultural and linguistic skills required to integrate non-Western views into a cosmopolitan approach to biodiversity problems and to invent other forms of cosmopolitanism based on alternative ways of defining and practising the various levels of scale and of interconnecting them.

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Notes

1. This global apprehension clearly appears, for instance, in the title of the influential book by Ward and Dubos, published in 1972, *Only one Earth*.
2. It also triggered much criticism (see, for example, McCauley 2006).
3. Levi-Strauss (1962) used the word *bricolage* to designate the ability to combine different sources of knowledge.
4. In this text, we have chosen to identify the various activities mobilized by the institutions' members rather than to focus on one in particular. At present, the GLO-Rete (Globalization and re-territorialization of environmental initiatives in Central Europe) research programme, which is devoted to the regionalization of environmental action in Europe, is scrutinizing each of them thoroughly.
5. The official name of this bureau is UNEP-DEWA-GRID Europe. To simplify matters, we shall call it GRID-Europe in the following pages.
6. Intergovernmental Panel on Climate Change.
7. Species Survival Commission.
8. According to the GRID-Europe website, 'in a deliberately journalistic style but based on cutting-edge scientific information, the bulletins are aiming at explaining the causes and the consequences of a wide range of problems threatening global to local ecosystems and the human environment', <http://www.grid.unep.ch/product/publication/EABs.php> (last accessed 13 December 2010).
9. 'Scientific knowledge production begins at one level as a deeply local activity. It takes place in field sites, laboratories and on computer screens; equally, its production is embedded in particular traditions of securing trust and credibility' (Jasanoff and Martello 2004: 19).
10. On the pragmatism and versatility that environmental NGOs apply to legitimize their knowledge, see Eden et al. (2006).
11. More precisely, the institution in question is the 'International Platform for Biodiversity and Ecosystem Services' (IPBES).

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