Deciphering the Codes of Internet Governance: Understanding the Hard Issues at Stake

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Foreword

This paper analyses and reports on discussions at the international forum held at the University of Oxford, entitled 'Internet Governance for Development: Focusing on the Issues'. It started with an open meeting on 31 August 2006[1] followed on the next day by a workshop[2] for a specially invited group of knowledgeable and experienced participants, encompassing a broad range of perspectives. They sought to discuss and clarify key Internet governance issues, such as those on the agenda for the first meeting of the United Nation's Internet Governance Forum, held in Athens from 30 October to 2 November 2006.

This paper explores underlying values and policy-making dynamics in international Internet government processes, particularly in relation to the needs of developing countries. It is one of a series of Oxford Internet Institute (OII) forum-based discussion papers. In addition to the views of participants expressed during the Oxford event, it draws on position papers prepared for it, documents submitted for consideration by the IGF meeting in Athens[3] and other relevant information.

[1] See www.oii.ox.ac.uk/events/details.cfm?id=20, which includes a link to a Webcast of the open meeting on 31 August and a paper presented by Kenneth Cukier.
[2] See www.oii.ox.ac.uk/events/details.cfm?id=23 for the agenda.
[3] See www.intgovforum.org/contributions_for_1st_IGF.htm

The Oxford event was organized by the OII in collaboration with the Berkman Center for Internet and Society at Harvard Law School and the e-Horizons Institute at Oxford University's James Martin 21st Century School, with input from Berkman's Net Dialogue project. We thank Nominet UK, Afilias and the Internet Society (ISOC) for their sponsorship of this event.

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The authors take sole responsibility for the interpretation of this material, while acknowledging the invaluable expert contribution from many participants in helping to produce this analysis.

Credit for the smooth running of the event is due to the excellence of the OII events and technical teams, particularly to Suzanne Henry, Adham Tamer and Arthur Bullard.

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Overview

Is the Internet Governance Forum (IGF) an ineffectual 'talking shop' unable to influence significantly the hard issues and choices at stake—or an important landmark on the road to more representative multi-stakeholder regulation of the Internet? This question lay at the heart of discussion and debate at the Oxford event on which this report is based, although it was too early to identify actual outcomes as the first IGF meeting would meet two months later in Athens.

The Oxford event had been convened because the organizers felt it was time to move forward discussions on international Internet governance from the important institutional and procedural debates leading up the IGF's formation towards examining the key substantive issues that will be examined as the

Forum progresses. The analysis presented here indicates that an important first step in clarifying these issues would be to decode the diplomatic 'creative ambiguity' of the language often used to frame international Internet governance agendas. The paper examines the critical role in shaping outcomes played by the values underlying the formulation of such agendas and the positions adopted by different stakeholders in policy discussions.

The specific values and other key factors shaping the IGF's objectives and agenda are explored in the first section of this paper. Section 2 attempts to decode three of the most significant Internet governance terms highlighted in Oxford: 'network neutrality', 'internationalized domain Names' and 'interconnection'. It also discusses ambiguities in the language used in the international management of Internet governance and the meaning of the term 'Internet governance' itself. Significant underlying concerns are identified that are particularly hard to resolve when policy is being developed among stakeholders with competing and complementary values, perspectives and interests. A framework for classifying Internet governance issues is recommended to help better understand the overall context and interrelations between issues.

Section 3 briefly reports on other topics emphasized in Oxford within the four broad areas on the Athens agenda. The concluding section discusses the need for the IGF to develop approaches that ensure there is real engagement between stakeholders to ensure some constructive progress is made even when there are deep differences between those involved. A summary of suggestions to help enable the IGF to achieve its objectives is also offered. A Coda then reflects on how the first IGF in Athens shed further light on the issues highlighted in this paper. Appendix I lists participants in the Oxford forum and Appendix II is a glossary of terms and abbreviations.

1. The values shaping the Internet Governance Forum

The hard issues beneath the creative ambiguity of the IGF agenda

The Oxford event on which this report is based was organized to try to help clarify the four main issues on the agenda for the IGF's first meeting in Athens: access, diversity, openness and security. Towards the end of the Oxford meeting, however, Kenneth Cukier of The Economist pinpointed a concern about the nature of the language used in framing this agenda: 'When we talk about the issues on the Athens agenda, we often seem to be using code words that mean something else.' The 'something else' was typically a key area of contention. For example: 'access' could be seen as a code for 'Internet interconnection costs'; 'diversity' for multilingualism and International Domain Names (IDNs); 'openness' for technical standards and the management of the core Internet infrastructure; and the submerged battlefield in 'security' represented by 'privacy', as civil society stakeholders often feel privacy isn't discussed enough and governments and businesses that it has too much attention.

Many other issues were raised within and across the topic areas.[4] But Cukier's comment revealed strong underlying political, cultural and socio-economic undercurrents tied to the language used in framing discussions. As Markus Kummer, Executive Coordinator of the IGF Secretariat, explained, the Tunis Agenda for the Information Society (WSIS 2005), which established the IGF's mandate, was 'a diplomatic compromise, the beauty of which is that it is full of creativity ambiguity that allows everybody to find something to satisfy their own wishes. As the Agenda was based on a decision-making Summit, the text on controversial topics such as IPR was carefully balanced in a way that avoided going into details that could be divisive and difficult to resolve.'

Many participants agreed that a degree of 'creative ambiguity' of language in international policy agenda setting is acceptable if it could help to avoid conflict and sharp disagreement before discussion even begins. However, Don MacLean, a member of the UN's Working Group on Internet Governance (WGIG), argued that real progress can be made only by clarifying—or at least ventilating—important questions of language and difference among stakeholders in values, interests, knowledge, perceptions, intentions, strategy and tactics.[5]

Concern was also expressed in Oxford about what might have been left off the IGF agenda to avoid controversy. For instance, Jeanette Hofmann (2006) notes that the four main themes at the IGF Athens agenda do not mention disputed topics that triggered the IGF as an institutional innovation, such as the

[4] The Berkman's Center Net Dialogue project offers a portal (www.netdialogue.org) to detailed information about the issues discussed in this paper.
[5] Correspondence with the authors.

management of Internet names and numbers or 'political oversight' in Internet Governance. The deciphering of language framing the Internet agenda is one approach to finding productive ways of supporting engagement among stakeholders with competing views on important 'hard issues'. These need to be addressed at some point when actual policy decisions are taken, and if they are submerged beneath ambiguous language they may explode disruptively if stakeholders become frustrated at not having their hottest concerns dealt with directly.

How values derived from the WSIS shape the IGF's mandate and agenda

Given the importance of underlying values in shaping policy developments, understanding the background from which the IGF emerged is a useful starting point for assessing the IGF's potential for influencing the main Internet governance outcomes.

The IGF was one of the most tangible and potentially most significant outcomes of the World Summit on the Information Society (WSIS). This took place in two phases, in 2003 in Geneva and in Tunis in 2005, organized by the UN and the International Telecommunication Union (ITU). The WSIS was a significant institutional innovation in global politics as it formally acknowledged civil society participation in multi-stakeholder policy making (e.g. see WSIS 2003). The Cardoso Report to the UN Secretary-General on strengthening UN systems articulated the motivation for this approach (UN 2004: 3): 'Global governance is no longer the sole domain of Governments. The growing participation and influence of non-State actors is enhancing democracy and reshaping multilateralism.'

The WGIG (2005) was set up after the first WSIS phase in Geneva in 2003, in order to explore the roles and responsibilities of Internet governance stakeholders and to identify key issues affecting developing and developed countries. Kummer observed: 'The IGF emerged from a consensus in the WGIG that identified the creation of a place for informed and meaningful international discussion on Internet governance issues as a gap that needed to be filled. A central element in this was that such a forum should take place in a multi-stakeholder context where all actors take part on an equal footing. Helping to give developing countries a sense of ownership and participation in Internet governance issues and supporting capacity building were also key priorities.'

These priorities could be seen to be representative of what could be called the underlying 'public service' values that the IGF inherited from the WSIS and WGIG processes:

- A multi-stakeholder approach (e.g. §37 of the Tunis Agenda calls on the IGF to adopt a multi-stakeholder approach 'as far as possible, at all levels').
- A broad view of the social, economic and cultural impacts of the Internet compared to the previous narrower technical focus, such as the issues

managed by the Internet Corporation for Assigned Names and Numbers (ICANN, see www.icann.org).

- An emphasis on the link between Internet governance and development strategies to meet the UN's Millennium Development Goals (see www.un.org/millenniumgoals).
- Support for the values represented by the UN Human Rights Charter (see www.un.org/aboutun/charter/index.html).

MacLean (2006) describes WSIS as giving the IGF a 'soft power' mandate, because §77 of the Tunis Agenda states: 'The IGF would have no oversight function and would not replace existing arrangements, mechanisms, institutions or organizations, but would involve them and take advantage of their expertise. It would be constituted as a neutral, non-duplicative and non-binding process.' Although some have seen this lack of decision making powers as a flaw that could turn the IGF into an ineffectual talking shop, many in Oxford agreed with Kummer's description of the advantages this context could give to the IGF. For instance, he said it would enable the IGF to be different to the WSIS because: 'The IGF cannot gloss over underlying tensions between major actors, countries and stakeholders, so it needs to discuss all relevant issues—including the contentious ones. We hope that the lack of decision making powers will enable it to open out its scope, as there will be no fear of a wrong decision being taken.'

How different values could produce a different agenda

The hard, difficult to resolve Internet governance issues are generally anchored in differences in perception and understanding arising from deep-rooted values that stakeholders bring to discussions. For instance, the four issues on the Athens agenda could be seen as representing the IGF's underlying public service values rather than just 'issues'. These values encompass human rights and development goals such as: openness and free expression; equity of access to key technological infrastructures and human capacity building resources; support for diversity in social and political life; and security for individuals and groups against crimes and other abuses.

Different priorities could have been formulated for the agenda if it had been shaped by other values, such as: private sector concerns about protecting IPR and maximizing shareholder returns; government strategies that prioritize security over privacy concerns or central control over individuals' freedoms; or adoption of the economic and social priorities of either developing or developed countries, rather than attempting to address both in a balanced manner.

Learning from the WSIS experience

Analyses of the WSIS process raise concerns that need to be taken into account if the IGF is to fulfil its WSIS-influenced mandate.[6] For instance, the WSIS promise of 'full participation' was constrained by regulations imposed on accrediting civil society groups and the rules under which they could contribute to discussions and policy making (e.g. see Cammaerts and Carpentier 2005). Splits and tensions between civil society participants at the WSIS also indicated difficulties in deciding who represents this sector, for example with some representatives siding with their authoritarian governments and many local populations and activists in developing countries feeling their voice was not adequately represented. Costs of attending international meetings and constraints on ICT infrastructure and travel facilities are significant practical factors limiting participation by poorer civil society actors and smaller businesses.

WSIS also failed to attract substantive involvement from some major players in Internet governance, such as larger and more influential countries (like the US), businesses and non-ICT oriented international non-governmental organizations (NGOs). At the Oxford event, Howard Williams of Strathclyde University noted the absence of contributions from governments to the IGF Forum in Athens, which could be a warning signal of an undesirable inheritance.[7]

The move triggered by the WSIS to widen the multi-stakeholder base for Internet governance processes and to broaden the agenda beyond its previous more technical focus also faces strong resistance from entrenched interests who see their degree of control under threat, such as technical constituencies (like ICANN) and the US government, whose Department of Defense project gave birth to the Internet.[8] This broader agenda poses a difficult challenge for multi-stakeholder policy making as it needs to preserve and strengthen the insulation of the technology's core infrastructure from political and commercial manipulation while seeking to take account of diverse and often conflicting viewpoints and interests shaping the socio-economic transformations that can result from the Internet's use.

2. Decoding the language of Internet governance

The 'elephants in the room'

The Oxford meeting agreed that the breadth of the issues chosen for the IGF agenda in Athens opened a usefully large and 'safe' space for raising a variety

[6] The discussion here draws on an OII seminar series reflecting on civil society participation in the WSIS, supported by grant RES-451-26-0295 from the UK Economic and Social Research Council.

[7] See www.intgovforum.org/contributions_for_1st_IGF.htm

[8] See for example Simonelis (2005) for a history of Internet governance bodies.

of issues. At the same time, the ambiguity of some of the language could create a risk that important but divisive topics (e.g. IPR and privacy) will take up residence in IGF discussions as the 'elephants in the room': the large issues so controversial that they are ignored because of fears that talking about them would disrupt progress on other issues.

The importance of the way governance discussions are framed was highlighted in Oxford in a debate about whether the language used by the IGF could be 'de-ideologized'. A number of participants suggested emphasizing the financial benefits of fostering investment in the Internet and related ICTs, as that could attract more interest from government and business, for example by identifying the economic benefit of freedom of speech and open access to knowledge. However, some stakeholders could object to the placing of a financial value on what they regard as fundamental human rights.

The remainder of this section explores this 'politics of language' analysis in relation to a number of specific issues of relevance to what could be called 'Internet governance for development (IG4D)'.[9] It includes a suggested classification model that could help to make the elephant in the room visible, without overshadowing other key issues.

Network neutrality and the control of Internet data flows

The politics of language was most clearly illuminated at the Oxford meeting in debates about the term 'network neutrality'. This has risen in prominence in the US recently because many telecommunications suppliers, Internet Service Providers (ISPs), media content corporations and other vendors of Internet-enabled products and services are seeking a commercial return by charging differential rates for access to different types of content (e.g. on-demand video). However, defenders of 'net neutrality' contend that undifferentiated rates are fundamental to preserving a free and open Internet, without centralized control and intervening 'gatekeepers' that could stifle user creativity and freedom.[10] Although some see this as an essentially US commercial issue, it is potentially far more global in its significance.

Both these positions were argued in Oxford. Desiree Miloshevic of Afilias articulated the broader view of the issue's importance, warning that the loss of network neutrality could create a 'singularity of voice' on the Internet. However, she acknowledged that developing countries generally do not at present see it as a key IG4D issue: 'If one kind of content is favoured, many users may see no harm in subsidizing Internet access by, say, charging for viewing Disney content. However, barriers to access can be a serious constraint in countries where citizens do not have access to voices critical of the government.'

[9] The IG4D abbreviation introduced here echoes the widely used abbreviation 'ICT4D' for policies supporting the use of ICTs for Development.

[10] See for example Simonelis (2005) for a history of Internet governance bodies.

On the other hand, freelance journalist Kieren McCarthy suggested that network neutrality should not be given legitimacy by being on the IGF agenda in Athens. He feels the increased profile of this topic owes more to the dominance of the US in Internet discussions rather than being an imminent widespread threat. Others felt different terms could be used. For instance, Richard Collins of the Open University suggested focusing on the 'network externalities' model from telephony as it demonstrates that everyone is better off when there is a greater number of people to contact. Dutton of the OII stressed: 'The IGF should not just pick and choose which policies it likes. It must remain neutral in seeking issues to raise, without taking an ideological stance.' And Palfrey of the Berkman Institute felt it was important for the different perceptions of terms to be heard and clarified in the IGF arena as part its important debates.

Internationalized domain names: more than just multilingual diversity

The issue of Internationalized Domain Names (IDNs) is highlighted on the IGF Athens agenda as one of the main topics within the diversity theme.[11] The improved multilingual usability of the Internet offered by IDNs has important implications for Internet accessibility and openness, as well as posing an important technical challenge to the current Internet infrastructure.

A domain name, such as a Uniform Resource Locator (URL) to a website (e.g. 'www.oii.ox.ac.uk'), is part of the Internet Protocol (IP) standard. It is translated by the Internet Domain Name System (DNS) into a unique numerical IP address. The DNS has been based on the American Standard Code for Information Interchange (ASCII), which is limited to Latin letters (A–Z), digits (0–9) and the hyphen. This cannot deal with many languages, such as those consisting of non-Latin characters (e.g. Arabic or Chinese), European languages containing letters with diacritics (e.g. French and German) or languages using ideographic or other special characters. The handling of non-ASCII domain names can be managed by enhancing DNS capabilities (e.g. using the Unicode standard[12] that encompasses a much wider repertoire of characters than ASCII to support diverse languages) or through software translation between user and IP formats (Klensin 2004). However, email and other applications are likely to require significant modification to accommodate IDNs (ICC 2006).

Norman Paskin (2006) of Tertius Ltd explained in Oxford the importance of moving towards a 'persistent' naming approach, where a name stays the same throughout the lifecycle of a 'digital object' by being machine and platform independent. Such a digital object should be able to contain any type of content (text messages, documents, Web pages, 'blog' Web log diaries, films, books, downloadable radio and TV 'podcasts', product bar codes, etc.).

[11] For more background on IDNs, see for example ICC (2006) and ITU (2006).
[12] See http://unicode.org/consortium/consort.html

However, commonly used DNS-based names are not persistent. A URL, for example, refers to a physical location; if the location changes, the link is broken—to the frequent frustration of Internet users. Paskin pointed to the Handle system[13] as an example of an effective non-DNS based persistent Digital Object Architecture (DOA),[14] although Handle has been implemented in DNS-compatible versions (e.g. for the Chinese '.cn' domain managed by the China Internet Network Information Centre).

ICANN, which manages the DNS, was spotlighted by Paskin in this context as an important elephant in the room. He argues that the effectiveness of a non-DNS system like Handle indicates that the DNS may not necessarily be a 'required component' of future Internet developments. 'Ironically, DNS is receding in real importance at the same time as governance discussions increasingly look at DNS as the thing to govern,' Paskin (2006) comments. This illustrates how deciphering what lies behind even a technically oriented term like IDN can surface crucial Internet governance issues of deep and sometimes controversial importance.

Interconnection and its costs: a key IG4D issue

IP interconnection standards are the technical foundation of the Internet's design, and therefore a core focus of its governance. Discussion in Oxford on interconnection also revealed how interconnection issues involve the interweaving of complex technical, business, economic, national and international policy making and other factors. These are discussed in some detail here as an indication of why a significant degree of expertise may be needed to help understand the key influences that affect outcomes of Internet governance policies.

Changing patterns of international telecommunication costs and payments[15]

A particular IG4D focus on the interconnection issue relates to the structure of charges used for Internet traffic exchange and how costs are shared across networks (see OECD 2006).

The shift to distributed Internet-based networks from centralized circuit-switched systems designed for voice telephony represents a major shift in network architectures and the telecommunication policy environment. The growing use of other innovations, such as wireless communication and Voice over IP (VoIP) Internet-based telephony, is accelerating these changes in patterns of international telecommunication traffic flows and cost structures. This has vital implications for users and their network and service suppliers.

[13] See Kahn and Wilensky (2006) and www.handle.net for more on the Handle system.

[14] See the DOI Foundation's website (www.doi.org) for more details on DOI concepts and implementations.

[15] The authors particularly thank Sam Paltridge of the OECD for his expert advice on this section.

A key shift is away from the traditional 'settlement' systems, developed under the auspices of the ITU, for international telephony traffic exchange. This involved a payment between telephone network operators (typically monopoly infrastructure suppliers), in which the operator sending more traffic than it received compensated the operator receiving most telephone calls. Such a settlement regime generated significant income for developing countries,[16] but also made for high prices for telephony in both directions as there was little incentive to reduce rates. The patterns of these settlement flows, generally from richer to poorer countries, are more complex than simply the movement from western developed regions to developing countries, which is an aspect frequently emphasized in IG4D discussions. For instance, many Asians work in the Middle East, and telecommunication traffic patterns are influenced by shifts in migration, trade, commerce, tourism and many other factors.

In contrast, international Internet traffic is subject only to individual private contractual agreements between network operators, a change brought about by telecommunication liberalization policies. This has meant network operators can make decisions on what is most economic for their network and customers because they are free to build, buy or share end-to-end infrastructure to meet their particular needs. As a result, costs have been lowered for users in all countries, with greater falls in competitive markets. To capitalize on the new environment, ISPs require the necessary skills to be able to take advantage of the solutions available, which is an example of the importance of the IGF's focus on capacity building.

Lowering costs to users in developing countries

Some observers (e.g. Jensen 2005; GIPI 2004) see these shifting patterns leading to developing countries falling further behind nations and regions with more advanced infrastructures. But even where more advanced capabilities are available, the lack of a competitive environment for network operators can still be a critical factor in high user charges. For instance, the South Atlantic 3/West Africa Submarine Cable (Sat-3/WASC) has provided advanced international connections to West African countries since 2002. Its disappointing level of utilization has been attributed mainly to the high prices charged by the national telecom providers who have legal or effective monopoly control in their countries (e.g. see Jensen 2006; Nweke 2006).[17]

The nature of particular 'transit' contracts in which one ISP agrees to pay another to deliver traffic to the rest of the Internet, or on specific routes, has been identified by some (e.g. GIPI 2004: 3) as leading to developing country ISPs paying for both ends of their international links and for the passing of their

[16] For example, the ITU (1999: 5–6) estimates that between 1993 and 1998 over US$40 billion was directed to developing countries in this way, noting: 'No other net flow of telecommunications assistance towards developing countries, comes near to matching this level of funding.'

[17] Initial arrangements were for five years. Negotiations are taking place on post-2007 SAT-3/WASC arrangements (e.g. see Jensen 2005).

traffic to the rest of the Internet. This perception seems to be based on a misreading of the traditional ITU-mandated settlement system, where both monopoly operators provisioned a half circuit to connect to each other's networks at a theoretical mid-point. In practice, the customer paid for the full circuit (i.e. the fee levied by each operator for its half of the circuit). The situation where ISPs pay the full cost to two different operators to connect to international transit points is thus largely one where the previous system continues to operate. In a liberalized environment, network operators, ISPs and other network service providers are free to own or provision their own facilities on an end-to-end basis. In countries where network operators still have monopoly control over international facilities, however, ISPs face high costs in reaching major exchange points where transit costs are relatively low.

One of the most effective ways of reducing ISP costs and user charges in developing countries is through the deployment of local Internet Exchange Points (IXPs) as low-cost local gateways to the worldwide Internet (OECD 2006). These typically non-profit organizations use a 'peering' agreement between two parties (e.g. two ISPs or an ISP and IXP) to exchange traffic between each other and their respective customers, usually without payment. An illustration of the benefits of this approach is the way the main traffic peak after a local IXP was installed in Nepal came after the release of high school examination results, which would otherwise have been exchanged over more expensive and slower international links (OECD 2006: 22–3).

IXP deployment has been hampered in some developing countries by burdensome tax and licensing regimes, as well as attempts by monopoly state-owned telecommunication providers and influential commercial interests, such as larger ISPs, to prevent effective competition. GIPI (2004) cites the experience of the Telecommunications Service Providers Association of Kenya (TESPOK), which had to engage in a year-long legal battle with the state-owned monopoly telecom provider before it could start operating a non-profit Kenyan IXP (KIXP) in early 2002. This exemplifies why appropriate reform of telecommunication regulation to support a competitive environment is seen by the OECD and many others to be the key to stimulating Internet growth.

Understanding the actual effects of telecommunication policies and regulation

Despite considerable uncertainties about the nature of the outcome of the current rapid change in patterns of telecommunications traffic flows and network supply technologies and structures, the move away from the telephony settlement system is often presented in relatively simplistic terms as a draining of vital revenue from infrastructure enhancements in developing countries. Yet the changes in payment flows and the impacts on developing country infrastructures have yet to lead to clear uni-directional outcomes.

Milton Mueller (2006) of Syracuse University School of Information Studies cites this debate to illustrate why he thinks international Internet governance understanding could be assisted by Jack Knight's (1993) theory of institutions,

which is based on understanding the actual distributional effects of policies. For instance, the OECD (2006: 32) shows that net payments from the US to Africa have declined every year since 1998, and from the US to India from 2000 to 2003, but notes that there has been 'unprecedented expansion in access' in these regions during this time.

Paltridge added that the latest data on settlement payments from the US Federal Communications Commission (for 2004)[18] showed increasing payments going to some countries (e.g. India and, on average, African countries). Although he is not sure of the reasons for this, he thinks it could be to do with the increased use of mobiles in developing countries and because the US has become one of a few countries where the mobile receiver pays; other countries have a 'caller pays' policy.

The indication given here of the complexities of the underlying factors affecting international interconnection costs highlights the need to gain a better understanding of the dynamics and outcomes of the new global digital telecommunication environment. More time and independent research is needed to observe and analyse the rapidly emerging innovations and incremental and transformational social and economic changes tied to them. Such research would, at least, more clearly delineate the evidence at the heart of the debates.

However, even such a more informed base for negotiations between relevant stakeholders is still unlikely to lead to easily won agreements. Rapid technological innovation and a volatile global economic and political environment means evidence about the long-term direction of factors that surround this issue will probably remain uncertain for some time to come. This makes it easier for any evidence to be deployed to support different interpretations, perceptions and policy judgements. Many other IG4D issues offer a similarly complex picture.

Such uncertainty is not simply a symptom of ignorance. People distant from Internet governance, or other topics, are likely to be highly uncertain about the policy issues it raises. Many who become involved in policy development and discussion often do so because they are concerned and have decided views on what should be done. But it is frequently the case that the cliché is true: the more you know, the less you know.[19]

International management of the Internet: politics of power and recognition

Although the Oxford event sought to focus mainly on substantive Internet governance issues, the processes of international Internet governance were also highlighted. MacLean emphasized the need to decode the language of

[18] This became available after the data used in OECD 2006.

[19] Some people call this tendency for those least and most informed to exhibit more uncertainty as evidence of what has been called the 'certainty trough' (MacKenzie 1999).

Internet governance in this area in relation to what he calls[20] 'the touchstone value proposition' contained in §29 of the Tunis Agenda (WSIS 2005). This states that the international management of the Internet should be 'multilateral, transparent and democratic, with the full involvement of governments, the private sector, civil society and international organizations.' Questions raised by this include: Are 'multilateral' intergovernmental processes the same as 'multi-stakeholder' ones? What are the real meanings of 'democratic' and 'full involvement' and to what extent are they limited by the roles and responsibilities specified in §35 of the Agenda (e.g. that the authority for Internet-related public policy issues lies with 'the sovereign right of States')?

Mueller most forthrightly articulated a scepticism among some participants in Oxford about the likely practical impacts of international governance mechanisms like the IGF. He feels that with the important exception of the global trading regime, global governance institutions have a decidedly secondary role in influencing Internet access and affordability because they lack legislative, taxation and systematic enforcement capabilities, beyond those assigned by national authorities.

Nevertheless, he and others see a valuable role for the IGF as a focal point for highlighting governance concerns related to the Internet's role as a uniquely global system. It could demonstrate this by, for example, bringing together international bodies with responsibilities for Internet-related issues that cross their traditional institutional boundaries, such as the World Intellectual Property Organization (WIPO), World Trade Organization (WTO), national governments and other stakeholders concerned with IPR and copyright. Wolfgang Kleinwächter of Aarhus University observed in Oxford that the same government may speak with two different voices in different bodies because of the different economic interests being represented in the different forums. In the early 1980s, he said, some governments argued in the ITU for high tariffs because they worked in their interest while arguing in UNESCO for low tariffs for transmitting journalists' messages via cable.

The need to deal sensitively with diverse cultural and political values in multi-stakeholder processes is one of the insights from the 'decoding of ambiguity' analysis in this paper. For instance, Williams argued that Internet filtering and censorship are too often depicted as a clash between western notions of freedom and more closed societies in the east and many developing countries. He advised a more neutral treatment that recognizes how different forms of state regulation or private controls are exercised in all countries (e.g. over pornographic material; the granting of powers to security service to intercept Internet traffic; telecom providers' attempts to block competing services such as VoIP; or the need to meet local media controls, as shown when the New York Times blocked access from the UK in August 2006 to a news story about a terrorist bomb plot in London because it could have prejudiced a future trial under British law).

[20] Communication with the authors after the forum.

Collins highlighted the importance of the 'politics of recognition' (e.g. see Fraser and Honneth 2003) in creating a 'hunger for recognition on the world stage' as part of a wider power struggle. He explained: 'Some countries object to governance of the Internet being treated differently to the treaty-based systems for other key infrastructure capabilities. There is also a sense that the same type of dynamic that prevails in the developing country's society will apply in Internet governance, where the poor officially have power politically but the rich have power economically and therefore really wield the power.'

His observation is confirmed by the Louder Voices study (MacLean et al. 2002). This found that developing country stakeholders were not effectively engaged in international Internet-related governance processes principally because of weaknesses in governance processes at their own national and regional levels. Concern about what 'participation' means in international multi-stakeholder policy making was also articulated in a report by Nweke (2006) of comments made by Nana Tanko, Executive Director of Open Society Initiative for West Africa on Internet governance discussions at the Tunis WSIS. She said Africa again took the sidelines in deliberations or was not being considered at all in the final Summit outcomes. 'We see ourselves and our governments increasingly being involved in global politics that should be seen to be transparent and inclusive, but where the outcomes generally favour certain organizations, countries, cartels or groups,' Tanko concluded.

Clarifying the scope of 'Internet governance'

Questions about what is and is not encompassed by the term 'Internet governance' were frequently raised during the discussions in Oxford. Hofmann observed that the term's perceived scope had broadened through the WSIS process. She said the way this has made Internet governance 'a moving target' has made it less easy to understand its core problems and how they interrelate. For instance, the protection and development of basic IP protocols are widely agreed to be crucial to the stable and open growth of the Internet. However, some participants in Oxford said they could see no connection between such obviously Internet-related issues and wider socio-economic policies that may also affect Internet outcomes, such as national economic and telecommunications development strategies.

Dutton (2006) proposes a classification framework that could help to take the sting out of such confusion about what should be regarded as an 'Internet governance' issue. As illustrated in Table 1 with examples taken from the earlier discussion in this section, this approach shows how the pieces of a broadly defined Internet governance mosaic[21] fit together. By mapping the broad Internet governance landscape, this three-level typology indicates why a focus on one aspect—such as Internet-centric end-to-end (e2e) content flows or non-Internet centric freedom of expression—does not mean other dimensions are

[21] See Dutton and Peltu 2005.

being forgotten. It also illustrates how key Internet governance issues generally cut across all Internet levels.

Table 1. Classification of IG4D issues

Type	Key issues	Examples relevant to development
I: Internet Centric	Protection and smooth evolution of the efficient, reliable, secure core Internet architecture and operational infrastructure, including preservation of its independence from undue influence by particular stakeholders. Timely adaptability to continuing and often rapid technological and other changes affecting Internet development and use.	Net neutrality: Assignment of Internet addresses and routing of data traffic in ways that do not privilege certain countries, enterprises or other stakeholders. IDN: Use of Unicode v. ASCII; DNS v. Handle as appropriate systems for managing digital object names. Interconnection: Maintenance of stability of IP to allow innovations that can assist disadvantaged areas and groups (e.g. wireless technologies).
II: Internet-User Centric	How use or misuse of the Internet is regulated and policed within local, regional, national and international levels and jurisdictions. Finding ways of safeguarding users' interests while avoiding actions that could limit the freedom of Internet users to generate innovations and deploy them rapidly across the Net.	Net neutrality: Treating all Internet users and uses equitably v. multi-tiered, multi-priced services and gatekeeper controls. IDN: Easy-to-use access to multilingual Internet names. Interconnection: Equitable cost sharing to offer affordable access in developing countries (e.g. using IXPs).
III: Non-Internet Centric	Policy and practice anchored in local and international bodies and jurisdictions not concerned primarily with Internet-related issues. The main issues here concern the intersections between wider governance processes and Internet infrastructure development and use. Covers a vast range of socio-economic issues.	Net neutrality: Freedom of expression without commercial or political barriers. IDN: Supporting cultural and linguistic diversity. Interconnection: Market competition v. state and monopoly control in national and regional telecommunications and economic development policies.

Developed from Table 1 in Dutton (2006:5)

3. Other key topics on an IG4D agenda

This section identifies the main issues highlighted in Oxford in addition to those discussed in Section 2. These are grouped according to the categories in the IGF's Athens agenda, which also reflect issues raised in the Tunis Agenda (WSIS 2005).

Access

Equitable access to the Internet obviously requires the development of an appropriate local telecommunication infrastructure, with affordable connections to a high-performance Internet backbone. The WSIS-inspired Digital Solidarity Fund (DSF)[22] seeks to achieve this by encouraging a small percentage of profits from ICT contracts in the developed world to be used for infrastructure building in developing countries. This could be used, for example, to support the introduction of local IXPs that could help a developing country to lower interconnection costs and bring other benefits to users and local Internet service and content providers.

Difficulties with Internet backbone provision often arise from the policies of monopoly network operators, as for Sat-3/WASC discussed earlier in the interconnection section. However, Paltridge pointed out that power is not always on the side of the monopolist in such interconnection matters. For instance, he reported that content and service providers in New Zealand have bypassed Telecom New Zealand's strong monopoly control by locating content in California or giving it to ISPs so they can deliver faster streaming directly to their own users.

Mary Rundle (2006) of the Berkman Center highlighted interoperability as an issue 'at the heart of access', with important implications for developing countries. She explained that substantive economic benefits can come from the flexibility offered when discreet components of products, services and business processes can be interconnected efficiently and smoothly to work together flexibly. She contrasted this with the higher costs likely to arise with more inflexible pre-packaged solutions. This cost differential is why she believes interoperability is an important IG4D issue. The IGF could help to promote interoperability by bringing together various existing bodies concerned with this issue, from technical standards bodies like the ITU and International Standards Organization (ISO) to the WTO, WIPO and United Nations Conference on Trade and Development (UNCTAD).

[22] See www.dsf-fsn.org

Diversity

The concept of diversity can encompass a wide range of socio-economic and cultural issues.[23] Of these, the Tunis Agenda (WSIS 2005: §53) emphasizes the sustaining of cultural diversity through support for local content development, as well as multilingualism in many forms of digital and traditional media. The pressing need for a more multilingual Internet is demonstrated by the rapid growth of users whose home language is not English. According to Rose (2005: 17–8), for example, the number of Internet users whose home language is not English exceeded those of English speakers for the first time in 2002, boosted by Internet expansion in China.

In addition to IDNs, multilingual Internet capabilities requiring further development include the provision in many languages of a wide range of application software (e.g. word processors) and the keywords used in Web surfing and other searches. 'Free', 'libre' or 'open source'[24] software developments could contribute to achieving this as they allow freedom to adapt source program code to different contexts and are often available without charge.

Important providers of local content in developing countries are likely to come from government at all levels, perhaps with some supported by the DSF. Strategies to encourage and promote local content creation by business, civil society groups and individuals are also valuable. Global Voices Online (Box 1) is an example of an initiative aimed at bringing local content to wider audiences.

Box 1. Supporting local content: Global Voices Online

Global Voices Online (www.globalvoicesonline.org), sponsored by and launched from the Berkman Center, is a non-profit gateway and guide to conversations, information and ideas appearing around the world on various forms of participatory Internet-enabled citizens' media, such as blogs and podcasts. It aims to help voices from around the world to be heard as part of a global dialogue, with a particular emphasis on countries and communities outside the US and western Europe. It does this by developing tools and institutional arrangements that harness the skills and energy of a growing number of 'bridge bloggers', who use the Internet to talk about their country or region. This worldwide team of regional blogger-editors finds, aggregates and tracks such conversations, linking the most interesting blogs in a 'daily roundups' section. A larger group of contributing bloggers supplies regular features in a Weblog section, shedding light on what blogging communities in their countries have been talking about recently.

[23] See Gasser's (2006) analysis of contributions to the IGF Athens Forum.

[24] The 'freedom' underlying Free, Libre and Open Source Software (sometimes known collectively as FLOSS) relates to licensing conditions that mean such a program must offer freedom to: run it for any purpose; study and adapt its source code; and redistribute and improve it. A price may or may not be charged for the program (see http://www.gnu.org/philosophy/free-sw.html).

Type III non-Internet centric Internet diversity issues include the dangers of 'cultural imperialism' raised by the dominant position of a largely US, English-speaking mass media. This is of concern not only for developing countries, as indicated by the development within the EU of a new Directive on Audiovisual Media Services to replace the TV Without Frontiers Directive. As the draft for the new Directive explains (European Parliament 2006: 7): 'The European media model is founded on the principle that the media are both cultural and economic goods, and the directive must therefore take account of both criteria'.

Openness

Issues of access and openness are closely connected, anchored at the Internet-centric level in open IP standards. The Internet's founding principle of 'open access' is crucial to the degree of central control—or lack of gatekeeping—exercised over flows of information, knowledge, views, services and products across it.

IPR and copyright are also significant determinants of the openness of access. The hard governance issue here is how to balance the desire of rights holders to control use of, and rewards from, their intellectual objects against those, such as developing countries, who are keen to use the Internet to make access to knowledge and culture cheaper and easier. Heat was generated in the IPR debate in the WSIS by clashes between actors who see Internet-related IPR as being best dealt with through existing bodies with IPR responsibilities, such as the WIPO and WTO, against stakeholders who feel these are too influenced by rights holders and who therefore seek a more multi-stakeholder model guided by the public interest in IPR use (e.g. see Bertola 2006). Open access to scholarly literature and data is an example of the Internet's potential to transform relationships between IPR holders and users.[25] Hofmann suggested the IGF could usefully arrange a meeting between academic publishers and researchers, students, librarians and others to discuss new business models for widening access to their publications' content, such as experiments in which the authors or publishers pay and readers obtain articles free of charge.

As Internet use becomes more central to social and economic life across the world, so do attempts by government, commercial and other interests to filter and block information flows, as indicated by the tracking of state filtration and surveillance practices by the Open Net Initiative.[26] Much attention in the west is placed on politically motivated filtering in the east and south but, as mentioned earlier, forms of regulation and control of Internet content and information take places in all countries, just as they exist for other communication media.

[25] See for example http://sciencecommons.org and the contribution of Scientific Information section of the WSIS Civil Society Working Group (2006) to the IGF meeting in Athens.
[26] A partnership between the Berkman Center, the OII, Munk Centre for International Studies at University of Toronto and the Cambridge Security Programme at Cambridge University (see: www.opennetinitiative.org).

The Internet was said by some to have 'too much openness' because its design opens access to undesirable and benign, invited and uninvited members of the Internet user community. The ability to reach vast global audiences online could therefore be used to promote greater global harmony or exacerbate clashes of culture and ideology, for example between advocates of free expression as a human right and supporters of the need for constraints within particular religious, legal, moral or other codes. Maintaining a balance between these forces is one of the main challenges for international Internet governance.

Jonathan Zittrain (2006) of the OII emphasized an important benefit from the Internet's openness: 'generativity' that enables users to invent and deploy a new application or tool across the Internet rapidly and without asking the permission of a network owner or other gatekeeper, as Sir Tim Berners-Lee (1999) was able to do with the World Wide Web. However, this can also have two-edged 'for better and worse' outcomes.

Security

In a videoconference link to Oxford, the Internet's 'too much openness' of design led Scott Bradner of Harvard University to remark: 'there is no intrinsic security in the Internet—and that is a problem and a blessing'. He warned that Internet security breaches are likely to grow as there is much money to be made from them, for example with some enterprises charging around US$100 an hour to distribute spam or to undertake Distributed Denial of Service (DDoS) attacks to close down targeted websites, using hundreds of thousands of 'botnet' software robots under their control which are resident on personal computers without their owners' knowledge. Yet he feels laws to address such problems, such as the anti-spam Can-Spam Act in the US, have been ineffective.

Public concern about Internet security is indicated by a UK government-backed study in 2006 that found more Britons fear Internet crime than they do real-world burglary.[27] However, using evidence from the OII's Oxford Internet Surveys (OxIS) of Internet use in Britain, Dutton suggested that the situation may not be out of control. For example, OxIS found those experiencing Internet virus attacks dropped from 43 to 18 percent between 2003 and 2005, with 65 percent of users having done something to protect their systems (Dutton et al. 2005: 44).

In the video conference, David Clark of MIT's Computer Science and Artificial Intelligence Laboratory argued that Internet security protection should move beyond the inheritance of the methods that shaped the Internet's initial development within the US Department of Defense. He said this had led to too great a focus on 'perfect' control to stop unwelcome disclosure of information, such as through encryption standards. He believes this is no longer appropriate for contemporary Internet security problems. These arise largely because the

[27] See www.getsafeonline.org/nqcontent.cfm?a_id=1424

Internet lets in people a user can trust as well as those they cannot, such as senders of spam and fraudsters 'phishing' for a person's bank details through false emails and websites designed to look like those from actual banks.

One response to these threats has been to create closed 'gated' Internet communities, such as company intranets. These allow only trusted users to enter the network. An alternative proposal (see Zittrain 2006: 2036–7) is for users to have dual machines, one with full security protection used only with trusted contacts and the other open to anyone but with a button to reset it if a cyber attack takes place.

Clark cautioned against security solutions driven by top-down, hierarchical and over bureaucratic approaches to online identification and authentication—in case they significantly constrain what can be done on the Internet. He would like to see a move away from a 'perfection mode' of thinking about Internet security to one based on techniques of risk management that recognize 'good security is a balance of interests in a multi-stakeholder environment where interests are not fully aligned'. For instance, he favours 'good enough' approaches that focuses on the 'resilience' of a system in being able to carry on operating in an acceptable manner after an attack, even if that is less than perfection.

Spam is a major IG4D issue (OECD 2005a) as it consists of huge volumes of messages that can overwhelm the limited telecommunications resources in developing countries, where broadband is not widely available and international links are costly. Concerted international, multilateral and co-regulation actions are important for security breaches and cybercrimes that cross national borders, as has happened with cybercrime and online child protection (e.g. see Nash and Peltu 2006). There is much support and advice to help deal with spam, such as best practice guidelines, from those who have experience with this phenomenon in advanced infrastructures.[28] This can be of much assistance to developing countries in enhancing their own infrastructure and user capabilities, and the IGF could play a valuable role in disseminating this knowledge.

The importance of human and organizational factors can significantly increase or diminish Internet security risks. For instance, Bradner said only 20 percent of online merchants in the US have met the security standards published by the credit card industry, although the average company that gets a data security breach for credit cards is penalized by a US$14 million cost plus a customer loss of 20 percent. One reason for this failure is that people working in organizations focus on their immediate job and avoid following security rules if they hamper the achievement of their immediate goals. For instance, Anne Trefethen of the Oxford e-Research Centre, said in Oxford it can be difficult to get scientists to see the value of the security of data because they are

[28] For example: the OECD Anti-Spam task force (www.oecd-antispam.org and OECD 2005b); Industry Canada (2004); the London Action Plan involving cooperation among around thirty international spam enforcement agencies (www.londonactionplan.org); and www.spamhaus.org and www.badware.com websites.

accustomed to sharing information openly. She has also found different attitudes to security audits in different research environments, for example with engineering companies strongly in favour but pharmaceutical companies more reluctant.

4. Conclusions

Management of expectations: moving beyond creative ambiguity

The IGF aims to offer a safe space where a variety of stakeholders can feel comfortable in contributing their voices to shaping and putting into effect an agenda that addresses key international Internet governance issues, particularly those related to IG4D. However, much discussion in Oxford revolved around identifying what could be realistically expected from such a 'talking shop' in influencing policy making processes where real decisions are taken.

Kummer encapsulated what many in the Oxford meeting thought were achievable goals: 'Given the varied backgrounds and perceptions of different actors, there are naturally widely differing expectations about outcomes from the IGF. It is therefore important that we establish realistic expectations about what can and cannot be achieved. The Forum does not intend to be a place where questions are solved or closed. A key yardstick for success will therefore be the degree to which participants find the exchange of views, sharing of best practices and ability to contribute to international discussions assists them to learn more about the issues and potential solutions.'

He explained that the IGF must now develop its own procedures to flesh out its work. For instance, one approach to engaging more directly with practical policy making will be the encouragement of 'dynamic coalitions' bringing together civil society, business, academe, government and other stakeholders around specific issues.

Kummer also emphasized that the Forum: 'Must find an equilibrium where we can allow each actor to have their own say. For example, although the Tunis Agenda has a heavy emphasis on the need for the Forum to adopt a multi-stakeholder process, it does not specify exactly how this should happen. Our approach for Athens is that stakeholders should meet on an equal footing, which is the understanding of the private sector, civil society, the Internet community and other non-government actors. But we recognize that some governments have another understanding, and hope our experience from the WSIS and WGIG will enable us to create an appropriate balance.'

The success of the IGF in influencing actual policy decisions will also depend on its ability to attract relevant stakeholders, then to make participation meaningful in a way that encourages everyone to listen as well as talk. In

addition, IGF conversations need to be clarified and prioritized to enable connections to be made to the kinds of hard issues highlighted in this paper.

A classification scheme to help find common points of reference

An analysis (Dutton, Carusi and Peltu 2006) of the dynamics of discourse among people coming from different cultural and specialist backgrounds indicates that such 'real engagements' are possible between people with competing perceptions, knowledge and values—provided they have agreed reference points and understandings of each other's language. It could therefore be more important to seek such common frameworks, rather than necessarily trying to strive for a perhaps unachievable 'consensus'.

The classification scheme illustrated in Table 1 above seeks to provide just such a point of reference for IG4D discussions, by showing how particular issues are positioned in the overall three-level landscape. This could remove the disruptive pressure that could build up from frustrations if key but controversial issues are felt to be being downplayed or kept off the agenda. Table 2 shows how the four areas on the IGF Athens agenda fit this categorization. The breadth and overlapping nature of the issues means many of the specific issues could be placed in more one than area (e.g. network neutrality in access, diversity and openness). The main significance of Tables 1 and 2 is to help participants in multi-stake-holder Internet governance policy discussions find their own points of reference as the basis for productive real engagements.

Table 2. Classification of areas on IGF Athens agenda

	Issue:			
Type:	Access	Diversity	Openness	Security
I: Internet Centric	Extent and quality of fixed and wireless telecom infrastructure Physical and transmission IP standards DNS-based naming and routing	Equity of affordable, convenient access Internationalized Domain Names Unicode multilingual support	Basic end-to-end network neutrality in address assigning and routing DOA persistent identification of all digital objects Peer-to-peer networking	Resilient risk management of core Internet infrastructure Prevention of distributed denial of service attacks. Digital certificates and e-

				signatures
II: Internet-User Centric	Infrastructure, equipment and skills availability Interconnection costs (e.g. use of IXPs) Blocks on services (e.g. VoIP)	Diverse local content (public, commercial and personal) Multilingual search keywords and other tools Open source software	Control/filtering of information flows for state censorship or commercial purposes Interoperability Multi-tier charges	Prevention of spam, phishing, etc. attacks Violations of privacy and data protection Policing of cybercrime, pornography and child safety
III: Non-Internet Centric	National economic policies (e.g. competitive v. state-run markets) Regional development strategies National ICT and media regulation	Support for cultural and linguistic diversity Closing digital divides Human rights	Freedom of expression Freedom of Information Acts IPR and copyright, access to scientific knowledge	National, global and multilateral security policies Support for vulnerable groups (e.g. children) Criminal legislation

Achieving real change through the IGF

Discussions in Oxford identified various appropriate modes of grappling with Internet governance problems. National policies are still crucial, for example for economic and telecommunication developments. So are regional and multilateral groups, as well as international standards and regulatory bodies and relevant NGOs. The IGF could be an effective intermediary democratic institution for bridging relevant public and private work, both on the more obvious Internet-centric problems and those in Types II and III in Tables 1 and 2. Non-Internet centric issues often need to obey the same ‘laws of gravity’ as the real world, but with distinctive Internet challenges (e.g. as posed by the Internet’s creation of a borderless global ‘cyberworld’ that can be exploited by those with malign intent).

Kummer praised the valuable contribution by Clark and Bradner to the security discussion in Oxford as an example of why the IGF plans to involve Internet pioneers and technical experts more directly in its activities. For example, the increasing use of telecommunications innovations like mobile technologies, VoIP and peer-to-peer (p2p) machine-to-machine interactions could have

profound implications for IG4D interconnection issues.[29] Technical ingenuity is also needed to combat the increasing sophistication and financial resources of malign online threats.

Engagement with academic researchers across the spectrum of disciplines relevant to Internet governance is also an important avenue for the IGF to pursue. This can help not only to provide empirical research to illuminate Internet governance issues and policy impacts, but also to develop conceptual frameworks that can help to better understand these areas. The emergence in 2006 of the Global Internet Governance Academic Network (GIGANet) of scholars working in areas of relevance to the IGF offers an important opportunity to forge such connections.[30]

The value of involving technical, economic and social experts in the IGF was also highlighted by the earlier discussion in Section 2 on interconnection costs and IDNs. This showed how the hard issues of Internet governance raise questions about the interactions of people and technologies over time and across cultures in ways that cannot be addressed with certainty by even the most informed actors. It is therefore important to ensure this knowledge is more widely understood if multi-stakeholder policy making is to be based on informed discussion rather than over-simplified and sometimes factually incorrect arguments.

An intriguing avenue to explore could be experimentation with the kind of 'peer production of Internet governance' (Johnson et al. 2004) that has typified self-governing processes developed for successful novel Internet applications (e.g. the popular Wikipedia online encyclopedia based on contributions from any online user).[31] Zittrain argued it would be beneficial to try to bring users directly into Internet governance processes in the hope that their creativity could generate fresh approaches (e.g. developing 'cyber punishments for cybercrimes', such as group shunning of transgressors). Others feel users are too amorphous a stakeholder group to provide coherent governance, but that there may be valuable lessons to be learnt from user-generated governance processes within various Internet applications.

These recommendations, and other suggestions made in Oxford, to help the IGF achieve its objectives are listed below:

- Deal sensitively with the cultural and political values and interests that different stakeholders bring to international institutions—not by avoiding the hard issues but by addressing them in ways that acknowledges differences (e.g. on issues of freedom of expression, censorship and Internet filtering).

[29] For example, the BitTorrent p2p protocol widely used for the online availability of music, films, games, teleconferences and other applications (www.bittorrent.com).
[30] See www.iamcr.org/component/option,com_docman/task,doc_download/gid,27/ -
[31] See www.wikipedia.org

- To achieve this, take care in agenda setting and discussion to develop common points of reference that promote real engagement between stakeholders with different values, interests and cultural backgrounds.
- Prioritize issues against a set of transparent criteria.
- Illuminate and promote practical solutions (e.g. effective approaches to widening access to the Internet, such as IXPs), even though the IGF has no decision making powers.
- Disseminate good practice advice, while acknowledging that successful solutions in one context may need to be adapted to different local environments.
- Reach a broad spectrum of stakeholders (e.g. by including the media as a stakeholder or incorporating economic issues to attract more government and business interest).
- Pay specific attention to identifying emerging and future trends requiring new governance responses (e.g. by involving academic researchers, private sector innovators, technical specialists and young people).
- Look for commonalities as well as differences between developing and developed worlds when addressing IG4D issues, and be aware of the different stages of Internet development in different areas.
- Bring together those bodies involved with an issue who can affect real change (e.g. ISO, WTO, WIPO, UNCTAD and other interoperability stakeholders, or academic publishers with librarians and researchers to examine new publishing models).
- Highlight capacity building and training as a prime cross-cutting issue.
- Address concerns about multi-stakeholder global policy making raised at the WSIS (e.g. what ‘full participation’ means; the need for more involvement by major government, business and NGO actors; and ways of better representing the many diverse and often conflicting interests within civil society).
- Ensure there are effective processes to collect and analyse IGF discussions to provide a feedback loop that can help to take forward particular issues.

Coda: Reflections on the first IGF (Athens 30 Oct–2 Nov 2006)

Generally favourable responses from those who attended the first IGF in Athens indicate that the thoughtfully crafted IGF multistakeholder process, as outlined in Oxford by Kummer, met or exceeded the expectations of most of the 1500 people who participated in 36 workshops and four plenary sessions.[32]

As explained in this paper, the lack of decision making responsibilities and ambiguities in the IGF's broad agenda were designed into this process to try to open out discussion to a diverse range of stakeholders and to avoid the political, cultural, commercial and other tensions that had restricted many discussions about Internet governance within the WSIS. The Internet Governance Project's (2006) review of IGF Athens summarizes the value of this approach: 'The non-binding discussion format succeeded in facilitating discourse and allowed nearly all participants to get something that they wanted—the airing of an issue, a chance to confer or coalesce with like-minded participants, etc.' This also indicates that the politics of recognition, as highlighted earlier, seemed to have boosted the general high level of satisfaction felt by many participants.[33]

A significant factor at work in Athens was the explicitly experimental nature of the IGF, which UN Secretary-General Kofi Annan has said enters uncharted waters in fostering a dialogue among all stakeholders as equals. The Internet Governance Project (2006) commented: 'A great deal of the positive feeling around the Forum reflected participants' knowledge that it was the first experiment. Nothing went terribly wrong, mistakes could be identified and improvements made.'

However, MacLean noted that, 'Although Athens was a great overall success in terms of providing opportunities for multiple stakeholders to voice opinions and air differences on more or less the full range of issues that fall under the Internet governance rubric, much of the discussion remained at a fairly superficial level and did not lead to consensus or recommendations on any of the topics on the agenda'.[34]

An important outcome from Athens that could address this need to move beyond general talk was the formation of the first three IGF dynamic coalitions:

[32] The size of and diversity of participants and wide range of parallel workshops means it is not possible here to do more than express some general perceptions of the value of the Athens IGF. For this coda, the authors have drawn on reviews of this Forum by the IGF Secretariat (2006) and Internet Governance Project (2006), as well as the views of a number of Athens participants who were also at the Oxford meeting reported in this paper.

[33] For instance, the Internet Governance Project (2006) reports from Athens: 'So far as we know, neither government, business nor civil society participants thought they had been slighted or excluded, and most felt the whole exercise had been worthwhile.'

[34] Private communication with the authors.

on spam, privacy and open standards.[35] Such focused groupings illustrate the kind of framework of agreed reference points and understandings (Dutton, Carusi and Peltu 2006) that are most likely to lead to real engagements in multistakeholder discussions. A well-attend meeting on the GIGANet initiative among academics interested in Internet governance also indicated how the Forum can help to stimulate complementary movements that will examine and make decisions on harder issues.

Tarek Cheniti of the James Martin Institute also noted that, 'even though the Forum is explicitly aimed to be open to anyone with an interest in Internet public policy, in Athens it attracted a specialized audience with a direct interest in the Internet across all constituencies'.[36] This indicates that one reason for the success of the Athens Forum could have been that a basis for real engagement emerged from characteristics of the particular set of stakeholders who chose to become involved.

The IGF also seems to moving away from a focus in WSIS Internet governance discussions on contentious Type I and II issues surrounding ICANN to encompass and emphasize broader Type III issues, for example with freedom of expression highlighted in a number of workshops and in a great deal of media coverage on the Athens Forum.

However, the lack of substantive government involvement in Athens was a warning signal that the IGF could have inherited some flaws that were also evident in the WSIS. This is particularly important in light of the IGF Secretariat's (2006) report from the Access session in Athens that: 'There was a broad convergence of views that the most appropriate level to address issues of access was the national level, as most policy development and implementation is at the national level.'

McLean feels his observation of the Athens meeting confirmed the assumption underlying this paper's report on the Oxford meeting: that there is still 'a need to decode the terms used in Internet governance debates, clarify points of view and ventilate differences of opinion in order to make progress.'

[35] See: www.intgovforum.org/Dynamic%20Coalitions.php

[36] Private communication with the authors.

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Appendix I. Participants in the Oxford Forum

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***Scott Bradner**, University Technology Security Officer, Harvard University

Tarek Cheniti, James Martin Institute for Science and Civilization, University of Oxford

***David Clark**, Senior Research Scientist, MIT Computer Science and Artificial Intelligence Laboratory

Richard Collins, Professor of Media Studies, Open University

Kenneth Cukier, Technology Correspondent, The Economist

William Dee, Internet, Network and Information Security, European Commission

****Nitin Desai**, Chair, IGF Advisory Committee

William Dutton, Director, OII and Co-Director, e-Horizons Institute, University of Oxford

Urs Gasser, University of St Gallen and the Berkman Center

Jens Hoff, Professor of Comparative Politics, University of Copenhagen

Jeanette Hofmann, Social Science Research Center, Berlin

Wolfgang Kleinwächter, Professor of International Communication Policy and Regulation, University of Aarhus

Markus Kummer, Executive Coordinator, IGF Secretariat

Don MacLean, Consultant, Member of the WGIG

Kieren McCarthy, Freelance journalist specializing in Internet governance issues

Desiree Miloshevic, International Affairs and Policy Adviser, Afilias

Milton Mueller, Internet Governance Project, Syracuse University School of Information Studies

John Palfrey, Executive Director, Berkman Center

Sam Paltridge, Communication Analyst, OECD

Norman Paskin, Tertius Ltd and Founding Director, International DOI Foundation

Malcolm Peltu, Editorial Consultant, OII

Mary Rundle, Harvard University's Berkman Center and Stanford University's Center for Internet and Society, and Visiting Research Fellow, OII

Matthew Shears, Director of Public Policy, Internet Society

Emily Taylor, Legal Director, Nominet

Anne Trefethen, Director, Oxford e-Research Centre

Howard Williams, Professor, Department of Management Science, University of Strathclyde

Jonathan Zittrain, Professor of Internet Governance and Regulation, OII

*Participated via video link from the Berkman Center

**Participated via audio link from New Delhi

Glossary

ASCII: American Standard Code for Information Interchange used for encoding characters in digital ICTs, based on the Latin alphabet (see Unicode).

Backbone: Broadband long-distance telecommunication connections.

Blog: A Web log diary of the personal news and views of the author ('blogger').

DDOS: Distributed Denial of Service.

Denial of service: Attack to disrupt a website or other online service

Digital object: A document, text message, blog, video, audio or other entity that can be processed and reused in a digitized format.

Digital Object Identifier: The name of a digital object, such as a handle or URL.

Digital Solidarity Fund: A WSIS initiative to support ICT infrastructure building in developing countries by transferring a small percentage of some ICT procurement contracts in developed countries.

DNS: Domain Name System, which translates the use's version of a domain name (e.g. a Web URL) into its numerical IP address.

DOI: Digital Object Identifier.

DSF: Digital Solidarity Fund.

Domain name: Unique IP address for each computer on the Internet (see DNS).

e2e: End-to-end, the design principle providing transfer of data packets across the Internet without intercepts to block or change the content of the packets.

F(L)OSS: Free/(Libre) Open Source Software, a combined term for these synonyms.

Free Software: Software (free or charged for) offering freedom to: run it for any purpose; study and adapt its source code; and redistribute and improve it.

GIGANet: Global Internet Governance Academic Network of scholars working in areas of relevance to the IGF.

Handle: A persistent naming system for digital object management, not based on the DNS but compatible with it.

ICANN: Internet Corporation for Assigned Names and Numbers.

IDN: Internationalized Domain Name.

Internet Exchange Point: A typically non-profit organization offering peering arrangements between a number of networks (e.g. between ISPs), of great value in developing countries with limited telecommunication infrastructures.

IP: Internet Protocol, a network-level standard for exchanging Internet packets.

ISP: Internet Service Provider.

IXP: Internet Exchange Point.

Libre software: Synonym to free software to avoid misunderstandings about the meaning of the English term, as 'free' here relates to freedom not necessarily price.

Netbot: Software placed on a computer without the owner's knowledge to become a slave 'zombie' to a controller (e.g. for use in a DDOS attack).

Network neutrality: Seen by some to refer to the Internet's e2e and 'no central control' design principles. Recently associated with attempts by US Internet and telecommunication suppliers to charge on the basis of content accessed.

Open source: Synonym for free software.

p2p: peer-to-peer.

Peering: Two networks (e.g. two ISPs or an IXP and ISP) exchanging traffic between each other and their customers, typically without payment (see transit).

Peer-to-peer: Sharing ICT resources through direct exchanges between computers.

Persistent: A DOI that stays the same throughout its lifecycle by being machine and platform independent, unlike a location-dependent URL (see also Handle).

Phishing: A cybercrime seeking sensitive personal information (e.g. via targeted spam and/or false look-alike bank websites).

Root server: A computer at the top of the control hierarchy for the DNS.

SAT-3/WASC: South Atlantic 3/West Africa Submarine Cable from Portugal to South Africa, with connections to several West African countries.

Settlement payments: The policy used to allocate payments between callers and receivers in international telecommunication exchanges.

Spam: Bulk unwanted email.

TCP: Transmission Control Protocol

TCP/IP: The overall four-layer (physical/network/transport/application) model used for the Internet.

Transit: Where one operator pays another to deliver Internet traffic to the rest of the network or on specific routes (see peering).

Unicode: Digital encoding standard with wider repertoire than ASCII to support diverse languages, technical disciplines and classical and historical texts.

URL: Uniform Resource Locator, the location of a Web page for routing via the DNS.

Virus: A self-propagating program that can damage the computer it infects.

WGIG: Working Group on Internet Governance.

WSIS: World Summit on the Information Society.

Zombie: See Netbot.