The Exclusiveness of the Universal: A Case Study of the Discursive Construction of Knowledge on the Internet

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ABSTRACT
In this study I examine how knowledge is discursively constructed on a web-based portal. Using case methods and discourse analytic techniques, I analyze five strategies that effectively construct knowledge as "universal" on the Development Gateway, a World Bank-initiated anti-poverty portal. This in turn has implications on which stakeholders have more voice or less voice in the knowledge production process. I conclude by arguing that the construction of universal knowledge on a portal renders it more exclusive.

Keywords
Discourse analysis, universal knowledge, socially constructed knowledge, Development Gateway

1. INTRODUCTION
In this paper, I address two research questions: *(1) What are the discursive strategies that are employed to construct knowledge as universal on web-based portals?* and *(2) What are the implications of a universal view of knowledge on stakeholder participation?* The study is divided into four parts. First, I draw from literature that suggests that, broadly speaking, there are two views of knowledge, the universal and the socially constructed. Second, I use these theories to explore the Development Gateway, an anti-poverty web-based portal, specifically to analyze the type of knowledge constructed on the portal. I have found knowledge to be universal. Third, I examine the implications of universal knowledge on stakeholder interactions, noting which stakeholders are endowed with more influence or less influence on the way in which knowledge is produced and validated. A major conclusion reached is that the thrust towards universal knowledge makes the portal more exclusive and limited in terms of participation.

2. THEORIES OF KNOWLEDGE
Literature suggests that there are two views of knowledge: as universal, and as socially constructed. While these views represent "ideal types", they provide a useful framework for exploring the way in which knowledge is produced. In this section I explore differences in these ideal types. First, they differ in their assumptions about the "nature" of knowledge: whether knowledge is objective or subjective; whether it is universal or context-specific; how it develops; where it can be "found"; what its purpose is; and how it can be managed. Second, because of different assumptions on the nature of knowledge, they have diverging implications on the role of stakeholder groups in the knowledge production process, for example who comes to be accepted as a legitimate producer and user of knowledge.

2.1 Knowledge as universal
The view of knowledge as universal sees knowledge as objective; universally applicable; developed through logic and rationality (guided by the scientific method and assumptions of positivism); cerebral/ cognitive and needing to be articulated; instrumental; and a good or a commodity. Knowledge, therefore, is capable of being managed under the assumptions of traditional information processing. Knowledge is also seen to be subject to the limits of human rationality [3] [19] [30]. Knowledge under this view has also been referred to as *episteme* [19].

2.1.1 The nature of knowledge
First, knowledge is seen to exist independently of individuals seeking it. It is assumed that there is "an underlying objective knowledge in the world" [3]. Knowledge is therefore truth, or at least a representation of truth, and learning therefore becomes the discovery or the search for this truth [26].

Second, this view sees knowledge as having universal validity. Because there is perceived to be a body of objective and law-like principles about the world out there, advocates largely believe that knowledge is valid in a general sense [3], applicable at all times and places and to all questions [19]. There are no multiple bodies of potentially conflicting principles, but rather a single monolith of knowledge being increasingly apprehended, disclosed, and used anywhere.

Third, knowledge is seen to accumulate through logical and largely scientific methods, and as increasingly developing into an organized and coherent system. Knowledge is founded on fundamentals (first principles, a priori conditions, or sensory data) and is understood to "evolve and progress through the systematic application of logic and principles of the scientific method [3]. This results in knowledge being seen as a formal and systematic body of principles [21].

In the social sciences, this view of knowledge is most clearly exemplified in the positivist tradition. This means that a knowledge project is often constructed around "formal propositions, quantifiable measures of variables, hypothesis testing, and drawing of inferences about a phenomenon from the sample to a stated population" [24]. Ultimately, the type of knowledge that comes to be legitimated as useful would be "hard (read: quantifiable) data, codified procedures, universal principles" [22]. The need to precisely define variables and the need for complex tools of data analysis may also mean that knowledge becomes technical and jargon-laden.

The issue of how knowledge is expressed leads to a fourth characteristic of universal knowledge: knowledge is seen to be

cognitive, and hence must be explicated. Because knowledge is a body founded on fundamental principles, and subsequently expounded upon through mental processes characterized by logic and rationalism, knowledge is understood to exist primarily in a person's head [11], processed specifically by the "rational" mind, leaving little room for the role of intuition, feelings, or knowledge that comes from "unverifiable" traditions or authorities [19]. Knowledge must therefore be articulated before it can be passed on or used.

When knowledge is explicated, it can be accumulated over time; hence knowledge is described as analytic or decomposable into bits [19]. This evokes the picture of knowledge units as building blocks that can be clustered together into subcategories, categories, and supercategories, which eventually will cohere into a single body of universal knowledge.

One reason why the explication of knowledge is important is because it highlights the importance of codifying knowledge into forms that can be efficiently passed on to others, and hence be utilized to achieve certain outcomes. This leads to the fifth point, that knowledge is instrumental, harnessed with the intention of achieving certain results. Knowledge under the universal view is seen as being made up of law-like principles, usually in the form of causally-linked phenomena. Therefore knowledge is generated not just for the sake of understanding certain things about the world, but rather it is pursued for the sake of explanation, prediction and control [24], which in turn are believed to contribute to progress [6] [13]. Knowledge is therefore a tool that enables one to apprehend "the systems that portray the processes of the world and to apply this knowledge to rectify and eliminate problems" [1]. Fiol and Lyles [9] also suggest that "better knowledge and understanding" contribute to "improving actions".

Finally, under the universal view, knowledge is seen to be a good or commodity that can be managed. Because knowledge is instrumental in achieving certain purposes, it is handled like other tangible resources: knowledge undergoes creation, acquisition, accumulation, representation, storage and retrieval, protection, transfer, application, and evaluation [2] [5].

2.1.2 Stakeholders' roles in knowledge processes

According to the universal view of knowledge, only certain types of knowledge become accepted as legitimate: knowledge that is objective, scientific, generated by robust methodologies meant to capture independent phenomena as accurately as possible, and discovered in contexts wherein a strict separation between the researcher and the object being studied is maintained [6] [13]. Knowledge is produced by elite groups capable of conducting logical, rational, or positivist studies of phenomena: scientists, professionals, and experts, along with accompanying gatekeepers who control quality. The knowledge production arena is thus restricted. Other players such as communities driven by traditions that are "not scientifically grounded" will not be seen as credible players in knowledge production. Furthermore, only certain types of people are considered able to use knowledge: those who are capable of apprehending technical and scientific discourses.

The universal view of knowledge among stakeholders assumes that those who have knowledge are at an advantage, while those who do not are penalized [19], the result being that knowledge becomes "a public good that can be transferred from those who know from those who do not" [20]. Thus certain stakeholders are positioned as producers of the knowledge; while others are passive recipients. As a result, participation patterns may in this case be primarily uni-directional communication moving from creator to user.

2.2 Knowledge as socially constructed

A second view of knowledge is that it is socially constructed. According to this ideal type, knowledge is subjective and constructed rather than objective and discovered; context-specific rather than universally applicable; developed in a manner that goes beyond formal, systematic, and positivist assumptions; takes multiple forms; is geared towards purposes other than prediction and control; and is incapable of being managed under traditional notions of information-processing [4] [12].

2.2.1 The nature of knowledge

According to this ideal type, knowledge is not a single objective body of principles awaiting "unearthing"; instead "people and groups create knowledge, negotiating the meaning of words, actions, situations and material artifacts" [12]. By taking part in the shared meanings and patterns of action within a group, an individual acquires a group's subjective perspectives and ideas [4], co-constructing or recreating such knowledge over time.

Second, knowledge is seen as contextual rather than universal. Knowledge is a collection of shared meanings and actions, created through interactions [21] that do not take place in a vacuum but rather within networks or communities. For example, medical students learn to read X-Ray films by drawing on the collectively produced body of knowledge of a medical community [31]. Meanings arise from, and hence only make sense in, a particular situation. As a result knowledge becomes highly context-specific, created within a specific social, political, economic and historical setting [20], and for that particular setting as well, and therefore it cannot be characterized as universal [19].

Third, knowledge can accumulate through means that go beyond systematic, formal, and logical processes. This is mainly because of a fourth point – under this view, knowledge can take different forms. "Legitimate" knowledge can include intuition, immediate experience, or the unexamined authority of traditional masters [19]. Hence knowledge departs from complex, technical, jargon-laden forms associated with scientific ways of learning, and may instead be in the form of simply-expressed traditions and practices [18]. For knowledge to grow, open-ended exploration and creativity [19] not necessarily constrained by positivistic or scientific approaches are accepted, perhaps even encouraged.

Under this view, "practice" is one acceptable medium for acquiring, propagating, or altering such knowledge [11]. This can be seen in master-apprentice relationships, where skills are transferred without necessarily explicating underlying theories. This has given rise to the notion of communities of practice [18] and the idea that these are contexts for creating and transmitting knowledge [4] [15]. Because such knowledge is often seen to exist within networks of relationships, many of which are highly personal [19], knowledge does not always have to be articulated. Rather knowledge can take tacit form as it is passed between individuals and communities [7] [8]. As Polanyi [29] once declared, "We can know more than we can tell".

Fifth, knowledge is seen to fulfill certain purposes, but purposes are not limited to prediction and control of phenomena. The goal

of knowledge is not the progressive accumulation of law-like principles; instead it is to achieve increasingly enriched understandings of how meanings are (re)created within social settings [16] [25].

Finally, knowledge is not "managed" in the traditional information processing sense. Under these assumptions, it becomes problematic to conceive of knowledge as a good or resource that can be broken down into units and managed under assumptions of information processing. The idea of knowledge creation can now take multiple forms: converting knowledge from tacit to tacit, tacit to explicit, explicit to tacit, and explicit to explicit [21], which makes it more complicated to formalize a process by which certain forms of knowledge (tacit, practice-based forms) can be captured. It has also been argued that certain types of knowledge are "indecomposable" [19], which makes knowledge problematic to store or (re)combine. When one speaks of managing knowledge, it therefore becomes a much more complex process such as the management of communities of practice or contexts within which it arises, for example by setting up "caring" conditions that encourage knowledge creation [32].

2.2.2 Stakeholders' roles in knowledge processes

Since knowledge is no longer limited to technical, positivist, or scientific forms, the pool of legitimate knowledge producers can expand: an ordinary person's experience, his or her intuition, or community traditions may now count as knowledge. Therefore there is considerably more flexibility in terms of who becomes accepted as a source of knowledge. Furthermore, if knowledge is no longer limited to scientific, jargon-laden, technical hypotheses and principles, the pool of knowledge users changes as well. On one hand, the pool of knowledge users might grow, if knowledge is articulated in ways that are more accessible (e.g. expressed in layman's language). On the other hand, the pool might shrink if knowledge takes forms that are not so easily disseminated, for example knowledge in the form of practices that require person-to-person teaching. In this case knowledge users are confined to apprentices or community members.

Interactions among stakeholders will also change: producers are no longer restricted to an elite group of scientifically-minded people. However, a more pluralist knowledge community is not necessarily a more egalitarian one. In describing a form of knowledge known as techne (which is underpinned by many assumptions of the social constructionist view), Marglin [19] argues that this form of knowledge can be externally pluralistic while being internally hierarchical. Externally, it lays "no claim to universality, recognizing the limits of time, place, and purpose, [it] does not inherently subordinate those outside a community of knowledge to those inside the community" [19]. However, within this community, relationships are not necessarily among equals: the originator-recipient patterns of knowledge may mean a parent-child relationship or an apprentice-master relationship, which are still stratified.

The contrasting assumptions about the nature of knowledge, and their diverging implications on stakeholder groups as well as on patterns of interaction, are summarized in Table 1. It shows how different beliefs about what knowledge should be will have very different impacts on what makes up legitimate bodies of knowledge and how this knowledge can be accumulated as well as passed on. It also shows how these views will have different implications on who produces and uses this knowledge.

Table 1. Contrasting assumptions of the two views of knowledge.

KNOWEDGE AS UNIVERSAL	KNOWLEDGE AS SOCIALLY CONSTRUCTED
Knowledge as objective and to be discovered	Knowledge as subjective and to be created
Knowledge as universally applicable	Knowledge as context specific
Knowledge as systematic, formal, logical, rational, scientific. Sometimes results in knowledge that is complex, technical, and jargon-laden	Knowledge as taking multiple forms: can be in the form of ordinary experience, tradition, intuition
Knowledge as cognitive and having to be explicated	Knowledge as beyond the formally articulated. Explicit or tacit. Sometimes takes the form of practices of communities
Knowledge as instrumental: deliberately pursued for the sake of explanation, prediction, control, or problem-solving	Knowledge as purposeful, but possibly in an implicit sense. One possibility is greater understanding or the perpetuation of community patterns, but not necessarily prediction, control, or problem-solving
Knowledge as a good that can be managed under traditional assumptions of information processing	Knowledge as incapable of being managed under traditional assumptions of information-processing
Knowledge production/ consumption as an elite activity: key stakeholders are a limited group of people who can create/ manage systematic, formal, logical, rational, and scientific knowledge	Knowledge production/ consumption as an open activity empowering multiple sources in the knowledge production process and possibly allowing for diverse users of knowledge
Patterns of interaction in the knowledge arena as being uni-directional, hub-periphery, tightly controlled exchange	Patterns of interaction in the knowledge arena as being externally pluralistic but internally hierarchical

In the next section, I analyze the Development Gateway by exploring what kind of knowledge come to be constructed on this portal. My findings suggest that the portal discursively constructs technical and scientific knowledge resources in ways that are consistent with the universal view.

3. METHODS

To address the two research questions this study makes use of discourse analysis in the context of a case study. The case site is the Development Gateway, a World Bank initiated anti-poverty portal established in 2001, and now operating under an independent foundation. Upon its conception the Development Gateway was envisioned to be guided by a decentralized community model for ownership and administration; partnership-driven content management; feedback loops that would allow user

comments and suggestions and correspondingly allow the Gateway to track inquiries and respond in an open manner; and open technology and information standards that would facilitate access and collaboration (Development Gateway [DG][1], 2001). It may be argued that its original intent was the creation of a site more consistent with the "socially constructed" view of knowledge.

At the time of analysis the Development Gateway had four major parts: First, topics pages were specialized online repositories, described in the Development Gateway as "communities", wherein knowledge resources on different areas of development were shared. A second feature was the dgMarket, an online facility that aimed to promote transparency and efficiency in government operations, specifically in tender-related processes. The third feature was AiDA (Accessible Information on Development Activities), reportedly the largest directory of development projects in the world. Finally, there were country gateways, national level initiatives envisioned to "facilitate and catalyze innovative and effective use of the Internet and other information communication technologies (ICT) in government, business, and society in order to reduce poverty and promote sustainable development" [DG2005-36].

Data analysis was conducted on the main site, the Development Gateway, specifically on its topics, which were seen to be the most knowledge-intensive feature. Because of the volume of the material, I initiated analysis on the topic ICT for Development, which was the most frequently recurring topic among the country gateways. This is consistent with Flyvbjerg's [10] criteria on choosing typical or average cases. In later stages, when analysis showed that contrasting cases were needed, I examined data under a second topic entitled "Indigenous Issues," to achieve "maximum variation" [10].

Data from these parts of the websites were then analyzed using discourse analysis, a methodology that not only calls for systematic qualitative investigations of discursive units called texts. It involves examining what these texts are, how they relate to other texts, what their context is, and processes of production and consumption of such texts; it also explores how systems of texts construct aspects of reality, linking the methodology to strong social constructionist assumptions [28]. It is seen to be a potent method for this study in that it moves beyond "counting" the presence and absence of certain features as indicators of a particular metaphor, and instead explores more specific texts, as well as the meanings associated with such. Further, discourse analysis gives room for the notion of fluidity of website features by exploring how a single feature (like a discussion forum) can be enacted one way in a given context and in an entirely different way in another [14].

To guide my data analysis, I constructed a framework made up of questions that would enable me to unpack a portal's detailed characteristics. Focusing on words, I drew from traditional discourse analysis [27] and from journalism [23] and formulated six questions for analyzing these words. Questions focused on the genre of resources used; topicalization, foregrounding, backgrounding; and tone employed, among other things. Each of these questions was further broken down to generate greater detail; for example, "tone" was further broken down into sub-questions on degree of formality, detachment, objectivity, presence or absence of jargon, and positioning of speaker.

In the next section I discuss the findings that emerged based on the discursive framework.

[1] A reference [DG-200x] refers to web-based data that was analyzed for this study.

4. DISCURSIVE STRATEGIES FOR THE CONSTRUCTION OF UNIVERSAL KNOWLEDGE

My findings suggest that knowledge produced on the Development Gateway is discursively constructed in ways that are consistent with a universal view of knowledge. The major features of knowledge found on the Development Gateway are summarized in Table 2.

4.1 Knowledge as global / international

Knowledge on the Development Gateway is constructed as global, or at least as highly international, in that most of the materials presented discuss topics that transcend national borders. An examination of the knowledge resources on the homepage as of October 3, 2005 shows that most resources are dedicated to matters of international or worldwide interest. The Special Report, one of the salient items, focuses on the Millennium Development Goals, global indicators dealing with poverty eradication. The featured book, the Human Development Report, focuses on the macro phenomenon of inequality between countries. The Aid Harmonization and Human Development Reports, as well as the databases and statistics, are not focused on a particular country but rather on information on several countries and entire regions. Those resources that do focus on a specific country are more short-lived materials that are the highlight for a limited period: the focus on Bolivia is simply as the current featured country for that period; the focus on Afghanistan is simply as being one of popular topics for the week. In focusing primarily on resources with non-transitory contents slanted towards "global" issues, the Gateway positions itself as detached from or unconfined to a particular region or country [DG2005-01].

An analysis of the knowledge resources on the homepage almost one year later on September 19, 2006 suggests similar patterns. Near the top of the homepage is a banner that reads "Find information on development worldwide." The Special Report featured continues to deal with global poverty indicators in the form of the Millennium Development Goals. The Most Popular Items do not focus on country specific resources, but instead focus on resources such as the World Investment Report 2005 and a website on the Millennium Development Goals indicators. When the Development Gateway does present events or initiatives that are country-specific, they are juxtaposed in ways that one can see how they are drawn from different parts of the world, presenting a mosaic of international developments. The same 2006 homepage reports on events from various continents: an e-Africa initiative, the Kenya Development Gateway promoting its Kiswahili site, the launch of the new Mexico Development Gateway, Australia giving funding to the Development Gateway [DG2006-01]. Evidence also shows that issues in the Development Gateway, for example SME growth and the digital divide, are not linked to a specific context. The absence of context suggests that these resources have general validity: they are universal solutions to universal problems that are "valid anywhere".

Table 2. Analysis of knowledge as constructed on the Development Gateway.

THE UNIVERSAL VIEW OF KNOWLEDGE	STRATEGIES FOR CONSTRUCTING UNIVERSAL KNOWLEDGE ON THE DEVELOPMENT GATEWAY
Knowledge as universally applicable	Knowledge as dealing with global/ international issues and presented as being for "everyone"
Knowledge as systematic, formal, logical, rational, scientific. Sometimes results in knowledge that is complex, technical, and jargon-laden	Knowledge as comprehensive and systematic Knowledge as technical Knowledge as robust, non-indigenous, with "Western" knowledge being privileged
Knowledge as instrumental: deliberately pursued for the sake of explanation, prediction, control, or problem-solving	Knowledge as problem-solving
Knowledge production/ consumption as an elite activity: key stakeholders are a limited group of people who can create/ manage systematic, formal, logical, rational, and scientific knowledge	Selected knowledge producers and filters dominate the arena; users are assumed to be a certain "type" of person only
Patterns of interaction in the knowledge arena as being uni-directional, hub-periphery, tightly controlled exchange	Interaction characterized as "non-participation": people are invited to participate but controls are in place to regulate the nature and quality of exchange

Knowledge on the Development Gateway is also constructed as being universal in terms of target audience. The portal targets a broad and diverse pool of stakeholders. Again, a look at the purposes of the ICT for Development community shows what pool of users it hopes to reach. In response to the question "Who is this Topic for?" the reply posted reads:

> "*All* who are interested in ICT for Development are welcome to join us. You might work or study at a university doing research, a humanitarian relief NGO working in the field or in HQ, a private sector company looking for business opportunities or at a donor agency. You may be looking for a job or volunteer opportunity in this area. Or you might be in need of a quick answer to a tough question or would like to voice your opinion to a broader audience. This site is aimed to help *all of you*!" [DG2006-08, italics mine]

Similarly, in response to the question "What is the value added of this Topic?" the reply reads:

> "This site aims to serve as a common platform for stakeholders from all sectors: donor and relief community, NGOs and private companies, students and academia. We hope the site will help build a broad-based and well-balanced public-private partnership open to all. Everyone can contribute resources or opinions, regardless of political, religious or ethnic affiliation. *The site will be non-political and provide an open forum to all constructive stakeholders."* [DG2006-08, italics mine]

The emphasis on "all who are interested" and "stakeholders from all sectors" suggests that it is expected that knowledge found on the Development Gateway portal will be used by multiple and varied groups of people, that is, knowledge "for everyone", although I will later show that this apparent inclusiveness may be misleading, given that not all material is accessible to everybody.

4.2 Knowledge as comprehensive and systematic

Knowledge on the Development Gateway tends to be comprehensive in terms of coverage: the portal attempts to provide a wide variety of knowledge-based services as well as to cover a vast array of topics and sub-topics, instead of choosing to specialize or to niche. The Development Gateway has a number of different services, among them tools to promote the exchange of knowledge; an online directory of development projects and activities, both global and local; online public tendering services, both global and local; and between 40 and 50 country gateways that focus local, national, and regional needs [DG2006-34]. Exploring the ICT for Development community shows that knowledge attempts to fulfill a large range of functions: the community maintains a calendar of events, news, highlight articles, a list of related communities, and one discussion forum.

Knowledge is also systematic, employing a detailed taxonomical scheme for classifying resources. The Development Gateway maintains 8 categories and 28 different development areas, originally called "topics" and now referred to as "communities" [DG2006-02]. The topics are diverse, ranging from nanotechnology to indigenous issues to microfinance. The general topic ICT for Development is further broken down into 47 key issues, including more well-known areas of application of ICT such as e-commerce and ICT and poverty, but also less explored issues such as ICT and disabled persons, and ICT and arts and culture. As of September 20, 2006, the ICT for Development community showed a total 8991 resources [DG2006-08].

4.3 Knowledge as technical

Knowledge on the Development Gateway is highly technical, making use of extensive jargon and employing the specialized language of development. The 2005 homepage mentions how "extreme inequality between countries and within countries [was] identified as one of the main barriers to human development—and as a powerful brake on accelerated progress towards the MDGs" [DG2005-01]. The language used is not everyday language; the words that make up the sentence above include carefully selected development or economic terminology. The 2006 homepage's list of its five Most Popular Items of the Week shows a similar pattern. One of these popular items is UNCTAD's World Investment Report, which "presents the latest trends in foreign direct investment (FDI) and explores the internationalization of

research and development by transnational corporations (TNCs) along with the development implications of this phenomenon". A second popular item is a book that aims to teach readers to "employ a uniform, coherent, and time-tested methodology for identifying and quantifying the impact of various disasters on the affected social, economic and environmental sectors". A third is a UN site that "presents the official data, definitions, methodologies and sources for the 48 indicators to measure progress towards the Millennium Development Goals" [DG2006-01]. The statements all employ scientific, technical, complex, professional language and in doing so assume that readers will be of a certain type: individuals who are capable of understanding English at such a level.

4.4 Knowledge as robust, non-indigenous, and "Western"

Knowledge on the Development Gateway can also be described as "robust". It is not limited to purely scientific or positivistic research, but it does focus on "the kind of knowledge which, in our culture, is most highly valued - objective, dispassionate knowledge, ostensibly free of emotive involvement and subjectivity" [17]. An examination of the homepage of the portal in 2005 as well as in 2006 indicates that there are no human-interest stories or feature articles.

Another point worth mentioning is that only one out of 28 topics is allocated to indigenous issues, while 27 are devoted to forms of "universal knowledge". For example, this article was classified under Indigenous Issues:

> "Safed Musali besides being an aphrodisiac, is also used in the manufacture of pain relievers, as a tonic, for curing general debility and impotency. Its powder, it is claimed, increases lactation in feeding mothers and lactating cows. It is being increasingly used in ayurvedic and pharmaceutical industries. A medicinal plant, which finds application in the treatment of variety of diseases. It is among one of the 32 prioritised medicinal plants according to the National Medicinal Plants Board (NMPB) under the ministry of health and family welfare. There is very high demand both in India and abroad." [DG2006-37 # 11]

The question can be raised as to why this was not included in the more mainstream dgCommunity, Reproductive Health. Its classification under Indigenous Issues may suggest that it did not meet the criteria for this category.

There are other ways through which indigenous knowledge is subordinated to Western knowledge. For example, other articles show that knowledge is generated through the observation of a phenomenon within a third world or indigenous community. However, the observer in question is typically a large (Western) institute ("according to the latest World Bank research"; "according to a recent United Nations survey"), which also provides the solution to what is seen to be a problematic condition:

> "Nata, in Botswana, is a village of 5000 people. It is heavily afflicted with HIV/AIDS; nearly 50% of all pregnant women in Nata are HIV positive…" [DG2006-37 # 33]

In such articles, indigenous people, third world communities, or minority groups are the objects of study or of assistance; but once again, they are not portrayed as sources of knowledge.

Within this topic, data also shows that indigenous knowledge and practices are slanted as inferior, more harmful, or less effective than Western ways of doing things. Hence the implication is that indigenous people have knowledge, but the West "knows better":

> "This technical brief from Johns Hopkins University examines which community-based approaches to accelerating abandonment of female genital cutting (FGC) have the best chance of achieving sustainable change." [DG2006-37 # 30]

4.5 Knowledge as problem-solving

Much of the knowledge on the Development Gateway is constructed to serve the purpose of systematic problem solving. There are a number of indicators that support this. First, there is an emphasis on problems, including "internet access and staff capacity [being] key constraints in SMEs seeking to grow", "donor support for pure infrastructure projects [having] dropped dramatically"; and "access to and benefits to ICT [still being] limited to a subset of the population" [DG2006-21]. Examples of solutions presented include how a new fund has been established for rural innovation in India; how an online community has been set up to connect 100,000 youth around the world, how a new model has been proposed to achieve rural connectivity, and how a new Iraqi media institute has been set up to facilitate war and peace reporting [DG2006-08].

Second, there is also a tendency to present development phenomena as being complex ("the complexity of embedded ICT projects needs to be appreciated"; "we need to look at ICT4D holistically") [DG2006-21], as well as characterized by cause and effect or determinism ("the causal relationship between ICT and FDI"; "private sector competition remains the driving force in extending telecommunications access"; and "localization of software [is] seen as a major stimulus to the diffusion of ICTs") [DG2006-08; DG2006-22]. This appears to emphasize the need for systematic, carefully thought out approaches to addressing such problems.

Third, there is an emphasis on progress, highlighting what has and has not been done ("The World Bank's ICT for Development 2006…takes stock of the progress that has been achieved worldwide…" [DG2006-22]; "Brazil's federal e-government developed rapidly", "China's rapid economic growth has benefited large portions of its population. Others…still await the new opportunities" [DG2006-23]). Notably, there is the unproblematic and authoritative presentation of recommendations ("If Africa is to reap the full benefits of ICT, investment in broadband Internet…is also necessary" [DG2006-21]; "The real challenge is to build enough demand to make such a network financially sustainable" [DG2006-08]).

Table 3. Analysis of stakeholders on the Development Gateway.

STAKE-HOLDER	ROLE IN KNOWLEDGE PROCESSES
Authors	Large international organizations are more evident because the portal emphasizes materials that transcend national borders; other authors with a specialization in development, capable of writing in technical English Smaller specialized organizations whose materials (a) do not have an international/ global focus or (b) are of a non-technical, non-scientific, or indigenous nature are less evident in knowledge production
Gateway "owner"	The Development Gateway is also an author in the process of knowledge production, playing a dual role of publisher and author of materials
Quality controllers	Community guides, advisors, coordinators, volunteers, and cooperating organizations are given significant influence. They have decision-making power, and they are further legitimated through published curriculum vitas
Subjects of materials on the Gateway	Large international or Western organizations are influential in the knowledge production process, being treated as sources of robust knowledge, or as "saviors" of the poor Indigenous and minority groups are put in a marginalized position, being treated as "passive", as beneficiaries, or as sources of inferior knowledge
Users of materials on the Gateway	People who can understand the material produced by authors above are at an advantage; they have basic understanding of development issues and can involve themselves in the knowledge production process by contributing People who are non-specialists, limited to layman's language, or are non-technical English speakers, as well as authors and users "indigenous" materials on development, will not be in a strong position to contribute
Ultimate bene-ficiaries	Debatable: The poor are not actually "part" of the portal. They are talked about, but as outsiders

Finally, there is also the recurrence of managerial goals including "effectively harness ICT", "drastic reductions in employment costs", "reducing transaction costs", and "increasing transparency, efficiency, and access" [DG2006-21].

5. IMPLICATIONS OF UNIVERSAL KNOWLEDGE ON STAKEHOLDER PARTICIPATION

My findings also show the construction of universal knowledge privileges specific stakeholders while marginalizing others' participation. These implications are summarized in Table 3.

Two sets of stakeholders appear to have the strongest voice in the knowledge production process: international organizations (the World Bank, IMF, as well as organizations or individuals who are capable of producing specialized, technical, Western-type development knowledge), and the so-called "experts" who control or filter the dgCommunities. In contrast, the most marginalized stakeholders in the knowledge production process are creators and users of indigenous, non-technical, non-scientific type knowledge, and users who do not have basic knowledge of Western development concepts. An ambiguous construction of the "poor" can also be seen.

First, authors of the materials tend to be international organizations such as the World Bank, the United Nations, or the IMF. This can be seen in terms of the kinds of resources on the homepage. As of 2005, contents under Data and Statistics appeared to be drawn mainly from the World Bank; the Special Report was published by the Development Gateway Foundation; and the featured book (report) was the Human Development Report of the United Nations. Notably the Development Gateway Foundation has a strong voice by virtue of performing the dual role of author and publisher: it owns the site, and it authors some of the materials that come up on it, giving it the powerful role of being producer and distributor of knowledge. Many resources on the portal include input from other organizations (databases are populated by different people; topics are filled through contributions from various sources), but these are nevertheless managed and edited by the Development Gateway staff. Many of the resources presented on the site are presented in their entirety: for example, the entire Human Development Report, and not just a portion of it, is endorsed as a featured book [DG2005-01]. Without explicitly saying so, considerable credibility is therefore derived from the authors of these resources, simply by the portal's choice to publishing someone else's (usually someone well-known and credible) output. In this sense, the portal can also be seen to be piggybacking on the expertise of such large and well-known organizations.

The "quality controllers" of contributions to the site are also evident in the knowledge production process. This includes the designated experts who oversee the communities (guides, advisors, coordinators, volunteers, and cooperating organizations). The community ICT for Development, for example, is overseen by three guides, 51 advisors, two coordinators, one volunteer, and 27 cooperating organizations. Contributions are subject to filtered (censored?) and delayed publication, without an automatic guarantee of getting one's material onto the web. The ICT for Development overview clarifies that "Your contribution will be reviewed by the editor and in most cases posted shortly" [DG2006-08]. It is also noted that in the sole discussion forum, there is a clause that "The Development Gateway may edit or remove your comments" [DG2006-07]. The implication is that knowledge is a body of work that can be built by many, but it takes a pool of guides and experts to filter or control the process. The quality controllers take on a position of significant influence, for a number of reasons. One is that, by virtue of job function, they become designated checkpoints to be cleared before content finds its way into the website; hence these overseers decide which material ultimately gets published and which material is deemed "inappropriate". A second reason is that they are also built up as experts in the field by virtue of their qualifications being published online, highlighting their positions held, affiliation, years of experience, or weight of accomplishment. A third reason is that these overseers can be quite active participants in the communities themselves. For example, of the 10 "Latest

Additions" under ICT for Development, 6 were posted by a single person, Thomas Bekkers, who is one of the two coordinators of the community [DG2006-08].

Knowledge on the Development Gateway also portrays its subjects in different ways. For example, upon clicking on the 2005 Special Report on the Millennium Development Goals, one sees a part of the report that is entitled "Points of View", where a question on development is posed and feedback is obtained from three groups: aid donors, aid recipients, and civil society [DG2005-18]. Under aid donors, an accompanying photograph shows aid donors as men in business suits, and responses to the question under consideration were solicited from key people such as the Minister of the Permanent Mission of Japan to the United Nations and the Deputy Director of the UN Millennium Project [DG2006-41]. Hence solutions providers are pictorially portrayed as men from first world countries or large international organizations. In contrast, as seen in the discussion on Indigenous Issues above, indigenous and minority groups as subjects have been portrayed in a number of unflattering ways: as passive beneficiaries of assistance from large or from Western entities, or as parties whose knowledge is inferior to other Western-type knowledge. Authors and users of indigenous knowledge are also marginalized in that there is very little non-Western knowledge that can be seen on the portal, indicating that they are not widely accepted here.

It also appears that despite its claims to be a portal for all stakeholders, the Development Gateway is actually limited to people who have basic knowledge on development or development issues. The technicality of the jargon, the nature of the resources (statistics, hefty economic reports), and the type of topics do not appear to be readily accessible to people who have not had at least some formal schooling. It appears that active participation in certain communities (nanotechnology, foreign direct investment) would require having specialized in that area.

Finally, one party is constructed in an ambiguous way on the portal – the poor. Based on the type of knowledge available on this portal, it appears that "poor" people have a cosmetic presence on the portal. They are present in that they are named as beneficiaries, but they are not portrayed as being players on the portal. The same report that showed aid donors in business suits also shows a picture of aid recipients - here they are pictorially portrayed as three children standing in front of a bare shelter. This might indicate that the poor, the ultimate beneficiaries of aid, do have a presence on the portal. However, input on the issue was solicited not from groups of these ultimate beneficiaries (for example, adults seeking aid for their families), but from bureaucrats such as the Executive Director for African Capacity Building Foundation in Zimbabwe, and the Vice Minister of Economic Relations and Cooperation of Nicaragua. Hence "aid recipients" are ambiguously set up: on one level they refer to groups of people in poverty, on another level they refer to bureaucrats and managers who are parts of organizations within countries in need, but who may not be in need of aid themselves. Hence poor people are subjects, but not users. They are showcased, but not heard.

Based on the discussion on different stakeholder groups above, knowledge in the Development Gateway can be seen to be a body of work that is generated by many but regulated by a few. Upon initial engagement, the Development Gateway appears to be an open, accessible arena. Its heading is inviting, confidently beckoning people to "connect, collaborate, change your world". It readily presents a number of interactive mechanisms that allow for immediate participation, among them dropdown menus and search facilities. A feedback mechanism, available on the front page, leads to a repository of candid comments (some good, some bad) from the early beginnings of the Gateway, which makes a case for the Development Gateway's claim for transparency. However, a closer look at the portal shows that the knowledge constructed on this website shapes the knowledge production process in ways that, although multiple players are drawn into an arena, their ability to participate is limited because they are subject to restrictions and controls within that arena.

6. CONCLUSIONS

In this study I have used theories of knowledge to analyze discursive strategies that construct knowledge in a universal way on a web-based portal. The Development Gateway uses detached, technical, jargon-laden language, positions itself as a central player in the field, and constructs knowledge that is consistent with the universal view: knowledge that is primarily global, systematic, comprehensive, and geared towards problem-solving. In doing so, it marginalizes more situated forms of knowledge, as shown in articles being confined to a single small arena "Indigenous Issues", and in local practices being evaluated as "inferior" to the findings of more scientifically-minded institutions. As a result such knowledge puts a small group of players in positions of considerable influence in the knowledge production process, primarily sources and users of technical, scientific, and robust knowledge, and therefore interactions on the portal are heavily regulated, resulting in an arena characterized by non-participation. The thrust toward universal knowledge, therefore, renders the portal more exclusive in terms of knowledge production and consumption.

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