Konstantinos Karachalios  
Key Note Speech to CFP Conference, Yale, 22 May 2008

Part I: Re-discovering the Sunken Horizons: Governance Gaps in the Global Knowledge Economy and the Role of Institutions

Part II: *Whose Game?* The battles around global standards through the lens of EPO’s scenarios

Summary

If it is true that knowledge, its production, appropriation and control is at the centre of the battles to shape the future world architecture, then the public institutions involved in this big game have an important role to play. This includes in particular IP institutions, whether national, regional or international, since they are playing a key role in the process of appropriation of codified knowledge. This is even more important, as the governance structure of the global knowledge economy looks less compact than a block of Swiss cheese, leaving too much room for individual optimisation strategies. As failures occur in ever shorter intervals and the externalities are rising steeply, the temptation to search for convenient scapegoats rises, too.

Due to the growing intensity of the conflicts and volatility across all vital systems, attempts for quick and partial fixes, without looking at the essential issues at stake, in particular the social and geopolitical gaps in the perception of fairness and equity, will have no real impact.

Regarding IP-related institutions, as the "external" pressure rises, the risk rises, too, that they reflexively retreat to self-referential, introverted patterns, which had proved successful in the past. This trend could be further reinforced by the exponentially rising backlog in IP applications, which is usually regarded as the source and not as a symptom of the problem. Such a retreat would function only if it were possible to decouple from the external noise; under the current circumstances, it would not work anymore.

As this is a political forum, what follows is necessarily a political statement. Thus, it represents strictly the author's personal opinion and views, which can by no means be attributed to the EPO.
Alternatives are however not easy, for several complex reasons. The biggest difficulty is that there is a particular type of intelligence needed to grasp the current extremely complex and turbulent developments and most - not only IP-related - national and international hierarchical institutions and the thinking they produce are not a priori fit for this.

But even if there is an intelligible strategic analysis produced and there is the will for an outreach beyond the narrow patenting procedure, there are several dangers looming large. How to navigate between the Scylla and Charybdis, between the accusations of illegitimate interference with political issues in the past and the calls to use the inherent capacities, beyond a strict legal-technical context, for the future?

The EPO, as a broad regional patent office with a considerable human, cultural and scientific background and potential decided that retreat is not a good option now. The "Scenarios for the Future" project is a visible expression of the will to understand, to reach out and to engage more pro-actively into the public debate, building new bridges. This is by no means pure PR, this intellectual outreach is combined with very concrete projects on the ground, with a multiplicity of strategic partners, in particular in technological fields where patent titles may cause considerable strain, if not applied or regulated properly.

In the second part of the presentation, the Scenarios are used to look into the matters arising from the collision of the increasingly conflicting trajectories of the worlds of ICT standards and of patents.

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Part I: Re-discovering the Sunken Horizons: Governance Gaps in the Global Knowledge Economy and the Role of Institutions

First of all, I would like to thank the organisers of this conference for inviting me to this emblematic place and event. I assume that the surprising collective work "Scenarios for the Future" and my personal involvement in this fascinating project is a possible reason for this honour. And let me also add, that whilst I am happily engaged in the International Department of the European Patent Office, today I stand here in my personal capacity.

Allow me an introductory comment to the title of the CFP conference. I am of course eager to protect my private sphere and fully understand the preoccupation of the organisers of the "Computer, Freedom and Privacy" Conference series. My comment is also by no means directed to the participants of this conference with their activist background. I would however to distinguish myself from a certain notion of privacy and from a certain, unfortunately quite widespread political attitude. The best way to do it is to cite something from Thucydides' Epitaph. It is a funeral speech about the Athenians killed in the devastating Greek civil ("Peloponnesian") war, which followed the Persian wars. Pericles is quoted therein by saying that the ones not actively participating in the public life of the city are not to be considered wise. They are useless idiotes (i.e., exclusively privacy-minded, the origin of the modern word 'idiot').

Another comment to the setting of the conference: I think that the idea to have one American and one European as key note speakers for this year's CFP Conference shows a consciousness that technology policies of the US cannot anymore be regarded isolated, there is an increasing awareness that we are all sitting in the same boat. While I will try to show ways how people working in institutions and organisations may become creative within such frameworks, Clay Shirky's theme deals with the opposite: how to be creative outside of such, sometimes Kafkaesque, environments.

1 Scenarios for the Future, EPO, 2007 (http://www.epo.org/topics/patent-system/scenarios-for-the-future.html)
2 Thucydides, History, Book B’, Ch. 40: "μονοι γαρ τον μηδεν των των μηδεν των δε μετεχοντα αυκ απραχμονα, αλλα σχεδειν νομιζομεν"
3 Yale Information Society Project's 9.5 Theses for Technology Policy in the Next Administration http://www.law.yale.edu/news/6840.htm
4 The other key note speaker at CFP 2008
Let us go back to the late 1970s, the time when the current globalisation era and its knowledge-based volcanic energy started, to listen to two other testimonies from the opposite coasts of the Atlantic Ocean. Buckminster-Fuller, the great American optimist, recognised that the potential of the era was based on knowledge as the "technological ability to protect, nurture, support, and accommodate all growth needs of life". He concluded that we were about to cross a singular boundary: "It no longer has to be you or me. Selfishness is unnecessary and hence-forth unratnonalizable as mandated by survival. War is obsolete."

Around the same time, at the east coast of the Atlantic, Paul Virilio, a French architect and philosopher, spoke of a future of negative horizons. The real historic novelty is the fact that no alternative project to the current misery may be thought, because all perspectives are turned negative, and this nihilistic perception of the future contaminates constantly our very present and condemns a priori every effort to escape. In my opinion, Fukuyama's *End of History* captures – in spite of its triumphalist tone - rather unintentionally this lack of perspectives.

So, who was right and who was wrong? The American optimist or the French sceptic? I would say that – paradoxically – both prove to be right. As Fuller diagnosticised, we have now all capacities to escape barbarism, and in the same time, as Virilio said, our horizons are sunken. Thus, we must ask ourselves, whether we take this antithesis for granted for all times, in Fukuyama's sense, or whether the current system includes antagonisms and tensions capable to tear it apart or to impede its perpetuation.

The philosopher Slavoj Zizek identifies four such mega-antagonisms: the menacing ecological collapse, the "inappropriate application of the concept of private property in the so-called 'Intellectual Property'"9,10, the socio-economic implications of new techno-scientific

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8 Slavoj Zizek (International Director of the Birkbeck Institute, London University), *Das wahre Erbe des Jahres 1968*, Süddeutsche Zeitung, 2008 (103)
10 and also James Bessen and Michael J. Meurer, *Patent Failure; How Judges, Bureaucrats and Lawyers Put Innovators at Risk*, in particular Chapter 3 "If you can't tell the boundaries, then it ain't property", Princeton University Press, March 2008
developments (in particular in the field of biogenetics) and finally new forms of Apartheid and exclusion. Zizek produces an explicit link between the three first antagonisms and the conflicts around what he calls "Commons", i.e. public goods, building the basis of widely shared social structures. Assessing the realistic danger - in contrast to zero sum games of the past - that now all of us could lose everything, he concludes that the only way to be realist today is to imagine paths that look impossible within the coordinates of the prevailing logic.

Honestly, I don’t think that any advices to any administration would help here. The ultimate addressees of this unprecedented challenge are us all: how long do we still intend to be spectators in what risk to become the last acts of the drama of our own collective adventure on this planet? And even if we understand the need to act, how to engage ourselves politically in the times of negative horizons? In my opinion, if we do not react on the fact that the aspiration for political freedom - enshrined also in the logo of this Conference - has been usurped by the logic of the free markets, and that the joy to act collectively has given place to unlimited individual consume, then the only battles to take place will be elementary power struggles around the mega-antagonisms named by Zizek.

Escalating antagonisms around the natural resources, like water, food and energy, are already superseded by another mega-antagonism: the attempt to delimit and possess knowledge, this fundamentally different type of resource, which in many of its aspects is potentially non-exhaustible and non-antagonistic. As indicated in our Scenarios Compendium, its very nature and availability is changing and we speak of the "knowledge paradox": "If the rules around access, management, production and ownership of knowledge are not chosen properly, more information could even equal less knowledge - and less innovation."

But, if it is true that the key antagonism in the current globalisation era is the way codified knowledge is produced, appropriated and controlled, then the public institutions involved in the governance, regulation or implementation of key partial processes are playing a de facto critical role in shaping the future of humanity. This fact contrasts sharply to the self-perception of most IP offices and institutions, 'the sleeping beauties of this knowledge era'. There has been

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11 See also reactions of Kurzweil and Dertouzos to a proposal by Bill Joy of Sun Microsystems to renounce voluntarily certain lines of research, because of the dangers they may pose; MIT Technology review [http://www.technologyreview.com/Infotech/12228/](http://www.technologyreview.com/Infotech/12228/)


13 Calestus Juma, private communication, 2006
undoubtedly for a long period of time a predominant trend, that of a strong self-defined professional and moral obligation, a kind of honour codex and almost a *conditio sine qua non*: namely the capacity to refer exclusively to the own linguistic-legal context and framework.

However, as the externalities grow, the kind of modesty and self-retention exhibited by the IP offices may not be perceived uniquely as a virtue and may not be workable anymore. But, as the "external" pressure rises, the risk rises, too, that IP institutions instinctively retreat to an introverted pattern. This trend could be further reinforced by the exponentially rising backlog in IP applications, which is usually regarded as the source and not as a symptom of the problem. Of course, such a retreat would function only if it were possible to decouple from the external noise. Besides this basic dilemma, there have been traditionally critical voices, saying that this behaviour of the IP institutions in reality revealed not a virtue but a privilege, namely to posses and exercise a particular, implicit and self-referential power, thus effectively escaping political control\(^{14}\). Notwithstanding this relatively old controversy, the happy times, if they ever existed, when for most patent offices life looked simple, their interest allegedly beginning with the application and fading after grant, could be gone for ever. How to navigate between the Scylla and Charybdis, between the accusations of illegitimate interference with political issues in the past and the calls to use the inherent capacities beyond a strict legal-technical context for the future?

A look at the mission statements of most patent offices reveals that they are already getting increasingly engaged up- and downstream on the innovation chain, extending thus their outreach in several directions. Upstream the patenting process, they engage particularly with certain categories of applicants (such as SMEs, university researchers, from developing countries, etc.) and they have often established institutional links with the enabling professions and institutions, such as the patent attorneys, Technology Transfer Offices etc. Downstream they make strong efforts for a genuine realisation of the disclosure promise, by putting a lot of money and efforts in online, documentation which is usually free of charge, and by training target groups, including in developing countries, on how to access and use it legally for their benefit\(^ {15}\).

But that's not all. Patent offices are often institutions with a considerable expertise and capacity the potential of which reaches far beyond the implementation of complex technical-legal matters


\(^{15}\) See EPO’s website about its international relations, their scope and activities [http://www.epo.org/about-us/office/international-relations.html](http://www.epo.org/about-us/office/international-relations.html)
and tasks. For this reason, their explicit mandates usually include active assistance to legislators and governments. E.g., according to information on its website, the USPTO is "working with Congress on major legislation to reform current patent law and practice, to coordinate informational and educational events on piracy and counterfeiting...; advising the Department of State and the United States Trade Representative (USTR) on drafting, reviewing and negotiating of intellectual property sections in bilateral and multilateral investment treaties and trade agreements; advising the USTR on intellectual property issues in the World Trade Organization (WTO)."

Similarly, the JPO engages itself in consultations going far beyond the narrow function of a patent office: "In order to realize a "Nation Built on Intellectual Property" for the future, IP policies must be drafted and implemented to .... create an environment which encourages the "Intellectual Creation Cycle" (the cycle of creation, protection, and exploitation)."

I do not know how the national realities look like, but I can say what I see in the international terrain. One of my formal professional tasks being to represent the EPO in WIPO as a mere observer, I often see there my colleagues from the national patent institutions to represent officially their governments in quite sensitive policy areas. Of course, they are mostly embedded in delegations including experienced negotiators and representatives from the Embassies, but the people from the national IP offices are still playing an active role.

The emergence of new technologies and what Chris Hill calls the mutation of the US towards a post-scientific society, relying heavily on non-technical innovation, are two other important aspects. Both trends expose increasingly the patent offices to new criticism, as they have to manoeuvre without adequate legal frameworks or very sharp at the boundary of existing ones. However, as several studies demonstrate, this implicit policy making may cause considerable stress onto both the innovative fields and onto the very legitimacy of the patent system itself, since what works well in one field of innovation may cause trouble elsewhere.

Although the bigger picture is ultimately steered and framed by legal decisions of higher bodies, such as Chambers of Appeal or Courts, these often sanction a posteriori the facts created by the incremental work at the basic level, relentlessly moving the patentability

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borderline further "outwards" and "downwards", for reasons that cannot be explained here in full detail. Some have called this expansion Hydra, the mythical monster of the Greek mythology. The problem is that patent offices see themselves as the Hercules, trying to chop-off the ever emerging heads of the backlog monster, whereas some critics claim that they are rather nurturing it! The fact is that the resulting flood of applications is drowning the patent offices worldwide, and there is neither an Iólaos\textsuperscript{19} around nor a "silver bullet"\textsuperscript{20} to kill the beast.

Although these are already reasons for serious concern, there are other critical aspects, going far beyond these almost esoteric horizons. The externalities caused by the way the control of codified knowledge (patents being only one among many means) is exercised today in vital fields, like public health, agriculture and food production, emerging technologies, de facto public goods like ICT standards, environmental technologies and their transfer to developing countries, etc., produce rising friction and tensions which might lead to very serious social, political and geopolitical backlashes, regionally and globally, and not only towards IP institutions. To make things worse, there are a series of problems and factors, partly already mentioned above, making the search for solutions not particularly easy.

The first concerns the unprecedented complexity of the nature of the underlying processes. It is the first time in history that the fates of humanity are shaped by a vortex of multiple and vagabonding knowledge regimes and processes, driven by a great variety of actors, acting simultaneously all around the globe, transcending virtually any national, sectoral or cognitive boundary. Confronted with this mega-phenomenon, we are very much like the blind men in the known Indian folk tale, touching an elephant and trying to understand what kind of a strange 5-legged animal this is\textsuperscript{21}. The intelligence-failures linked to the 9-11 atrocity, the incapacity of the financial watchdogs to foresee the current financial markets meltdown, the "sudden" outbreak of the food crisis, etc. may not be stand-alone events, but eruptions of

\begin{itemize}
\item [\textsuperscript{18}] Arguing in \textit{re Bilski}, Judge Pauline Newman said that the ambiguous language of the patent law means that the court needs to go beyond the strict letter of the law and consider public policy. "Would that benefit the economy? Is that we are doing, legislating?"
\item [\textsuperscript{19}] Heracles' nephew had the decisive idea how to exterminate the monster, by burning the severed stumps, cauterizing the wounds and preventing thus regeneration
\item [\textsuperscript{20}] See interview of Alison Brimelow, EPO's President, at IAM on 8 May 2008: \textit{Mutual recognition raises its head as EPO boss says backlog won't be mastered}, http://www.iam-magazine.com/blog/Detail.aspx?g=e84ef872-f9b9-448c-bbd4-0bdce2de184f
\item [\textsuperscript{21}] See "Governing the Global Knowledge Economy (GGKE) Initiative" http://www.eastwestcenter.org/research/research-projects/?class_call=view&resproj_ID=368
\end{itemize}
deeper, volcanic forces, as destruction potential rapidly builds-up and global social and political dynamics is becoming increasingly Heraclitean\(^\text{22}\). On a more user-friendly level, Samuel Palmisano uses the term "Globally Integrated Enterprise" to express both the radically mutating business landscape and the new corporate strategies for innovation and R&D, based on "global sourcing" rather than the outsourcing of a "conventional" MNC\(^\text{23}\), and expresses the contemporary shift of the perspectives and the change of the points of reference as follows: "When everything is connected, work flows. In the era we are now entering, the key to success will be whether you can get work to flow to you\(^\text{24}\). That will depend not on how big you are or where you are located, but on how you differentiate yourself through innovation, within a much larger and more open arena. Today, these same criteria - and opportunities - apply to the small as well as the large. We are surrounded today by vast new possibilities, but they bring with them an unprecedented complexity to social and economic life. Yet, for all its challenges, hundreds of millions of entrepreneurs, professionals and "new global citizens" seem eager to take this journey."

In parallel, the mega-antagonisms named by Zizek unfold their full potential rendering society, economy and geopolitics extremely turbulent. The heat and the pressure are rising so high that the writing on the wall cannot be anymore ignored. We have come very close to or even already entered "Type 4 turbulent field conditions identified by Emery and Trist (1965), where the inherent nature of the field combined with the dynamic interaction between disparate parties have created systemic volatility.\(^\text{25}\) No wonder then, if well established equilibriums and standard assumptions are getting questioned or even tilted.

This extreme fluidity and turbulence is further exacerbated by governance structures which look less compact than a block of Swiss cheese. Paradoxically, and even taking into account

\(^{22}\) Heraclitus of Ephesus, 5th c. B.C., claimed that "φύσις κρύπτεσθαι φιλεί", i.e., the world is essentially not intelligible

\(^{23}\) Samuel Palmisano, FT, May 6, 2008: "Unlike the multinational - which created miniverisons of itself in markets around the world - this new kind of organisation locates work, skills and operations wherever it makes sense, based on access to expertise, on superior economics and on the presence of open environments and technologies."

\(^{24}\) Note of the author: regarding the fundamental "egocentric" shift in the way we perceive the world (the Google Earth syndrome, i.e., the world should come to us immediately and not vice versa, a journey is not necessary anymore), see also the works of Paul Virilio in Speed and Politics: An Essay on Dromology, New York: Semiotext(e), 1977 [1986]

the current criticism against it, the IP system with its TRIPs framework would appear in this context as a serendipity, as a positive exception, at least here there is something structured and visible to attack or criticise, which is very helpful in elaborating alternatives. By contrast, the complex and intriguing business and innovation strategies of the MNCs or GIEs, the main actors and de facto regulators of the knowledge regimes in the current globalisation era\textsuperscript{26}, remain either unquestioned, not understood at all or - worse - their PR declarations are often taken as real intensions. As long as the Androids\textsuperscript{27} can reach and persuade you to buy whatever gadget or blobject\textsuperscript{28} they promote, you are supposed to be free; and happy. Free consumption and techno-fix, instead of political freedom and action, that's the new global deal. I for my part would be really interested in attending a future CFP Conference on such a topic.

But even where there are already some public institutions and structures that could play a role to attenuate the tensions growing within the system, the task is rendered more difficult by several types of inertia. Most of these institutions appear to still adhere to a kind of "fordism ethics": the fiction that responsibility and thus also action is exclusively restricted to the part of the chain that one is directly involved in. In the era of "digital capitalism", of network-based organisation for not only production, but also for innovation processes\textsuperscript{29}, this is clearly an anachronism. To give you an example, in the UN Millennium Report 2005\textsuperscript{30} Calestus Juma and Lee Yee-Cheong called all international and intergovernmental organisations and institutions to respond generously to the challenge of the growing technological and digital divide, in order to help achieve the MDGs, contributing not according to their legal mandates (perhaps strictly seen, not covering such charities), but according to their real potential. I am not sure how many have responded to this desperate appeal, but I wouldn't bet that anyone did.

A second, more subtle inertia is that institutions are by their nature hierarchical and layered, they are designed to function optimally under "laminar" conditions and face great difficulties when exposed to crises involving high turbulence\textsuperscript{31}. However, from the point of view of IP institutions, as things stand and given the scale of the upheaval, it would be clearly better if

\textsuperscript{26}Susan Strange,\textit{ The Retreat of the State: The Diffusion of Power in the World Economy}, Cambridge University Press, 2000
\textsuperscript{27}http://www.openhandsetalliance.com/android_overview.html
\textsuperscript{28}Bruce Sterling,\textit{ When Blobjects Rule the Earth}, \textit{SIGGRAPH}, Los Angeles, August 2004 http://www.boingboing.net/images/blobjects.htm
\textsuperscript{29}\textsuperscript{Supra} 21 (GGKE Initiative)
\textsuperscript{30}\textit{Innovation: Applying Knowledge in Development}, Task Force on Science, Technology and Innovation
\textsuperscript{31}Gilles Deleuze, Félix Guattari, \textit{Capitalisme et Schizophrénie}, Milles Plateaux, Minuit, Paris, 1980
they not only are, but are also perceived to be part of the solution and not of the problem. Thus, for the ones with a significant scale and potential, there are multiple and simultaneous challenges to tackle, interlinked in a very complex way. To name the most basic:

- Cognitive: how to grasp what is coming, if even the best intelligence agencies fail?
- Governance: who has to deal with what part of the challenge and with what legitimacy?
- Ethical: how to overcome the widespread syndrome of “fragmented responsibility”?

No surprise then, that as the waters get increasingly stormy, the captains declare themselves happy, if they can only keep the ships afloat. To choose a route crossing the horizon line or design a journey to the next port looks more exotic than Homers "Odyssey". As the horizons are sunken or turned negative the question is "go where?"; there is no place like Ithaca in this post-post modern world. However, the fact that this is not an easy job, does not mean that the IP institutions can afford themselves the luxury of paralysis or inertia, as knowledge and its ownership and distribution lie at the heart of society today. Nothing less than the goodwill of society towards the IP system as a whole is at stake. It would really be paradoxical, if the institutions that benefit most from the valorisation of intangible assets paid no attention to their own intangibles.

**EPO’s case**

We could take EPO’s case as a more concrete example. To talk about the institution one works for, is a multiple edged sword for the speaker. So, although of course it wouldn't help much at the end, I wish to stress out once more that I express only very personal opinions here.

I personally perceive the office for which I work as a broad regional entity with a considerable human, cultural and scientific background and potential. It is also the third biggest intergovernmental organisation in the world. At highest level it has been apparently decided that retreat to the ivory tower is not a good option, at least not for now. This has enabled the emergence of some sui generis spaces, with modest means and some freedom, mandated to look outwards. Of course, this came at a price for some of those involved, but the fact that somebody from the EPO may appear here and say all this to you, could be seen as a positive sign. So, something must have happened there and the question is whether this is something

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32 *"I simply wish to keep the ship floating"* declared the leader of a major IP institution a few years ago to its stunning high level managers (private communication)
that could be sustained for a longer time and contribute to a broader transformation process or is it an 'once off'. Another question is whether similar processes could take place in other IP-related institutions, too.

To be more concrete, the most non-obvious, I would even dare to say 'inventive', action concerns the aforementioned scenarios project, which was publicly launched in April 2007, in the presence of the German Chancellor and the then President of the EU, Angela Merkel. Paradoxically, being de jure a non-political animal (in our mission statement there is no such thing like to advise governments or policy circles) proved to be the EPO’s strength in carrying out a very genuine political project of global dimensions. The fact that nobody expected an august institution such as the EPO to do such a thing was probably our best protection shield. Admittedly, the EPO is potentially in a unique position to focus on the ‘big picture’. But in order to be able to do so, we had to resist the temptation to follow a “business-as-usual” institutional logic or to produce EPO-centred visions of the future, or instructions for actions. For this reason, and in the course of a two-year project, the EPO interviewed around 150 key players - including critics - from all over the world from the fields of science, business, politics, ethics, economics and law, seeking their opinions on how intellectual property might evolve over the next twenty years.33

But how did it start? Instead of long explanations, I prefer to offer you here a direct testimony by Ciarán McGinley, EPO’s Controller:

"I was the author of the MAC* document that initiated the process.
The document (5 pages) is entitled 'Planning for the future - now'.
In it I quote from a Calvin and Hobbes cartoon.
Calvin is reading a book and says to Hobbes.
"The more you know, the harder it is to take decisive action.
Once you become informed, you start seeing complexities and shades of grey.
You realize that nothing is as clear and simple as it first appears. Ultimately, knowledge is paralyzing.
Being a man of action, I cannot afford to take that risk".
To which Hobbes, eyes looking at the ceiling, sardonically replies,
"You're ignorant but at least you act on it".
Calvin throws away the book.

33 See http://www.epo.org/ focus/patent - system/scenarios - for - the - future /interviews - html and
http://www.epo.org/ focus/patent - system/scenarios - for - the - future /detailed.html
MAC is EPO’s "Management Advisory Committee"
The MAC launched the project after two difficult meetings. We did not throw away the scenarios book - it is too precious.

The scenarios were then developed in a series of workshops, setting up a framework allowing disparate groups to see across multiple dimensions and within the wider context. The driving mega-forces business, society, state interests and technology that we identified collectively, enable us to examine relatively objectively possible discontinuities, caused by the dynamics of these relentless drivers of change in the battlefield of codified knowledge, and to draw new landscapes resulting from such tectonic shifts. Thus, these stories are by no means our scenarios and do not represent our views or visions.

This is also confirmed by the feedback we get one year after their release. The scenarios seem to serve quite different interest groups, without EPO involvement; they are developing a life on their own. The mentioned initiator of the Scenarios Project told me that there are two kinds of strategy: you take in your hands one bird and one stone. If you throw the stone, it may fall on whatever you target and produce the result you have been expecting. The bird will however fly away and do things out of your control. Most people and institutions do not like this, but this is exactly what happened with the scenarios project.

Civil society organisations use them not only as a useful information resource, but increasingly as a platform for organising public dialogue and also as a benchmark. In an attempt to help the candidates to the post of the new Director General for WIPO to express their views publicly, a very large and representative group of civil society organisations invited all 15 candidates to a public discussion on April 15, 2008 in Geneva. The first question they posed was: "What is your strategic vision for WIPO in addressing the challenges for IP regimes in the 21st century, for example, those elaborated by the European Patent Office in “Scenarios for the Future Compendium?”

They are also regularly used for setting the scene within very diverse contexts: intensive workshops linked to public conferences, as key note speeches in conferences and symposia, for reports destined to governments and legislators and for developing future strategies.

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35 E.g., for the A2K3 Conference in Geneva, coming September
36 E.g. at the European Futurists Conference in Lucerne (2007 and 2008); at the EU-China Symposium on Standards, IPRs & Competition, Beijing (2007); at the Chatham and the Asia House, London (2008), etc.
including by key policy makers and IP-related foundations as a tool to deal with fundamental uncertainty: “not just what we don’t know but, more importantly, what we don’t know we don’t know”.

In general, the response across an extremely polarised landscape of interests and aspirations has been astonishingly positive. Thus, to generalise, we could take this as an example that an institution may - under certain circumstances - be able to offer a neutral, informative and forward looking analysis, independently of its institutional interests. In the case of the EPO, this intellectual outreach is combined with further concrete projects on the ground, with a multiplicity of strategic partners, in particular in technological fields where patent titles may cause considerable strain, if not applied or regulated properly. Just to name a few fields of engagement: patent landscaping projects for MSF and WHO; technology transfer projects to tackle local needs in developing countries (in particular in Africa with CRAT and OAPI); framing the problems in the issue of IP and transfer of environmental technologies to developing countries; the debates around ICT standards and their patent rules; delivering input into several development-related fora etc. In most of these projects the EPO does not seek big publicity, it prefers to help with discretion as much as it can and go as far as one can go.

However, success is sometimes mixed, because of structural discontinuities, changing priorities, lack of an unambiguous mandate and also because broader enabling frameworks are often missing (e.g., for transferring technology to developing countries financial aspects play also a role). As the renowned Commission on IPR, stated in its final report: IP-related technical assistance should be organised in relation to an individual country’s specific development needs and priorities. One way to do this is to incorporate such assistance within the Integrated Framework [author's note: OECD] to facilitate better integration with national development plans and donor assistance strategies.

38 Sisule Musungu, private communication
39 See e.g. www.iccwbo.org/uploadedFiles/ICC/policy/intellectual_property/pages/Pascal_Phlix.doc
40 Beyond this year’s European Patent Forum on "IP and Climate Change" there are plans for concrete projects on gaining more empirical data
41 E.g., participation of EPO at Global Standards Collaboration Meeting at Kobe (2007) and Boston (2008); and at the mentioned Beijing Conference on IPRs and Standards (2007), etc.
42 E.g. at the Geneva Trade and Development Forum (http://www.gtdforum.org/)
43 See e.g. the report: Pascale Boulet, Christopher Garrison, Ellen ’t Hoen. “Drug patents under the spotlight: Sharing practical knowledge about pharmaceutical patents”, Medecins Sans Frontieres, May 2003; although not mentioned in the report, the EPO has done all patent searches for the Tables in Annex A http://www.who.int/3by5/en/patents_2003.pdf
Summa summarum, to strike a positive tone, albeit being a structural pessimist, it seems it is possible to act, it is possible to jump over one's own shadow and become creative, at least for a certain moment and under certain circumstances, it is possible to go beyond polarising and simplifying confrontation without falling into trivial tautologies. However, whereas experiences in most fields mentioned above are in principle transmissible, there are also some limitations. A high risk capability without recipe is how to establish horizontal - not vertical - collective intelligence dynamics, able to produce non-institutional, non self-referential thinking, potentially capable of looking behind the Chinese walls of fixed assumptions and vested interests to the wider horizons of life. To paraphrase Clay Shirky's words\textsuperscript{45}, to empower creative thinking also within organizations\textsuperscript{46} and public institutions. Because it is important that these potentially powerful players are encouraged to develop a collective spirit embedded within wider social processes and aspirations, and not be captured by corporatist or other lobby interests. And this is a very clear political message to whoever may be concerned.

I will now use the remainder of my presentation for a demonstration on how the mentioned scenarios could be used to better understand and discuss a particular issue: the collision of the increasingly conflicting trajectories of the per se complex worlds of ICT standards and patents.

\textsuperscript{46} Also regarding private organisations, it may prove very critical for their survival to tolerate the emergence of micro-spaces where experimentation with new thinking and outwards looking can be developed. People working in private business environment confirmed that the most successful ideas (also in market terms) came from small groups (4-5 man-years), working off the radar and "covered" by courageous line-managers. Unfortunately, such "subversive" attitudes and tactics are made increasingly difficult, in particular by extremely detailed accounting (control down to mini cost centres, etc.).
Part II: *Whose Game?* The battles around global standards through the lens of EPO's scenarios

In an article of a European newspaper\(^{47}\) it was stated that the "Western" world has not yet fully grasped the historical importance and dimension of the opening of China and its repositioning on the world scene which started three decades ago and is proceeding at an ever faster rate. However, according to the same article, if these developments and their potential benefits for humanity are misunderstood and misjudged, this may lead to a new protectionism, nationalism and isolationism, and not only in the West.

Intellectual property and industrial standards are not secondary figures in this global game; whether we like it or not, they have already become protagonists. The German Chancellor Angela Merkel put forward in her speech, at her mentioned visit at the premises of the EPO for the occasion of the public launch of the *Scenarios for the Future* work, a proposal for the creation of a new single transatlantic market, including the EU and US.

In an article in the FT entitled "Merkel's transatlantic plan gains ground", it was stated that "*The plan, described in a confidential 12-page outline, lists four areas - intellectual property, energy and environment, industry standards and capital markets - where the US and EU should co-operate more*."\(^{48}\) The US has since then reacted favourably at the highest level to this plan and the Transatlantic Economic Council meets regularly\(^{49}\).

If we take this as a starting point, the events could evolve in several directions. We have investigated many, depending on how the chosen driving forces play out, and show to you four of them.

\(^{47}\) "*Die beruhigende Nutzlosigkeit der grossen Mauer*, NZZ, September 17, 2007
http://www.nzz.ch/nachrichten/kultur/aktuell/die_beruhigende_nutzlosigkeit_der_grossen_mauer_1.556363.html

\(^{48}\) "Merkel's transatlantic plan gains ground", FT, January 26, 2007
http://search.ft.com/ftArticle?queryText=merkel+transatlantic+plan&y=4&aje=true&x=19&id=070126000308

\(^{49}\) "Transatlantic talks 'to tackle barriers'", FT, June 27, 2007
The four Scenarios for the Future

Ladies and Gentlemen, now fasten your seat belts! We shall take off for some trips into the future, towards 2025! We change nothing in the current parameters, just press the fast-forward button. Our first landing point is a place where the Market Rules, a world where business continues to be the dominant driver. In the globalised Coliseum, CEOs are still the gladiator heroes, fighting to increase value for shareholders, who want always more and always faster ROI.

The balance of power is held by multinational corporations with the resources to build powerful patent portfolios, enforce their rights in an increasingly litigious world and drive the patent agenda. In the ICT field, alternative business models, aimed at restricting proprietary control on the major technological platforms, in particular in Telecommunications, gain momentum, but the Androids invasion\(^{50}\) is eventually defeated by the UNIA (united incumbents army), albeit the battle was critical and has caused trillions of $ casualties.

This is also the story of the partial consolidation in the mid-term of the global IP system, so successful that it is collapsing under its own weight. New forms of subject matter – inevitably including further types of services – become patentable and more players enter the system, as patents are widely used as a financial tool. In the face of ever-increasing volumes of patent applications, various forms of rationalisation of the system occur and it moves to mutual recognition of harmonised patent rights. The market decides the fate of the system, with minor regulation of visible excesses. Patent trolling, anti-competitive behaviour and standards issues all come under scrutiny.

While administrations and many user groups seek harmonisation/ rationalisation of the norms and the procedures, IP arbitrage provides large global corporations with powerful incentives to engage in progressive innovation offshoring, investing in overseas R&D in countries with weak IP protection. As flagships to global innovation networks, they are in a unique position to take advantage of the under-utilized human capital and its innovative capabilities, without exposing themselves to excessive risk of imitation.\(^{51}\)

\(^{50}\) Supra 27 (Android platform)

\(^{51}\) Dieter Ernst, Reflections on a possible project for Governing the Global Knowledge Economy (GGKE), personal note, Feb. 2008
New players (such as trolls) see an opportunity to identify valuable nuggets or blocking rights, or even see it as a game they can influence to further their own ends by building up their own portfolios - the big boys may not have it all their own way as division leaves gaps.

The efforts of the MNCs from Asia to re-write the rules of the game are successfully diverted. They got "domesticated" as they entrusted their top management to westerners and largely adopted the short-term logic of shareholders value, imposed by venture capital.

How would the tandem standards/patents look like in this environment? It is no surprise to see the big, western or de facto westernised corporations dominate and the setting of standards will remain a battleground between these powerful players. The ultimate reward: the 'golden patent' with its potential for technological lock-in. There are many losers, but also winners. The winners are those who manage to create oligopolies, gaining an ever increasing market share and able to plough some of their profits back into further R&D, so consolidating their dominance and providing greater market differentiation, thereby increasing market share even more. For customers, there are also clear advantages to be gained from this globalised approach, as it ensures that important technologies are affordably priced and technological diffusion of low carbon technologies is widespread.

But ultimately, the sting in the tail is the considerable degree of privatisation of knowledge, with the increasing transaction costs of sharing, and the growth of only few key technologies, creating reliance on technological monocultures and vulnerability to supply chain disruption\(^2\). Everything that can be reduced to a code, even the own genetic information, is treated as an "asset" that can be owned, not necessarily by the physical owner, and must be valorised\(^3\).

Now we shall return to our time machine, turn down the TNC button and leave the glare and glitter of the business world, where IP is simply a tool for accumulating wealth for an-

\(^2\) From a co-current presentation by Alison Brimelow and Shirin Elahi on "EPO Scenarios for the Future; Climate Change and Intellectual Property Rights", Chatham House, London, 21 May 2008

\(^3\) See dynamics of the ‘cultural turn’ and of the ‘cybernetic turn’ in Laymert Garcia dos Santos, High-tech plundering, biodiversity and cultural erosion: The case of Brazil

onymous shareholders. Instead, we allow for open conflict in the face of changing geopolitical balances and competing ambitions and land in a world where geopolitics is the dominant driver and the players have changed. Whose game is this?

What counts is no longer profits or shareholder value, but national interests and hegemony. It is not the power of the rules that prevails, but rather the rule of power. At the same time, this is the story of a boomerang effect which strikes today’s dominant patent players. Contrary to the intentions of the West, globalisation is backfiring as things turn around. Nations and cultures compete and IP has left the private and business domain to become a powerful weapon in a game for world hegemony.

Kenneth Cukier, Technology Editor of "The Economist", puts it bluntly in the year 2007: "Within the next 40 years, some of the most major innovations will come from elsewhere – outside the west. For the moment, the west is lucky that they don’t have IP protection. But within 40 years you can imagine that the great scientific cures and great IT innovations are going to come from other regions."  

Driving this stunning change are the relentless efforts of hundreds of millions of people who feel that the time has come to secure their share of prosperity and self-respect. East and South-East Asia crystallise as the geopolitical epicentres of this unstoppable movement, both demographically and in terms of economic power. Sensitive technological know-how moves rapidly eastwards, driven by the agony of western GIEs and TNCs to maximise share-holder value through outsourcing and offshoring R&D and by new strategies of venture capital. This epochal transfer of knowledge is further facilitated by long term strategies of the receiving states, skilfully using antagonisms between western corporations and between geopolitical blocks, and of course by the continuous rise in production skills in Asia.

The incumbents increasingly fail to use IP to maintain technological superiority, whereas the new entrants become increasingly successful at shaping the evolution of the system. The

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55 See Dieter Ernst and David Hart, Governing the Global Knowledge Economy: Mind the Gap!, 2007 Atlanta Conference on Science, Technology and Innovation Policy, Georgia Tech, October 2007. According to one of Silicon Valley’s best-known venture capitalists, “We see innovation all over the world. We don’t just want to sit here in Silicon Valley, only making investments in companies we can drive to.”

56 In the journal "Der Spiegel" (37, 2006, "Weltkrieg um Wohlstand") it is stated: “Never before in human history has so much knowledge been transferred in such a short time without war and submission".
latter use the known lethal weapon of IP and industrial standards to establish economic and geopolitical advantage, adapting and changing the existing rules; thus their geopolitical influence grows.

Fatally, the West "manages down" its basic scientific research\textsuperscript{57}, thus greatly facilitating the course for technological catch-up, launched by the Chinese \textit{zizhu chuangxin}\textsuperscript{58}. The remaining gap is closed by inner-Asian alliances,\textsuperscript{59} realising the worst nightmares of the intelligence reports editors in the early years of the 21st century\textsuperscript{60}: the overwhelming technologic-military supremacy of the West is curbed.

To respond to the rising competition from newcomers, the West reacts with additional protection mechanisms and - following an older plan\textsuperscript{61} - eventually establishes a Transatlantic Free Trade Union, a new single market, including Europe and North America. In addition to the harmonisation of norms and standards and liberalisation of trade within the zone, imports from outside the zone are submitted to new environmental and labour standards. That means, not only product specifications but rather HOW a product is produced determines its eligibility for import and consumption within TAFTU. Asia responds with a Transpacific Alliance, linking key Asiatic with Latin American and African countries.

Thus, two dominant trading blocs emerge by 2025 – the Transatlantic and the Asia/Pacific. Competing trade zones battle for skills and knowledge with rival IPR regimes. Threshold countries in 2007 are the top innovators in 2025 and defend a strong global patent system. Their revenues from IP licensing abroad are now huge, but - back home – they follow a different model: collaborative, open innovation helps their economies grow faster.

Stronger ‘outsider’ nations cut their own deals, poorer ones simply bypass IPR or use open source as the only route past the digital divide. Many developing countries are excluded.

\textsuperscript{57} Konstantinos Karachalios, \textit{Managing Science: Is the Cudos still in Place?} Biotechnology Journal, 2008, 3
\textsuperscript{60} \textit{The Global Technology Revolution 2020, In-Depth Analyses}, RAND Corp., National Security Research Division, 2006
\textsuperscript{61} \textit{Supra} 48, 49 (statements about TAFTA)
from the process, and work instead within a ‘communal knowledge’ paradigm or focus on
collective intellectual rights to manage their biodiversity heritage. Under these circum-
stances, global enforcement systems wither, and TRIPS loses virtually all relevance.

The fragmentation of the world into blocks is certainly not a dream scenario,
in an era where global challenges, e.g. climate change and scarce natural re-
sources, demand globally co-ordinated actions. This is not a world we and our
children wish to live in. Fortunately, we can press the reset button and try a
new mix. What about trying some revolutionary romantic instead? We land in
the forest of the Trees of Knowledge, a world where status-quo critical, societal
groups are the dominant driver.

In this story, diminishing societal trust and growing criticism of the IP system result in its
gradual erosion. The key players are popular movements – often coalitions of civil society,
businesses, concerned governments and individuals – seeking to challenge existing
norms.
This Kaleidoscope Society is fragmented yet united – issue by issue, crisis by crisis –
against real and perceived threats to human needs: access to health, knowledge, food and
entertainment. Multiple voices and multiple world views feed popular attention and interest,
with the media playing an active role in encouraging and steering the debate.

This loose ‘knowledge movement’ echoes the environmental movement of the 1980s, ini-
tially sparked by small, established special interest groups but slowly gaining momentum
and raising wider awareness through alliances such as the A2K (Access to Knowledge)
movement. The paradigm change is taking place also through the pressure exerted by a
series of climate change disasters\textsuperscript{62}, not only in the South, but increasingly also in the
North. In particular, the reluctance of the owners of patented technology to make it readily
available, either free of charge or under strong FRAND conditions, comes under heavy
fire.

Powerful foundations and mighty "flagship" corporations, the business models of which are
based on integrating diverse technologies on patent-free platforms, ally themselves with
those movements\textsuperscript{63} and help decisively shift the balance. Knowledge is supposed to re-

\textsuperscript{62} Causing many more casualties than the typhoon in Burma in the year 2008
\textsuperscript{63} See e.g. mix of governmental agencies, corporations, foundations, NGOs etc. in IGF's dynamic coalitions
main a common good, while acknowledging the legitimacy of reward for innovation plays less and less a role.

Thus the patent system is shrunk drastically and only a very few patents are granted in the sensitive field of standards. As a result of the A2K movement, restrictions on copyright are also drastically limited. In general, there is strong societal pressure for IP free standards.

Patents in the pharmaceutical sector have been abolished altogether in the wake of public pressure for low or no royalties on patents with humanitarian impact - and of course this economic uncertainty has led to a shift in investment, also regionally. There is a growing use of trade secrets and valuable knowledge remains in a ‘black box’. Similarly, in a competitive world of employment insecurity there is little or no sharing of tacit knowledge within the work arena.

Unfortunately, human nature being what it is, there are some projects that have the same difficulties and stand-offs that dogged the GALILEO satellite radio navigation system project launched by the European Union and the European Space Agency and operational four years behind schedule, in 2017. These examples lead to complaints that societal input has not led to the promised removal of constraints on the free flow of people, ideas and tacit knowledge – rather capture by certain loud voices and design by committee.

Also, the promised freedom reveals to be more a freedom of the markets than of the citizens. Following the successful epic\textsuperscript{64} battle to control the mass media by the on-line advertising and service provider giants, the legalisation of detailed profiling of on-line systems users\textsuperscript{65} enables unprecedented levels and intensity of ubiquitous, individually customised and timely optimised advertising, offered through on-line "free platforms". Besides serving clients, these technologies promote new forms of very subtle manipulation, it becomes extremely difficult to separate own wishes from the relentless and well timed "offers" of the system, it appears that the \textit{nomen} "Android"\textsuperscript{66} threatens to become an \textit{omen}.

\textsuperscript{64} See the fictive EPIC story (Evolving Personalized Information Construct): http://mccd.udc.es/orihuela/epic/

\textsuperscript{65} See Google’s patent application in 2007 "Using information from user video game interactions to target advertisements, such as advertisements to be served in Video" http://v3.espacenet.com/textdes?DB=EPODOC&IDX=WO2007041371&F=0&QPN=WO2007041371

\textsuperscript{66} Supra 27 (Android platform)
Good news for standards, bad news for patents, so what about letting us, technicians, take the lead? Our credo: where there is a problem, there is a technical solution; the Blue Skies is our only limitation, although they could perhaps be used for getting rid of our waste. This is a world where techno-science is the dominant driver; the key players are techno-politicians and futurists. Not to do what appears doable in order to reach superhumanity or at least transhumanity through ‘generic and evolutionary computation, evolvable hardware, neural nets and computational neuroscience’\(^{67}\), is considered as a cardinal sin\(^{68}\).

These complex new technologies are based on highly cumulative innovation processes and - beyond futurist promises – they are seen as the key to solving also systemic problems such as climate change. Thus, diffusion of technology in these fields becomes of paramount importance\(^{69}\). As the techno-politicians keep failing to solve the problems, and blockages in vital systems, including telecommunications, multiply and hit also the North, there is a need to act.

As a matter of fact, the trajectories of the IP needs of ICT and of many new technologies have for a long time been into conflict with the ones of classic, discrete technologies\(^{70}\). There has been thus a mounting pressure from several sides to regulate the use of patents, and under these circumstances a split of the patent system occurs. It responds to the speed, interdisciplinarity and complex nature of the new technologies by abandoning the one-size-fits-all core feature of TRIPS. The former patent regime still applies to classic technologies while the new ones use other forms of IP protection, such as the licence of rights. The patent system increasingly relies on technology, and new forms of knowledge search and classification emerge.

As the IP system splits across industrial sectors, the "soft IP" regime with licenses of rights\(^{71}\) is introduced as a rule in almost all standard-related technological fields for Telecoms, Audio-Video-Media and Computers. Exclusivity of patents is thus abandoned in these fields of industrial standards. But, as you may easily imagine, other serious prob-

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\(^{67}\) John Smart, *Brief History of Intellectual Discussion of Accelerating Change*  
http://www.accelerationwatch.com/history_brief.html  
\(^{68}\) Supra 9, 50 and 54  
\(^{69}\) Joff Wild, *Events in Bali heap further pressure on all IP owners*, IAM Magazine, 16 December 2007  
\(^{70}\) Joff Wild, *IBM IP chief outlines patent plan for Europe*, IAM Magazine, 1 July 2007  
\(^{71}\) See interview of Alison Brimelow in *supra* 18:  
<"Perhaps this might mean taking a two-tier approach, with soft IP on one level and the gold plate, traditional route on another," she suggested. In essence, those foregoing the exclusive use of their rights would be examined to one standard, while those who wanted to retain all options would be examined at another.>
lems arise. Drawing a legal line between strongly converging but still diverse technological sectors opens interminable legal debates about where the lines should be drawn, by whom and how. The engineers who initiated this paradigm change despair: it is the lawyers' triumph again.

But, most importantly, the techno-fix ideology that prevails in this era struggles in vain to address the menacing environmental problems, because it fails to recognise the mental attitude at the root of the causal chain: that nature is still perceived as a *natum*, *i.e.* an inert object, and not as *physis*, *i.e.* a process\(^{72}\) sensitive to changes in its boundary conditions.

**Conclusions**

You may say that in none of the stories of this presentation, I shall call it the ‘Yale mix’, is a happy end. So, where is the fifth scenario, where is the morale of the story? I would like to remind you that for developing our scenarios, we use the logics of mega-forces which are already part of the current map of power relations and mega-antagonisms. In the analysis made for this presentation, these forces may shift the equilibriums, but not necessarily lead to more balanced and fair ones.

If so, what are then the scenarios good for? Beyond the fact that they achieve to extend the reach of the public debate beyond the grey horizons, which have been usually taken for granted, they hint at inherent dangers looming large in all examined configurations.

It becomes increasingly apparent that the ‘winner takes all’ mentality may deliver huge benefits for very few winners, at least for now. However, in coming configurations where *everybody* could lose *everything*, this would definitely be a very suboptimal strategy, also for the current winners. That means, we need novel forms of knowledge governance, both at global and local levels, capable to accommodate the needs and aspirations not only of the powerful new entrants, but also of the majority of people on this planet who feel excluded.

\(^{72}\) About the fundamental difference between the meaning of ‘nature’ and ‘physis’, see Schadewaldt Wolfgang, *Die Anfänge der Philosophie bei den Griechen; Die Vorsokratiker und ihre Voraussetzungen*, Tübinger Vorlesungen, Band 1. Suhrkamp Verlag, Frankfurt 1978
And every organisation capable of critical reflection should contribute to this effort, including IP institutions.

Retreating into reductionist minimal strategies that focus exclusively on incremental repairs of operational deficiencies of the existing global architecture is not a good option. Ultimately, without addressing the issue of fairness, equity and social usefulness, failure is almost guaranteed.\textsuperscript{73}

I would like to conclude by repeating that the only way to be realist today is to imagine paths that look impossible within the coordinates of the prevailing logic and power relations.

\textbf{And this job has yet to be done; by us all.}

\textsuperscript{73} Developed together with Dieter Ernst, Senior Fellow at the East-West Center, Honolulu