Building a Presence: South-South Co-operation, the Pan-African e-Network Project and India's Digital Bridge to Africa

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> « Connectivity is strength. Connectivity is wealth. Connectivity is progress. » Dr. A P J Abdul Kalam (Kalam 2007:172)

On 16th September 2004, during the inaugural session of the Pan-African Parliament held in Johannesburg, South Africa, the former President of India Dr. A. P. J. Abdul Kalam proposed in his address to connect all the 53 nations of the African Union with India, through a satellite and optical fibre network that would provide effective communication for tele-education[1], telemedicine, and VoIP. Approved by the Union Cabinet on 5th July 2007, this proposal would later give birth to the Pan-African e-Network Project, an initiative of the Government of India in collaboration with the African Union held up as a « shining example of South-South cooperation ». By the very nature of its scope and design, documenting the Pan-African e-Network calls for a multi-layered approach. As a technoeconomic co-operation enterprise, it is a site in capacity-building, technology transfer and expertise transmission, in line with India's recent commitment toward a distinctive African policy. As a set of medical care or consulting practices, it is transforming health care sites and practices, and is ultimately aimed at enhancing the biological lives of global population of potential patients. As a physical network, it involves connectivity infrastructure, signals, coding, translations, microwaves and other materials that play a central role in various routines (monitoring, data storing, repairing etc.), while frequently provoking unexpected challenges or calling for creative solutions. As an enterprise in connectedness, it is intimately reshaping sensations of distance and proximity, triggering affects[2], opening original ethical spaces of belonging and producing all kinds of spectacular effects. The assumption underlying this paper is that the Pan-

[1] This paper pays particular attention to the telemedicine component of the network – especially in the discussion on attendance and under-utilization. Still, it is worth noting that tele-education is also an important part of the project. Tele-education seems to be, at least in some countries, more popular than telemedicine ones.

[2] Affectivity refers to a mode of bodily experience, « a way of dynamically connecting with the world in all its profusion of sensation.» (Rai 2009:5).

African e-Network is an especially fruitful site to identify emerging global telemedicine/tele-health assemblages. Through this original co-operation initiative, particular discursive (concept of South-South co-operation, idea of connectedness as « more to come »), technical (connectivity and medical actions), economic (capital circulation) and bodily practices (movements, affects, habits) interact, hang together. These are some of the components of the project that this paper proposes to document.

The plan for the following pages goes as follows. I will first sketch the broad contours of major trends in the somewhat quiet but no less burgeoning Indo-African relations, paying special attention to the recent genealogy of South-South co-operation economic and discursive practices. If South-South co-operation does not provide us with any cohesive, static, ontologically distinct or closed system of meanings, it can nevertheless be seen as an attempt to build relations on expectations of « more to come ». This will lead to an ethnographic[3] description of the Pan-African e-Network project, identifying some of the central features of the enterprise, from the daily routines of an acutely underutilized technomedical zone of expertise flows to the recurrence of telemedicine demonstrations. Finally, I will argue that the expectations inherent to global technoeconomic and - now increasingly - medical entrepreneurship overflow narratives of economic co-operation in many ways. The value-production aspect of such a spectacular project has probably more to do with large-scale connectedness performance of life-saving medical know-how than with enabling the type pragmatic connection-making often associated with global capitalism.

South-South Co-operation: Genealogies of Techno-Economic Futures

In June 2003, the former Indian Minister of Finance Jaswant Singh announced that India wouldn't accept bilateral aid anymore, with the exception of aid coming from five countries (United States, United Kingdom, Russia, Germany, and Japan) (Six 2009). He was thereby asking twenty-two countries to from now on channel further aid through NGOs, the UN, or other multilateral agencies. Also, India would no more accept any tied

[3] This paper is presenting some preliminary findings of an ethnographic research that is still going on. More than 50 interviews have been conducted in India and Africa. Field observations have also been carried.

aid whatsoever. Furthermore, the Indian Government was committing itself to repay its bilateral debt to all but four countries (Japan, Germany, United States and France) and to cancel the debt of seven Heavily Indebted Poor Countries (Mozambique, Tanzania, Zambia, Guyana, Nicaragua, Ghana and Uganda) (Price 2005). Besides dispensing with assistance from many bilateral donors and paying back outstanding bilateral debts, India also established its own overseas development aid ties: it would now resort to the India Development Initiative (IDI) to provide assistance to developing countries. According to Price (2004), India was preoccupied that some countries may use their donor position as a foreign policy instrument. Similarly, it felt that its resort to foreign aid was slowing down its global ambitions, in particular its well-known desire to obtain a permanent seat on the UN Security Council. Most importantly, these decisions were partaking of a larger atmosphere of global presence-building, aimed at branding India anew (Khilnani 2003; Price 2004; Kragelund 2010:9). It is in such a context that, while between 1953 and 1992 India was the world's largest recipient in foreign aid (receiving US$55 billion), it would now become a net donor. While countries such as Afghanistan, Nepal and Bhutan remain key beneficiaries of Indian aid, Africa is increasingly becoming the site of Indian intervention (Chanana 2009). Within the next few pages, I propose to examine some key discursive and economic practices that have been shaping the recent evolution in Indo-African South-South co-operation. As I will later argue, as a site for South-South co-operation such as the Pan-African e-Network Project is more than a pragmatically-minded commercial enterprise. It is an ethical space, a relation to edges, to spaces where « some of what we are is not », bathing in energies, passions, and expectations: it is triggering the differentiation of one's promised global futures while transpiring reminiscences of distinct legacies, shared traces and lost glories.

The Discursive Mobilization of the Past as Differentiation for Promised Futures

Among the trends marking India's discourse on South-South Co-operation, the discursive relation to a long-standing solidarity with the African continent is impressively prominent. While Mahatma Gandhi's call for India and Africa to develop a form of commerce – based on ideas and services – that would be different in quality than the Western fashion of 'manufactured goods against raw materials' (Mathews 1997), is

regularly invoked as a long-standing witness to differentiated relations, it is clearly in Jawaharlal Nehru's African policy that the modern origins of inter-continental solidarity in nation-building are to be found (Beri 2003). At the political level, Nehru's posture toward Africa relied of two major components, namely a common struggle against colonisation and racial discrimination (mostly in relation to South African apartheid) as well as a policy related to People of India Origin settled in Africa (Arbab 2006). The leadership role played by the architect of India's foreign policy in the Non-Aligned Movement (NAM) is well documented (Sahgal 2010). In many respects, the NAM served as the ideological repertoire of former South-South cooperation, embracing some form of political solidarity with regards to various issues such as anti-colonialism, anti-racism and national independence. Yet, one should bear in mind that straightforward South-South economic diplomacy was not implemented in any meaningful manner before 1964 (with the ITEC programme) – that is during the last moments of Nehru's years as head of the Indian Government. In a context where collective self-reliance wore a special strategic importance, technoeconomic cooperation was an occasion to strengthen political ties in a non-alignment political context. The idea was to give new-born states technical and economic tools to facilitate the nation-building process. It was not to promote trade per se, but to increase self-reliance (vs reigning bipolar world order) in nation-building.

Nearly fifty years after Nehru's death, evocations of a solidarity rooted in past common colonial struggles are still alive and well in the rhetorical promises for bright days ahead. Bluntly speaking, such claims[4] could be summarized this way: due to a mix of shared legacies of solidarity, and recent Indian economic prowess, India is particularly well-suited to co-operate with Africa toward bright technoeconomic futures. When time comes to emphasize the moral distinctiveness of its pace-gathering African ambitions, India is very much concerned about distancing itself from what is perceived as China's mode of

[4] Interviews with industry leaders and Government officials showed how much the idea of India's distinctive posture toward Africa is strongly anchored in narratives of the past. Almost all of the participants argued around the lines that "India could not do the same as Western countries" or now China. Reasons invoked include past colonial struggles, shared experiences as aid-receivers, India having had to go through actual development struggles many Africans countries are currently facing, Gandhian moral legacy, shared cultural roots due to the vast community of Indian settlers in Africa. Others simply argued that Indians have, generally speaking, a "more moral" way – that is, less exploitative - to do business, and this for various (but unclear) cultural or religious reasons.

operation in Africa. Clearly, it seeks to present an alternative to China, hastily associated with self-interested natural resources extraction, cheap labour exportation and overall exploitative economic practices. As the Indian Minister of State for Commerce, Jairam Ramesh, bluntly summarized at the India–Africa Forum Summit held in New Delhi in 2008: « The first principle of India's involvement in Africa is unlike that of China. China says 'go out and exploit the natural resources', our strategy is to add value»(Vines 2010:15). Such a statement is nothing exceptional. It refers to some kind of teleological atmosphere involving discursive practices such as the mobilization of a differentiated past that would foreshadow a still fuzzy economic manna waiting to be actualized in a co-operative manner:

> « China's parallel claims to anti-colonial solidarity are dismissed by many within the Indian administration and media as disingenuous and self-serving in the face of its evident ambitions in Africa, while Indian engagement is viewed – sometimes rather uncritically – through a lens coloured by past notions of the Nehruvian moral high ground. » (Mawdsley and McCann 2010:89).

India's stake in Africa being still relatively ill-defined, certainly heterogeneous in nature and stretching along a rather large scope of practices, some have noted that it is still difficult to assess the actual *degree* of difference between a soft-Indian-mutually-beneficent co-operation and a hard-Chinese-self-interested exploitation (Kragelund 2010). Obi (2010) summarizes many of the issues at stake:

> « While India's Africa policy is not fundamentally different from that of China – one of non-alignment and South-South cooperation [...] India's strategy is to represent itself differently by emphasizing its long-standing solidarity, 'political goodwill and equal partner approach' and a focus on sharing low-cost appropriate technology, expertise, education, human resource development and information technology. » (Obi 2010:189).

The role played by China in regards to India's assistance to Africa does not involve only a discourse of differentiation, but also a series of initiatives meant at engaging economic competition in strategic areas (Lafargue 2006). Commercial interests, undeniably linked with China's successes at kicking off serious business[5] on African soil, have become embedded in India's assistance programmes (Bijoy 2010). As Chanana (2009) notes:

[5] Indeed, bilateral trade between India and Africa has grown rapidly. While it was evaluated at $US 967 million per year in the mid-1960s, assessed at $US 3 billion in 2000-01, it had increased to more than $US

> « To a certain extent, India's benevolence is inspired by competition with China, which has used aid effectively to secure oil interests in Africa and Asia. But even if it is catch-up, it reflects a new consciousness of aid as an instrument of foreign policy. Through aid, India hopes to build new alliances and further its trade, energy and political interests. It also hopes to present the country as powerful and self-reliant. »(Chanana 2009:11).

While some have argued that there certainly is effort to find an « Indian way » to do business with Africa along renewed co-operation lines (Bhattacharya 2010), it seems as though such a *way* is struggling to keep its balance between cherished takes of past solidarities and the ever-increasing expectations for emergent markets and trades. What is translucent, though, is that the overall direction taken by Indian commercial interests in Africa has little to do with any Gandhian legacy of trade in ideas. State support for the private sector is another central features of India's trade and investment relations with African partners (Mawdsley and McCann 2010:85). Tied aid, economic diplomacy missions, favourable fiscal incentives, or public-private partnerships are all common practices designed to expand trade and investment with Africa. While some have noted that the proactive state support required to succeed in doing business in Africa is still either nonexistent or not coordinated (Modi 2010:131), India's South-South co-operation is increasingly intertwined into a constellation of connectedness ambitions that « lies close to the most intimate operations and globally extensive logics of capital » (Mackenzie 2010:174). As Indian Minister of Commerce and Industry remarked during the 2nd Africa-India Forum Summit recently held in Addis Ababa, South-South co-operation is not just a political tag but « a sound economic decision bringing new vitality and meaning to the relationship » (Newsome 2011:28). Yet, the Indian government's engagement toward promoting capital circulation with Africa is encompassing more than economic decisions aimed at market integration. It is about putting a show on[6] and branding it as Indian.

Co-operation, Consultancy and Technological Expertise

9 billion in 2004-05 (Chanana 2009), $US 40 billion in 2008-09 (Vines 2010) and is expected to reach $US 70 billion by 2015 (Dogbevi 2009).

[6] *The India Show. Land of limitless opportunities*, was an exhibition held from 20-22 May 2011 on the sidelines of the 2nd Africa-India Forum Summit, in Addis Ababa.

India's technoeconomic engagement with Africa is nothing new. Over the past four decades, it has provided more than US $2 billion in technical assistance to the countries of the South, and most of it has gone to Africa (Beri 2003:220). The Indian Technical and Economic Co-operation Programme (ITEC)[7], India's most notorious co-operation programme, was launched in 1964[8] as an attempt to counter the ever-increasing Chinese aid diplomacy in Africa (Arbab 2006; Kragelund 2010; Singh 2010). Nehru himself is generally considered as the architect of the programme setting the stage for India's early African « economic diplomacy »(Chhabra 1991). Since almost fifty years, short training programmes in areas as diverse as small and medium-scale industries, rural credit food processing, textiles and women's entrepreneurship are provided within the ITEC framework (Mawdsley and McCann 2010:87).The programme's scope is large: it may involve practices such as setting up technical training institutes, undertaking feasibility survey reports, carrying out technoeconomic surveys, providing machinery and equipment for establishing a handicrafts and cottage industry centre, helping in streamlining the existing railways, providing mining experts or technical know-how and so on (Chhabra 1991a:164). The scheme runs in 156 countries, and through it the Indian government offers about 3000 placements (foreign students coming to India for training), of which more than 1000 are offered to African countries (Mawdsley and McCann 2010). Among the various sectors, IT and computing skills represent an increasingly large share of the training available and in demand (Beri 2003:220), reflecting India's attempt « to

[7] While it is clearly the largest initiative in of its kind and it is probably best incarnating an early Indian engagement in providing technical assistance and training to the African continent, the ITEC is not the only such programme. We can also note the presence of the Special Commonwealth African Assistance Plan (SCAAP), under which training places have been provided to nationals from various Africa countries.

[8] In many regards, 1963-64 can be observed as a turning point for India's involvement in Africa. According to Dubey (1991), one has to locate the birth of ITEC in the post Indo-Chinese war context, where the downfall of India's influence and credibility on the African continent became most obvious. The NAM summit in Cairo (1964) and Indira Gandhi's 1963-64 African tour testified of this most problematic situation. It is following Mrs. Gandhi's mission that The Annual Report of the External Affairs Ministry rationalised systematically the need for forging economic linkages among developing countries for the first time (Dubey 1991:39). Dubey writes: « China was gaining influence in the Third World due to its large economic support to these countries, which needed financial and material assistance much more than rhetoric or moral support.» (Idem:37). It is in this particular context that ITEC was born as a economic diplomacy instrument coming along a selective approach of friendship and co-operation partners. Then, throughout the 1970s and the 1980s (and indeed until today), India's major concern in Africa was to foster economic cooperation under the umbrella of South-South economic co-operation and ITEC has been a central part of this enterprise.

build its technical assistance programmes around its strength in information and communications technology.»(McCormick 2008:83). Acknowledging its incapacity to compete with Western countries or China when it comes large-scale grants, loans or investments, Indian co-operation efforts focus on particular value-added services such as expertise provision, training and consultancy in IT, science or technology. In fact, trade, science and technology form the cornerstone of India's enlarging presence in Africa. (Vines 2010:3). More particularly, the ICT sector has seen the highest growth in terms of Indo-African commercial relations (Malakata 2009). In sum, Indian technoeconomic co-operation participates of a larger economic ambiance within which IT and telecom are given central value, in part due to their ability at attracting attention « towards the new image of India in the 21st century as the new centre for technology and commerce in Asia. »(Beri 2003:228). The medical sector is another one where Indian products and services are triggering discursive practices around the line of world-class belonging while alleged to fit African needs and means particularly well. As Modi (2010) rightfully notes: « The Indian medical sector's marketing line is 'first-class treatment at Third World prices'. »(Modi 2010:128). Indian corporate hospitals opening abroad, setting up ventures with local partners, offering consultancy services to African hospitals or welcoming patients for treatments on Indian soil are only a few example of the health practices expanding between India and Africa. Provision of global expertise in health care can take many forms, from hospital management services to tele-consultations of the type included the Pan-African e-Network Project.[9] What is at stake is the emergence of a technoeconomic flow where cooperation and trade intertwine and where India is globally asserting itself as the genuine holder of world-class technologies (with all the hype that comes with it) so context-sensitive (South-South) as to be implicitly turning a business opportunity into a « win-win » scenario[10]. Simultaneously, the Indian government's support for its own companies' to break through the African market, even when openly

[9] The Pan-African e-Network is not unique in its kind. Some Indian hospitals (such as Narayana Hrudalayala in Bangalore or Care Hospital, in Hyderabad) are providing different types of tele-consultations (image reading, tele-ECG, video-conferencing) services to African health centres.

[10] As an article published a few months ago in *Businessweek* summarizes, the « Indians view Africa as a place where they can replicate the low-cost, high-efficiency business model they have honed at home. Like India, Africa has hundreds of millions of underserved consumers eager to buy products tailored to their needs.» (Srivastava and Sharma 2010).

acknowledged as self-interested moves, is per se presented as *desirable* for all. In this context, the line between official assistance and trade tends to get blurred and it is precisely from this fuzzy zone of capital flows and state support that South-South co-operation practices draw their force and originality[11].

While South-South co-operation's discursive practices remained somewhat the same since the beginnings of India's economic diplomacy, the technoeconomic landscape within which the projects unfold are radically different. Practices immanent to an initiative such as the Pan-African e-Network reflect these changes – they are embedded in value-producing processes that run across traditional frontiers of the national or the global as well as overflow any attempt to be confined to well-defined categories such as « private economic interests » or « national political status enhancement ». Questions that come to mind in regards to such an emerging co-operation assemblage are plenty. In what ways are XXIth century South-South Co-operation practices departing from other forms of co-operation, assistance or partnerships in their relation to the global economy? How are collective energies mobilized toward entrepreneurial futures and how are such economic expectations themselves partaking in an emergent co-operation ethos? In sum, how is the treatment of patients at-a-distance through premier digital technology differentiated from providing technical training to African students coming abroad to India, and this at the biopolitical level of economic life and affective flows?

The Pan-African e-Network Project: a Digital Bridge to Africa

[11] The *Africa-India Framework for Enhanced Cooperation*, adopted on 25th May 2011 as an outcome to the 2nd Africa-India Summit, gathers many of these characteristics, as well as makes explicit mentions pertaining to the Pan-African e-Network Project. I thought I should quote at least one fragment: « Africa has immense regard and admiration for the strides made by India in the development of its information and communications technology. The contribution of the Government of India towards developing the infrastructure and the resourcefulness of the private sector and India's scientific and technological manpower in allowing this sector to make important contributions to the growth of GDP in India, are well recognized in Africa. Africa and India recognize the importance of an early introduction of information and communication technologies as key enablers of capacity building for youth and for poverty eradication and accelerated growth. Africa recognizes the important contribution made by the Pan-African E-Network Project to African countries in achieving these objectives and both Africa and India commit themselves to taking the lessons of the implementation and efficacy of the Pan-African E-Network Project further, so that the digital divide can be bridged and the socio-economic benefits of ICT can be harnessed for their mutual objectives.» (Emphasis is mine)

The Pan-African e-Network Project is a Government of India initiative implemented in collaboration with the African Union and currently connecting 190 sites spread across India and 47 African countries. In a nutshell, the project is linking Indian Super Specialty Hospitals (SSH) and universities to Learning Centers and Patient-End Hospitals in Africa, and is providing a variety of diploma and certificates by means of tele-education as well as medical expertise services such tele-consultations (TC) and Continuing Medical Education (CME) sessions. The official aim of the project could be described as a mix of ICT capacity-building and assistance-providing in key sectors of healthcare and education. Implemented by Telecommunications Consultants India Ltd[12] (TCIL, a Government of India commercial enterprise), it is a public-private partnership (PPP) involving the participation of a few Indian public institutions (hospitals and universities) as well a host of private stakeholders such as corporate hospitals, private universities, equipment vendors[13] and bandwidth providers. The project is designed to be under Indian funding for a lifespan of five years - after which options remain open as to what form it may take[14]. The Ministry of External Affairs (MEA) is the nodal ministry in charge of this high profile enterprise, often said to showcase India's « practical » or « shining » approach in its co-operation with the global South. I will now provide an overview of the architecture of the network as well as provide an idea of its implementation status. Some indications on the daily practices that form the backbone of the project will follow.

Overview of the Network Architecture and Implementation Status

The Pan-African e-Network is a broad transnational nexus of satellite microwaves, optical fibre, servers/computers, routers and modems. Without entering in much technical details, for the sake of demonstration I will try to schematise this otherwise way more complex material layout as being composed of three main completely interwoven

[12] Participating countries also have engagements such as to clear customs for the equipment, identify the sites to be connected and provide some physical infrastructural facilities (studio and server rooms).

[13] Except for the space segment for satellite connectivity, rented from RascomStar-QAF (a private company registered in Mauritius), all of the vendors are Indian companies.

[14] During fieldwork research, I have often heard that the network would be « taken over » by the African Union, or at least by some African countries/institutions. Services such a medical tele-consultations, Continuing Medical Education or tele-education could still be provided by Indian hospitals and universities but on some user-fees basis, so as to make the project rentable.

sections. Indian universities, hospitals and a Data Centre located in TCIL's headquarters in Delhi are connected through MPLS optical fibre - bandwidth is leased from Indian telecom giant Bharti Airtel. A submarine optical fibre circuit (IPLC) is linking a node in Chennai (South India) to Paris, France and to the Satellite Earth Station located in Dakar, Senegal; Bharti Airtel is in charge of the whole circuit, while sections are being subleased from France Telecom (Paris-Chennai) and Sonatel (Paris-Dakar). Finally, satellite footprint from African Union's RASCOM is connecting Learning Centres and Patient-end Hospitals in 47 African countries through the Satellite Earth Station (or Hub Station), located just outside Dakar, Senegal. Implementing such a wide and multilayered infrastructure requires concerted work at many levels. Sites have been identified, holes have been dug, buildings and rooms constructed, loads of equipment were packaged, shipped and unloaded, satellite dish antennas were aligned, server rooms have been set up and a great quantity of computer hardware and IT devices were installed and configured. As the turnkey agency, TCIL is present at every level of connectedness, much of its work consisting in techno-management, in being a liaison between equipment vendors, connectivity providers and service users. For instance, TCIL has permanently dispatched engineers in every Indian universities or hospitals, as well as in every Learning Centre and Patient-end Hospital spread across the African continent.

The first phase of the Pan-African e-Network Project was officially launched in 2009 and, as of today, 45 African states have been commissioned, while two more countries will soon be. It is thus 149 sites/centers/nodes that have so far been integrated within the network. Apart from the Satellite Earth Station (Dakar) and Data Centre (New Delhi), 5 universities and 12 Super-Specialty Hospitals located in India, as well as 4 Regional Leading University Centers, 4 Regional Super Specialty Hospitals[15], 45 Learning Centers, 40 Patient-End Hospitals and 37 VVIP Nodes located on African soil are connected. In sum, most of the participant countries are currently connected to the network and their sites are, as far as connectivity is concerned, up and running. The telemedicine component of the project is connecting some 12 Indian hospitals to 40

[15] It is planned that Regional Leading University Centres and Regional Super Speciality Hospitals located in Africa will provide tele-education and telemedicine services. It is not clear if this will ever happen.

Patient-End Hospitals spread out across the African continent. It is including two types of medical expertise transmission: tele-consultations (TC) and Continuing Medical Education (CME). In short, TCs consist in two specialists (or one specialist and one general physician) discussing a medical case. Patients are seldom present. Prior to the TC itself, images relevant to the case and the Electronic Medical Record of the patient are generally consulted by the Indian specialist. So far, a little more than 300 TCs have occurred through the network (often involving the same hospitals at both ends). While TC are being held on request of African doctors, CME sessions follow a planned schedule, each of the Indian hospitals offering 6 sessions of one hour per month, covering a broad range of topics and specialties. The large majority of sessions are given in English, and topics are generally chosen by speakers themselves, while a special requests mechanism has recently been added in order to try to enhance the interest of potential attendees. Specialists giving the talk are sitting in a studio installed for that purpose within their hospital's premises while doctors/fellows/interns located in African countries are sitting in a room also dedicated to this purpose. Some 1196 CME sessions had been held between 22 April 2009 and 31 March 2011. Aimed at imparting quality education to African students, the tele-education component of the project consists of a higher education curriculum to be followed live at a distance. Post-graduate, under-graduate and diploma/certificate courses are proposed to prospective students. Courses are fully credited by participating Indian universities and subsidized by the MEA (they are hence free of cost). Courses spread across a variety of disciplines such as Master in Business Administration (MBA), Bachelor of Tourism Studies, or Certificate in Environmental Studies or a Diploma in HIV/AIDS. So far, more than 4500 students have been enrolled – 3000 of student with AMITY only – across the African continent, while countries such as Uganda, Malawi, Rwanda and Botswana have been the keenest participants. Finally, the third component of the network consists in VoIP nodes for video-conferencing and VoIP among the African Heads of States have been installed in tested in 37 signatory countries. While no close monitoring of VVIP nodes' usage is being done, word is out that the nodes have so far not been much used.

Daily Practices and Performances: Ethnographic Indications

The daily workings of the project involve practices such as network monitoring, wire plugging, data uploading/downloading, schedule keeping (tele-consultation or CME sessions), chatting, making phone calls, as well as a lot of loitering, time passing, web browsing, reading, studying and so on. Maintenance of the network is also a crucial part of the work, while generally shared with hardware vendors and software designers. Days are also punctuated with professors and doctors coming in to give courses, medical education sessions, or to take part in occasional TCs. These practices involve preparation, steps to be followed and generally result in a large part of tinkering, of improvising solutions to various unpredictable technical issues that keep on popping up. The project's site is not a stable, easily localized site; it is *per se* on the move, somewhere between a room where African neurologists discuss a case that could presented to their Indian colleagues, a bored engineer scrolling down ads for a better job, a manager's driver's car getting stuck in the mud and a UPS making up for Dakar's too common shortages. The Pan-African e-Network is also the occasion for frequent performances of a more spectacular texture. Press releases, film shooting, editing and presenting, on-site official visits, inaugurations of project phases, technical workshops, signatures of Memorandums of Understanding (MoUs), and conferences in various types of scientific events are among the daily practices immanent to the very functionality of the network.

Triggering Awareness: Concerns about Under-utilization and Participation

Vital to the Pan-African e-Network is the transformation of daily referral practices through the active promotion of the quasi *instant availability* of « world class » medical care. The mission is to bring awareness[16] of expertise opportunities « lying out there », to mobilize African medical practitioners to log in to digital resources as well as to promote

[16] This mission seems crucial enough to be explicitely included in the *Africa-India Framework for Enhanced Cooperation*: « Pan-Africa E-Network Project: Africa and India have both recognized the successful implementation of this visionary project. It has added capacity and value in the critical fields of education and health care in African countries. Its fulsome utilization will remain one of the major objectives of the Framework of Enhanced Cooperation and efforts will be made to enhance its utilization, widen its scope and increase its success rate so that the true objectives of assisting Africa in meeting its millennium development goals on education and health could be achieved ». One can note that the project stands in a precarious tension between an acknowledged failure at « bringing awareness » and a well-publicized successfulness - also refered to in the *Addis Ababa Declaration*. Also, as the Indian Prime Minister mentioned during his address at the Plenary Session of this same Forum Summit: « Following the success of the Pan-Africa e-Network Project we propose to take the next step and establish an India-Africa Virtual University.» (Emphasis is mine)

connectedness as a source of empowerment in clinical decision-making. In this regard, the under-utilization of both telemedicine services (TCs and CMEs) is constantly challenging one of the key assumptions of the project, that is the « free-flowing » status of expertise diffusion, and its simultaneously passive transmission/reception.

One of the main reasons invoked by protagonists (whether Indian or African) to explain the poor attendance to CMEs as well as the rare recourse to TC services is language barrier. This is particularly true of French-speaking countries. Still, even in other countries, English is a second-language and remains generally a sort of lingua franca. Accents also have a major role to play, some having a hard time understanding Indian specialists when they give conferences or promulgate medical advices. African doctors tend to look for their words and have to make a special effort to understand their Indian counterparts. From a technical point of view, connectivity itself is also sometimes a challenge for easy-going communication. In satellite connectivity, latency in data transmission is the norm. Therefore, fluidity in conversation is hardly met. Latency in transmission is a disturbance for spontaneity, for the fluidity of the discussion. It is also possible that some doctors are not inclined to have recourse to video-conferencing when time comes to discuss with colleagues. Another factor that can be identified as an obstacle to CME attendances as well as a challenge for the scheduling of TCs the time zone difference between India and Africa – more or less a six hours offset. In order for TCs to occur within the schedule of Indian specialists (for instance, ending at 5 pm), they need to be completed by 11 am, thus leaving only a few hours in the morning (let's say, between 8h30 and 11 am) for African doctors to attend. Same is true for CME sessions, which are broadcasting everyday in African Learning Centers, from 9 am to 1 pm. Doctors met in Senegal explained that this timeframe does not fit the schedule of their respective departments very well. Another concern that was brought up by doctors is the prevailing gap between expertise transmitted and the material resources at the disposal of the African doctors. Here we can observe an imminent contrast with one of the main tenets of South-South cooperation, that is the suitability of the Indian service offer to the specificity of the Africa context. Indian Super-Speciality hospitals are generally equipped with state of the art technology and the material opportunities for diagnostic investigation

and/or treatment have very little in common with daily restraints most African Patient-End Centers have to deal with:

> « Well, these are the limits [of the project]! Because showing the Indian doctor may they you that you have to do certain things but you can't do it either because the patient does not have the money, because that is also an issue....so, either the patient does not have the money or the requested diagnostic investigations are not available. After two or three years, it becomes frustrating...» Senegalese doctor

In a certain way, medical advices given by Indian specialists are reproducing the kind of frustration or helplessness already felt by doctors when browsing medical literature or communicating with European colleagues about particular cases. Local infrastructural limits have also been pinpointed has a challenge by Indian specialists, explaining they often have to appeal to largely quite improvised alternative solutions when their African colleagues lack access to required investigation means. Among the other reasons given for the low recourse to tele-expertise, many actors involved mentioned a lack of awareness of physicians on the patient end or spoke about the need for more motivation or monitoring on the African side. Some were doubtful about the local efforts actually made to promote the availability of this service while others argued that free services might come with scepticism on the African side – free things being sometimes associated with poor quality. As one Indian hospital manager summarized: « Again it depends upon the acceptance level of the doctors there. It's just that the doctors have to start knowing that things are available and it's a matter of proving our existence ». Finally, Indian participants have referred to what could be called the « doctor's ego » as a major factor for under-utilization of tele-consultations. Some think that their African colleagues are often not willing to acknowledge the limits of their own expertise and thus to ask for assistance from Indian specialists[17].

[17] Most Indian telemedicine projects face the same under-utilization challenges as the Pan-African e-Network. A pioneer of telemedicine in India summarized the situation this way: « No telemedicine unit will ever survive unless it is revenue-generating and self-sustaining. So philanthropy can be used only to initiate a project. But a friend of mine used a very nice term, he said 'photo-op telemedicine'. In other words, 85% of telemedicine units are photo opportunities, the press comes, everybody comes, the Minister, and everything comes in the newspapers and then it has a natural death. Today, we have done approximately, 650 000 tele-consultations have been done in the country. For a population of 1.2 billion it is negligible but 90% of the tele-consultations have been done by 10% of the telemedicine unit.»

Without going too deep into the ethnographic materials gathered so far, it seems reasonable to suggest that the under-utilization of the available expertise by African physicians has something to do with this impossibility to reduce the technical production of new forms of proximity to a mere question of data or expertise circulation. Connectedness is a state, not some quite of « free-flowing data circulation ». For instance, *attending* means much more than just physically « being there ». It is a way to make oneself available to information, to inhabit a common world. Apprehending attendance (or even "awareness") consequently involves more than some linear causality model of decision-making where African doctors would « rationally » opt for « better-informed » diagnostic opinions. Here, the very concept of co-operation slips out of any conceptualization of networks as material substrates bolstering what is perceive as optimal decision-making through information-sharing means. It relates to affective dispositions, in our case to states of connectedness. The way participants build a life around the network, develop original strategies toward it, bypass any unidirectional expertise transmission (perceived as paternalistic), try to transform its design to fit their local needs, and squarely or implicitly refuse be part of it would necessitate a separate article in itself. One thing that is clear though is that the daily activities of such a large networks have much more to do with tinkering (Mol, Moser et al. 2010) than with any kind of easy-going knowledge diffusion.

Presence as Spectacle: the Affective Drive of Technomedical Connectedness

« Let's put India on the map »[18], the President of the Telemedicine Society of India was recently exclaiming in front of a heated audience, referring to telemedicine's role in bolstering the nation's global techno-medical presence. Among the discursive practices of telemedicine in India, calls for vision, dreams, entrepreneurship, or ignition suffuse expectations for change, movement, and above all economic growth. This is the leapfrogging stance at its best. The sublime halo of technological innovation breaking down any hindrances toward shining days ahead. Starting with former American President Bill Clinton's inauguration of Apollo's first rural hub in the village of

[18] This declaration was one of the strong moments of Dr. K Ganapathy's speech during the valedictory function of Telemedicon 10', the 6th International Conference of the Telemedicine Society of India, held in in November 2010, in Bhubaneswar, Orissa.

Aragonda (Andhra Pradesh) in March 2000, telemedicine in India has attracted spotlights on what can be considered as a mixture IT success story and world-class medical expertise epitomized by the mushrooming of corporate SSHs across the national urban landscape. The site of telemedicine in India is intimately entwined within the aspirations of the rising middle class and the « growing notions of resurgent nationhood »[19] (Pal 2008). Accordingly, local affectively-loaded forces should not be dismissed too quickly when time comes to identify the driving forces behind an enterprise such as the Pan-African e-Network Project[20]. One way to formulate the issue at stake could be: How can such a massive global knowledge-sharing device be made to become a meaningful way to relate oneself to the world? In doing so, I'll be drawing on Adrian Mackenzie's most innovative work on the promissory economies of wirelessness (Mackenzie 2010).

In *Wirelessness* (2010), Mackenzie investigates *how* sensations (for instance, of proximity or intimacy) are affected through the reorderings of conjunctive relations (such as "with", "near", "before" or "after") in wireless signal processing. In continuity with Steven Shaviro's claim that « what's missing [from life in the network society] is what is *more than information* »(Shaviro 2003:249-250), Mackenzie thinks wireless networks as « felt realities » (of proximity, attentiveness, intimacy, etc.), exceeding « networked communication », and overflowing conscious experience to register as « ontologically vital signs of being-with ». In other words, he refuses to depart from either technology as material/physical or an idea of experience as personal/social/cultural. Experiences in wirelessness can't be reduced to material infrastructure determining the circulation of data/information between nodes; they constitute « a patchwork of exhortatory hype,

[19] Literature on emergent IT markets is crowded with references to certain Indianness to be found at the core of the country's IT boom. Such ethnocultural accounts spreads from science or mathematics, to informatics, or even knowledge at large (consequently enlisting India as a strong knowledge economy candidate), and entrepreneurship. While these accounts show great degrees of divergences (mostly concerning the origin of this Indian quality), they tend to converge on the image of a complex-knowledge-enabled Indianness, something historically significant and forecasting bright futures ahead.

[20] Relations here could be drawn with a project such as India's Moon mission. Launched in October by ISRO, Chandrayaan-1 was India's first unmannged moon mission. It is noteworthy that, following the suggestion of Dr. Abdul Kalam himself, the mission included a Moon Probe Impactor that separated from the moon-orbiting Chandrayaan-1 on 14 November 2008 and crashed (as planned) into the lunar south pole after a controlled descent. In this manner, India became only the fourth country to place its flag on the moon. A manned moon mission is also planned for 2016 and preparations have begun for a Mars mission.

gleaming promise, highly technical gestures, and baffling or bland materialities » (Mackenzie 2010:17). Precisely because things, thoughts, sensations, information, individuals, or promises weave through experience, « wireless devices are sometimes infrastructures and sometimes highly intimate possessions ». The affective buzz of wirelessness is thus neither solely "mental" or "physical", inner or outer, it is simultaneously information and affect. The forces of subjectification immanent to wirelesness are simultaneously ethical and economic, technocorporeal and communicative. For Mackenzie, products and promises are entangled in every aspect of wirelessness: central to the economy of wirelessness lies the promise of being connected, of redistributed access to information. Mackenzie's investigates the affective attachments of wirelessness, the many ways it alters our senses of space, and movement, its strong feelings and passions, attractions and repulsions. To frame the argument bluntly: « A politics and ethics of wirelessness are not based on reason, but on passional decisions. »(Mackenzie 2010:204). One of the areas where such affective forces are the most salient is the « made to be seen » wireless development projects. Here is where Mackenzie's discussion gets the most interesting for our own comment on global telemedicine networks as promissory technoeconomical futures. Mackenzie argues that cutting across wireless development projects is the idea that through a connectivity that is « free of the legacies, frustrations, limits, and expense of other, earlier infrastructures (such as roads, sanitation, railways, etc.) », others at the edge of the world may emulate "us", leapfrog developmental stages or whatever restricts their possibility to « become like us ». In other words, it is its own sense of value that a center « animates and enlivens » by connecting to a periphery. Passionate global development practices in wirelessness are embodying expectations of "our" promised becomings. That's where the spectacle comes in. Drawing on Pignarre and Stengers'(2005) remarkable book on the magical temper of capitalism, Mackenzie underlines the distinction between validation and verification as being critical to wireless development project:

> « The key term here is *verification*. This is a contentious statement from the perspective of, say, an econometrician, but in terms of pragmatism, understood as a technique for the construction of ideas, capitalism does not verify, it only validates. Verification is an eminently practical procedure interested in consequences. It might entail experiments, tracking of consequences, and orientation toward further actions. Validation is anti-pragmatic in that it seeks to

> assert something and hold the assumption in place. It is resistant to overflow and overabundance. » (Mackenzie 2010:173)

The spectacular dimension of wireless development projects is concerned with the validation of sameness, in our case the extensive logics of capital. While not « intrinsically bad or aliening », the spectacle tells more about an endless movement aimed of integrating lives into global networks than about engaging with difference, instability or the plurality – that is, verificating whether and how things actually *work*. In other words, the spectacular effects of wirelessness have very little to do with the actual concrete developmental impact: it is in its capacity to reinforce beliefs in « growth and change » that the power of networked devices to trigger passional decisions resides.

As I've tried to make abundantly clear throughout this paper, the Pan-African e-Network Project is in no way reducible to its spectacular features. It is not *only* about showing off. It is concretely affecting lives. Practitioners do receive medical training. Patients do benefit from competent medical advices. However, the participation of the Indian stakeholders in the project embodies an urge to showcase their quality as high-end global technomedical players. It is in this sense completely overflowing pragmatic investment or rational quests for potential markets and business opportunities. While pragmatist concerns would involve the unfolding of differences (in access to healthcare etc.), in many regards the project has been designed in ways making it difficult to feel that it is led by such concerns[21]. Simultaneously, a whole performance apparatus – events such as movie-making[22], press conferences, publications, live demonstrations of "life-saving" medical cases - was put in place in order to « bring awareness » about the project. The Pan-African e-Network Project is not so much about trade balances and corporate interests, as it is about a pressing desire to devise a presence – a way to spatially think and act upon oneself. Through this project, South-South co-operation is more than an

[21] The lack of effectiveness in the design of the project runs across the interviews conducted. One of the participants was critical of the fact that it is not led by medical professionals, but by diplomats: « So what Indian Government does is, is do something to redeem the pride of India! [...] The mission's statement is to develop goodwill. It is not to do any medicine or any education. So because it is the Ministry of External Affairs, their deliverable is "how many countries are there in Africa? With how many people you have signed an agreement? 31? Very bad! Push! I want 41 by next six months!" »

[22] I know of at least three movies being filmed either totally (funded by MEA) or partly about the project.

economic networking platform. It is a site of connectedness, of belief in connectivity as a key enabler for brilliant technoeconomic futures - for « more to come ».

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